

# FEASIBILITY OF FREE ONLINE WORSHIP SONG DATABASE

An Interactive Qualifying Project Report

submitted to the Faculty

of the

WORCESTER POLYTECHNIC INSTITUTE

in partial fulfillment of the requirements for the

Degree of Bachelor of Science

by

---

Joshua W. Frappier

---

George C. Huntington, III

---

Nathanael C. Milne

Date: January 16, 2002

Approved:

- 1. Christianity**
- 2. Music**
- 3. Internet**

---

Professor Guillermo F. Salazar, Advisor

---

## **Abstract**

The feasibility of creating a free online database of praise song chord sheets is studied. We investigate the role of music in Christian worship, the current Internet resources available to the modern worship leader, the copyright laws involved, and the technical aspects of online database creation. We conclude that it is feasible to create this type of database if it only contains public domain songs.

## **Authorship Page**

Nathanael C. Milne wrote chapter 1, "Introduction." Nathanael C. Milne wrote chapter 2, "The Role of Music in Christian Worship," based on work done by him. Nathanael C. Milne wrote chapter 3, "The Modern Worship Leader," based on work done by him, with some assistance from Joshua W. Frappier and George C. Huntington, III. Nathanael C. Milne wrote chapter 4, "Copyright Issues," based on work done by him, with some assistance from George C. Huntington, III. Joshua W. Frappier and George C. Huntington, III, wrote chapter 5, "Technical Feasibility of Online Database Creation," based on work done by them. Nathanael C. Milne wrote chapter 6, "Conclusions and Future Work." All chapters were reviewed and edited by all three group members. All other parts of the report are the work of all three group members.

## Acknowledgments

We would like to thank Professor Guillermo F. Salazar for his assistance throughout this project. We would like to thank Charlie Crane, worship leader of Bethlehem Bible Church in West Boylston, Mass., Nathan Smith, worship leader of Christian Bible Fellowship @ WPI, and Andrew Springman, worship leader, songwriter, and founder of Lost and Found Music, for discussing important aspects of worship leading with us. We would like to thank Simon Sparkes, worship leader of the International Baptist Church of Zurich, for helping with the XML song format. We would also like to thank all of our close friends who have kept us from going insane during this extended project (J. Barlow, Wes B., Tim D., Laura **•P**, Ray K., Ian M., Steph O., Lee S., Andrew S., Dan W., Dr. P., Mike, Bob & Larry). And finally, all praise, honor, and glory to our Lord and Savior Jesus Christ, who has graciously saved us from our sins and given us new life in him, abundant and free.

## Table of Contents

List of Tables .....	vi
List of Figures .....	vii
1. Introduction.....	1
2. The Role of Music in Christian Worship.....	2
2.1 The Christian Faith .....	2
2.2 The Jewish Origins of Christian Music .....	4
2.3 The First Century to the Fifteenth Century.....	5
2.4 The Sixteenth Century to the Nineteenth Century.....	7
2.5 The Twentieth Century .....	10
3. The Modern Worship Leader.....	13
3.1 Internet Resources for the Worship Leader .....	14
3.2 A Survey of Worship Leader Interest .....	25
4. Copyright Issues.....	30
4.1 The Copyright Law .....	30
4.2 Copyright Issues in Church History.....	31
4.3 Current Practices.....	32
4.4 The Christian Response .....	39
5. Technical Feasibility of Online Database Creation .....	43
5.1 A Series of Prototypes .....	44
5.2 Design Strategy.....	46
5.3 Successes and Difficulties.....	48
6. Conclusions and Future Work .....	51
Glossary .....	53
Bibliography .....	55
Appendix A: CCLI Terms of Agreement .....	59
Appendix B: US Code Title 17 (Selected Sections).....	62
Appendix C: The Worship Leader Interest Survey.....	63
Appendix D: E-mail Correspondence.....	74
Appendix E: XML Schema and Sample Song.....	83

**List of Tables**

**Table 3.1** A Comparison of 32 Internet Resources for Worship Leaders ..... 24

**List of Figures**

Figure 5.1 Sample XML Code..... 47  
Figure 5.2 Sample Screenshot of HTML Display ..... 49

## **1. Introduction**

In this Interactive Qualifying Project, we study the feasibility of creating a free online database of praise song chord sheets for use by guitarists in Christian churches and other Christian organizations. We three are all personally involved with this area of interaction between society and technology, as we all have experience as guitarists in Christian churches and other Christian organizations. The research involved several areas. The first area of study was the role of music in Christian worship, from its beginnings two millennia ago to the modern praise and worship band. This sets the religious, historical, and traditional setting in which the modern worship leader operates. The second area of study was the current computer and Internet resources available to worship leaders. A survey of worship leaders was also conducted in order to discover what resources they were presently utilizing and to find out what features other interested worship leaders would like to see in a free online database of praise song chord sheets. The third area of study was the copyright law involved with the distribution of chord sheets online. The final area of study on this project was an investigation of the technical aspects of online database creation, in which a strategy was designed to create one. The rate at which similar online worship leader resources were created professionally was also examined.



## **2. The Role of Music in Christian Worship**

The specific area of society we are examining is the use of music in Christian worship. In order to fully understand the role of music in Christian worship now, it is necessary to examine its theological, traditional, and historical roots. The theological roots of Christian worship can be seen in an overview of the Christian faith, based on what is recorded about Christ in the New Testament of the Christian Bible. We then examine the origins of Christian music in Judaism, in which Christianity began as a sect two thousand years ago. We also examine the role of music and musical instruments in three segments of church history. The first is the early church and the Roman Catholic Church, the second is the Reformation and the post-Reformation period known as the "Golden Age of Hymnody," and the third is the modern praise and worship movement.

### **2.1 The Christian Faith**

A little over two thousand years ago, a baby was born who would change the world. Born in a manger one night in Bethlehem of Judea, he began his earthly life in a way that attracted the attention of very few people (Luke 2:7). But he would not live forever in anonymity, for when he was about thirty years old he left his family profession of carpentry to become a traveling teacher (Luke 3:23). He soon caught the attention of many (Luke 4:14). Some were amazed at his teaching, for he spoke with an authority greater than any of his contemporaries (Matthew 7:29). Some were amazed with his miracles, for he could make the lame walk, the blind see, the deaf hear, and he could even raise the dead back to life (Matthew 11:5). He chose twelve men to be his apostles, and to these he revealed his true identity: God incarnate (John 14:9). He also attracted the

attention of religious and political authorities. His radical teachings against the hypocrisy of the religious establishment angered both Pharisees and Sadducees, the two largest Jewish sects of the time (Luke 11:53). He also spoke of a kingdom that was under the authority of God Almighty, not Rome (John 18:36). This soon got him in some big trouble. After about three years of teaching, he came to Jerusalem in the spring, in time for Passover (Mark 11:11). As that is a major Jewish holiday, Jerusalem was full of crowds. Seeing how the crowds reacted to his teachings, the authorities knew it was time to get rid of him (Mark 12:12). One of the twelve betrayed him to them, and after running him through a mock trial, they quickly put him to death (John 19:4). He was beaten and nailed to a cross between two thieves on the hill of Golgotha (Matthew 27:38). He died shortly, and was buried in a cave (Matthew 27:59).

But that was not the end of the story. Rather, that was only the beginning. This Jesus, who had been crucified and buried, rose from the dead on the third day (Luke 24:46). He appeared to his apostles and explained to them his gospel, and he commanded them to go into all the world and preach this gospel to everybody: that those who repent of their sins and believe in him as Lord and Savior will be forgiven of their sins (Matthew 28:19; Luke 24:47). Jesus Christ's death on the cross made full atonement for everybody who believes in him, and God now declares each believer in Christ as perfectly righteous because of Christ's life and sacrificial death in their place (Romans 3:25; 2 Corinthians 5:21). After spending forty days with his disciples, Jesus, the Son of God, ascended to heaven, where he sits at the right hand of God the Father in heaven (Luke 24:51). He will return to earth, to judge both the living and the dead (2 Timothy 4:1). Those whose sins are forgiven will live eternally with him in heaven, while everybody else will be

sentenced to burn in hell for eternity, to pay the price for their sins against the perfectly holy God (Revelation 20:15).

## **2.2 The Jewish Origins of Christian Music**

Christianity began as a sect of Judaism, which enjoys a history rich with music. The first mention of the Israelites using music to worship God in the Jewish Bible, the Old Testament of the Christian Bible, is in Exodus 15, where the Israelites celebrated the successful crossing of the Red Sea with tambourines, dancing, and a song. After that, music continued to play an important role in Israelite worship throughout the Old Testament. Numerous songs of praise are recorded throughout the books of Israelite history, such as the song of Deborah and Barak in Judges 5 and the song of Hannah in 1 Samuel 2. The most important era in Israel's musical history is the reign of King David, who ruled over the united kingdom of Israel for 33 years (2 Samuel 5:5). In his youth, David was a shepherd (1 Samuel 16:11). After being anointed by the prophet Samuel as the next king of Israel, David became a harpist for King Saul. An evil spirit tormented Saul, and David's playing of the harp was helpful in calming him (1 Samuel 16:23). David also wrote many psalms, and during his reign as king, he assigned a group of Levites the task of praising God by singing and playing musical instruments. These Levites performed their role as professional worshipers in the temple that King David's son, Solomon, built. An example of the instruments used in the temple worship services can be found in Psalm 150, which mentions the trumpet, harp, lyre, tambourine, strings, flute, and cymbals. After the reign of King Solomon, the united kingdom of Israel was divided into two separate kingdoms. During the next four hundred years there were

several good kings in the southern kingdom of Judah who continued to worship the Lord in the temple, but most of the kings didn't. One even had the doors of the temple nailed shut. Eventually, the Babylonians took them into captivity at the beginning of the sixth century BC. Seventy years later, though, the Persians defeated the Babylonians and allowed the Jews to return to their homeland under the leadership of Ezra and Nehemiah. When they rebuilt the temple after their return from exile, the worship services in the temple were restored. The book of 150 God-inspired psalms was also assembled at about this time [Pfeiffer, 1975].

In Jesus' time, singing praise to God was still a vital part of the Jewish religion. Psalms were sung both in the weekly worship services in the synagogues and in the celebrations of holidays [Pfeiffer, 1975]. After eating the Passover meal on the night that he was betrayed, Jesus and his disciples sang a hymn (Matthew 26:30). This was most likely Psalms 115-118. At its very beginning, the new Christian church undoubtedly was musically identical to the Jewish synagogues, as the early church was predominantly composed of Jewish Christians. Unfortunately, there is very little written record of musical styles and instrumentation in 1st century Palestine, either Jewish or Christian, so virtually everything that is known about it is the result of what was written in the following centuries [Webber, 1994, II].

### **2.3 The First Century to the Fifteenth Century**

Two events in the first century greatly influenced the musical style of the new Christian church. The first was the destruction of the temple in Jerusalem by the Romans in 70 AD. The Jews used musical instruments primarily for worship in the temple only.

If musical instruments were ever used at all in the synagogue services, they were not used after the temple was destroyed, as a sign of mourning for the temple. It is quite likely that if any Christian churches used musical instruments in worship at this time, they stopped using them too. The other event in the early church that shaped its musical style was the gradual inclusion of the Gentiles. As time passed, the membership in the churches became predominantly non-Jewish. The Gentile Christians likely carried some of their musical influences from their pagan backgrounds into the church, and this helped to give the musical style of the new Christian church an identity separate from that of its Jewish origin. Although the Gentile Christians may have been skillful in playing musical instruments, these weren't incorporated into Christian worship because of those instruments' association with the pagan religions that the Gentile Christians had come out of. To use instruments that were formerly used in the worship of false gods would present a stumbling block to those weak in the faith. As a result of these two events, the destruction of the temple and the inclusion of the Gentiles in the church, the music in the early church was only vocal, with a style influenced both by Jewish and Greek singing styles [Webber, 1994, II].

During the following centuries, the Jewish psalms and new Christian hymns continued to be sung in the church. One important use of the new hymns was to counter false teaching. During the conflict over the Arian heresy in the fourth century, both sides wrote hymns to support their teachings. In the early church, the singing in the worship services continued to be without musical accompaniment. To this day, most Eastern Orthodox churches still use no musical instruments in their church services other than the human voice [Webber, 1994, IV].

The first certain use of the organ in Christian worship was in the celebration of the Roman Mass in the sixth century. It was used to provide the intonation for the following unaccompanied singing. Gradually, as organ complexity grew, it began to be used more extensively. By the end of the middle ages, the organ would commonly alternate stanzas with the choir for parts of the liturgy. One effect of the Roman Catholic Church's separation of the clergy from the laity was the loss of congregational singing. Throughout the middle ages, all singing in the Mass was by the clergy and the choir only. Even then, the choir could only know what they were singing if they understood Latin, the official language of the Roman Catholic Church [Webber, 1994, IV].

#### **2.4 The Sixteenth Century to the Nineteenth Century**

During the sixteenth century, there were a number of divisions in the Roman Catholic Church. Several groups protested the doctrines and practices of the established church and attempted to reform it. The authorities of the Roman Catholic Church were unwilling to make the proposed changes, and they excommunicated the dissenting groups. This began the Protestant Reformation, and thus ushered in a new era in the role of music in Christian worship. In the new Lutheran Church, the two major changes in music were the restoration of congregational singing and the singing of psalms and hymns in the vernacular instead of Latin. Martin Luther himself wrote many hymns for use by the Lutheran churches. The new Reformed churches, however, took a much more radical view towards the role of music and musical instruments in worship. Under John Calvin's leadership, all musical instruments were banned from the worship services, and the congregations sang only psalms with no musical accompaniment. The new Anglican

Church went through a long period of change after its separation from the Roman Catholic Church in 1534. These varied from a time of reattachment to Rome (1553-1558) to a time when the Reformed view of music in worship was adopted (1645-1660). The other smaller Protestant groups adopted a variety of views of music in worship as diverse as the theological views they adopted [Webber, 1994, IV].

During the post-Reformation period of church history, most churches gradually adopted the use of the organ for the accompaniment of congregational hymns. The eighteenth and nineteenth centuries are regarded as the "Golden Age of Hymnody" [Webber, 1994, IV]. During this time, many great hymn-writers wrote many great hymns that are still sung in many churches today. Two of the greatest of these are Isaac Watts and Charles Wesley.

Many regard Isaac Watts as "The Father of English Hymnody." He was an early 18th century preacher in England. A dissenter from the Church of England, he was well learned in theology, philosophy, poetry, and Biblical languages. His Hymns and Spiritual Songs (1707) was the first real hymnal in the English language. After the Reformation, the Psalms had been translated into English, yet very few new hymns had been written in English until Isaac Watts. The hymns he wrote reflect his strongly Calvinist theology. An example of this can be found in the first stanza of his classic hymn, "Alas! and Did My Savior Bleed," which contains the lines, "Would He devote that sacred Head / For such a worm as I?" [Osbeck, 1982].

Charles and John Wesley were the founders of the Methodist movement in the Church of England in the 1740's. Charles wrote over 6,500 hymns. He and his brother would give new words to popular tunes of the day, which is something that Martin Luther

had done two hundred years earlier with German folk songs. Charles Wesley received an education from Oxford University before he was converted in 1738, so his hymns, like those of Isaac Watts, contain a large amount of theological and Biblical content [Osbeck, 1982].

Beginning in the middle of the nineteenth century, gospel songs began to become popular among the more evangelical Protestant churches in the United States. The advent of the gospel song was also accompanied by the increased popularity of piano use instead of organ use in worship. Gospel songs can be differentiated from hymns by two major characteristics, although there isn't a clear-cut line between them. Gospel songs are usually much more individualistic and personal than hymns in content, and they also usually contain a chorus that is sung after each verse. Some gospel songs, such as Ralph E. Hudson's "At the Cross" are adaptations of hymns. The verses of this hymn are Isaac Watts' hymn "Alas! and Did My Savior Bleed," but the chorus and the music are by Ralph E. Hudson, and these are both done in the style of a gospel song [Webber, 1994, IV].

The most famous and prolific writer of gospel songs is Fanny Crosby. Her background was quite different from that of Isaac Watts and Charles Wesley. She was born in 1820 in rural New York State into a strongly Puritan family. Blinded at a very young age by a failed medical procedure, she was later chosen as one of the first students to attend the New York Institution for the Blind in New York City at the age of 16. There she became a master of the art of poetry and eventually began writing hymns for the small wage of \$1 each. Although she was raised as a Christian, she became a devout believer after an experience she had at a Methodist Revival in 1850 while singing Isaac



Watts' hymn "Alas! and Did My Savior Bleed." It is estimated that she wrote over 9,000 hymns and gospel songs during her lifetime, of which about 6,000 were set to music [Osbeck, 1982].

## **2.5 The Twentieth Century**

The gospel song continued to be the most popular type of song until the latter half of the twentieth century, during which the church experienced its biggest change ever in regard to the role of music and musical instruments in worship. The two main factors in the first half of the century that are responsible for this are the proliferation of Christian organizations and the new stance that the church adopted in its interaction with culture. During the first 1,900 years of its existence, the church was always influenced to a small extent by the culture that surrounded it, but it always held to its traditions in such a way that the church itself existed as a separate culture. However, during the twentieth century, the church has been totally permeated by popular culture; it now adopts the popular culture's music, jokes, marketing techniques, psychology, etc. [Webber, 1994, IV].

During the first half of the nineteenth century, many Christian organizations were founded. One common type is the non-denominational fellowships on military bases and college campuses. When these fellowships began meeting together, they usually didn't have the money to buy hymnals for every member, and they had neither an organ nor a piano to accompany the music. As a result, it became common fairly quickly for many Christian organizations to simply sing the choruses to well-known gospel songs, as most people would know those from their own churches. Soon, people began writing more

choruses, and members of Christian organizations brought these new "praise choruses" back to their home churches. As it was necessary for the new praise choruses to be relatively short and simple so that they could be easily memorized, one type of praise chorus that became popular in the 60's and the 70's was the scripture song. These were commonly only a verse or two of scripture, although sometimes entire passages would be put into song. One interesting result of this was that churches that had abandoned psalm-singing centuries earlier were now singing psalms once again [Webber, 1994, IV].

The advent of rock 'n' roll music in the 50's and 60's had a large effect on the musical style of churches, due to the church's new approach to culture in the twentieth century. Although the church condemned the sinful aspects of the rock 'n' roll lifestyle, the accompanying musical style was adopted. In many Christian churches and other Christian organizations, the guitar is now about as popular as the piano. In many of these, a praise band, consisting of guitar, bass, drums, and keyboards, leads the time of congregational singing by the church or fellowship. This Christianized version of rock 'n' roll is referred to as praise and worship music, and the leader of the praise band is usually referred to as the worship leader. In The Complete Library of Christian Worship, Milburn Price demonstrates how similar a modern praise and worship band is to a rock 'n' roll band in this way:

On a dimly lit stage, several musicians go through their routine of preparation. The pianist carefully arranges the music to be played so the transitions can be negotiated smoothly. The guitarists tune their instruments and check the volume controls. The percussionist insures that all parts of the trap set are in good working order. And the four singers - the lead singer and three back-up vocalists - go through the sound-level checks. Within minutes the crowd will have gathered, and these musicians will begin a fifteen- or twenty-minute set of music that might be described as rhythmically energized, upbeat, and intended to promote a general feeling of enthusiasm among those in the audience. Indeed,

audience participation is an important part of the agenda. In the prevailing format, the leader provides verbal introductions and transitions, at times sings - along with the back-up vocalists - to introduce a new selection, and coaxes the audience to ever-heightened levels of energized participation. And all the while, the instrumentalists lay down their accompanying riffs, lending support to the proceedings. [Webber, 1994, IV]

The role of music and musical instruments in Christian worship has varied greatly over the past two thousand years, but some aspects have remained constant. At the present time, the church experiences diversity in music like it has never experienced before. The songs include ancient psalms, stately hymns, rhythmic gospel songs, short praise choruses, simple scripture songs, and rockin' modern praise and worship songs. The musical styles that can be found vary just as widely, from singing with no instrumental accompaniment to the modern praise and worship band. The common theme throughout all of these different songs sung to different styles of music, though, is that they are all sung to praise and glorify God, especially for his awesome work of redemption in sending his Son to die for our sins.

### **3. The Modern Worship Leader**

Until the modern praise and worship movement began in the second half of the twentieth century, the worship leader of a church had a much simpler job. Each church would purchase a set of hymnals for use by the congregation. Either the pastor or a song leader would make the song choices each week. Until recently, it was unnecessary for a worship leader to have the lyrics and music for any songs beyond the 400 or so that were contained in the church's hymnal. With the large amount of worship music available to the church now, though, the worship leader often has thousands of songs to choose from.

The job of the modern worship leader essentially consists of four steps. The first step is to determine which songs that particular congregation or fellowship will sing each week. The worship leader has numerous sources to choose from, such as hymnals, songbooks, praise and worship recordings, Christian radio stations, and songs written by members of the congregation. The second step is to find the lyrics and music for the chosen songs. If the only musical instrument on the worship team is the guitar, then chords will be sufficient. If other musical instruments are used, then it'll be necessary to obtain the sheet music. The third step is to learn how to play the songs and teach them to the entire worship team. The fourth step is to prepare the songs for use by the praise team and the congregation. Aside from computer-related resources, which will be discussed in this chapter, the only sources that a worship leader has at his disposal are the aforementioned hymnals, songbooks, praise and worship recordings, Christian radio stations, and other church members. The search for recordings, sheet music, chords, and lyrics for all of the songs that a congregation wants to sing can become both expensive and time-consuming. It should also be noted that throughout this entire process, it is

necessary for the worship leader to adhere to the relevant copyright laws, which will be discussed in chapter four of this report.

### **3.1 Internet Resources for the Worship Leader**

With the large role that computers currently play in our society, worship leader resources have become more abundant. Many websites contain useful articles about leading worship and playing guitar. It is now possible to display sheet music on a computer, and there are several programs, such as Solero and Scorch, that can be used to do this. The Internet has had a tremendous impact on the songs that are available for use. Instead of having to buy songbooks, a worship leader can find chords for songs online. Numerous websites contain free databases of chord sheets. Although these sites are somewhat useful, they lack several important things. They often contain numerous lyrical errors, and the copyright information is often incomplete or missing. Recognizing that there are actually a vast number of sites that are useful for worship leaders online, we chose to examine 32 of them for the purposes of this IQP.

Possibly the most important Internet resource for the modern worship leader is Christian Copyright Licensing International ([www.ccli.com](http://www.ccli.com)), the official CCLI website. CCLI serves churches and other Christian organizations by working with music publishers; this will be discussed in section 3 of chapter 4. There are two areas of their website. The first is accessible by anyone. In it one can learn about CCLI and how their licenses work, and one can also read some articles from Worship Leader magazine and see the current list of the 25 most popular songs. One can also view a few products in the

CCLI online store. They have three software products that could be very useful for worship leaders. Here are the titles, prices, and descriptions from the website:

SongSelect Software 3.0 (\$49.00) - In a continued commitment to worship planning excellence. This comprehensive resource for church music leaders is now better than ever. With SongSelect Software version 3 you have instant access to 7,500 of CCLI's most popular songs. You can easily search for songs by title, words, theme, key, author, or copyright information. SongSelect Software is your answer for worship planning, song searches, Copy Report automation, and creating transparency and bulletin masters for congregational use.

SongShow Plus (\$499.95) - SONGSELECT® Software users who display worship songs via computer aided monitors or projectors have an ideal companion: SongShow Plus. Projecting songs for services is made easier by combining the strengths of a high-powered presentation software program with the worship music data and research capabilities of CCLI's SONGSELECT® Software. New songs may be entered into database anytime. Includes a spellchecker and cut and paste features easy access to other programs. Control display properties like text color and size, background, special effects, etc. Build a song list by searching alphabetically by key, themes, keywords or phrases. Songs can be selected from a prepared list or accessed "on-the-fly". Allows for on screen messages. Automatically tracks activity for recording and printing of songs for copyright purposes. Multiple monitor support. Nursery-Call number facility. Announcement and Sermon Note slide-show capability. Playback video files. Display many popular graphic formats. Quick access to scripture verses.

PrintMusic! 2000 (\$69.95) - Want to print quality sheet music quickly and easily for a low, low price? Then PrintMusic! is for you. PrintMusic! gives you the fastest and easiest way to create, play and print music from scratch or from any MIDI file. It's very easy to learn, incredibly fast to use and produces the same quality sheet music as the world's top music publishers. Why? Because it's from the makers of Finale®, the world's #1 music notation software. PrintMusic! 2000 is perfect for songwriters, band leaders, hobbyists, guitarists, music students, choral musicians, educators, and church musicians.

The CCLI website also has an area that is only accessible by churches and other organizations that have CCLI licenses. In that area of the website it is possible to read the entire CCLI license manual, which can be seen in Appendix A. One can also search

the CCLI song database for the copyright information for any song covered by CCLI. This database does not display the lyrics and chords for any songs, though, with the exception of lyrics for public domain songs.

The next four most important sites for worship leaders are the websites for the four largest publishers of praise and worship music: WorshipTogether.com ([www.worshiptogether.com](http://www.worshiptogether.com)), IntegrityMusic.com ([www.integritymusic.com](http://www.integritymusic.com)), Vineyard Music International ([www.vineyardmusic.com](http://www.vineyardmusic.com)), and Maranatha Music Home Page ([www.maranathamusic.com](http://www.maranathamusic.com)). All four of these sites contain numerous useful articles for worship leaders, and it is possible to purchase CD's and songbooks at all of these sites as well. These sites also contain free items. At Integrity Music's site, a worship leader can print free sheet music for one or two new praise and worship songs each month and download MP3's for several older songs. At Vineyard Music's site, a worship leader can print a free chord sheet for one new praise and worship song. At Maranatha! Music's site, a worship leader can download free MP3's for several new praise and worship songs. At WorshipTogether's site, a worship leader can use the free Scorch Music Viewer to view and purchase electronic sheet music. WorshipTogether.com also gives away the electronic sheet music for one popular modern praise and worship song each week. The Scorch Music Viewer also has other useful features, such as the ability to play a MIDI file of the song and the ability to transpose at the click of a button. These four sites are very useful resources for worship leaders on a tight budget.

Some small publishers and songwriters have their own websites, and these can sometimes be as useful as the previous sites. Examples of these would be ZionSong Music ([www.zionsong.com](http://www.zionsong.com)), and Chuck Girard Home Page ([www.chuck.org](http://www.chuck.org)). ZionSong

Music is a small publisher of praise and worship music. They sell their CD's and give away chords and lyrics for their songs on their website. Chuck Girard is "one of the first Contemporary Christian Music artists, and former member of the pioneering Christian group, Love Song." His site contains the text of a book written by him concerning different styles of Christian music. It is also possible to purchase Chuck Girard's CD's at this site, and he gives away the lyrics and chords freely, just like ZionSong Music. One can also find a pretty good collection of jokes on Chuck Girard's site, like this one: "How many Pentecostals does it take to change a light bulb? Three. One to lay hands on it and two to catch it when it falls."

There are a number of online stores where worship leaders can purchase CD's and songbooks for praise and worship songs. Three examples of these are Christianbook.com's Home Page ([www.christianbook.com](http://www.christianbook.com)), Sheet Music Plus ([www.sheetmusicplus.com](http://www.sheetmusicplus.com)), and Sunhawk.com ([www.sunhawk.com](http://www.sunhawk.com)). At the first, Christian Book Distributors' website, one can purchase songbooks and CD's. Sheet Music Plus claims to be "The World's Largest Online Sheet Music Store," with over 354,000 titles. Sunhawk.com is an online store for electronic sheet music using the free Solero program. WorshipTogether.com used to use the Solero program, which is similar to the Scorch Music Viewer that they presently use.

There are three websites offering worship leader software for sale, in addition to the CCLI website. The first of these is Worship Software ([www.worshipsoftware.com](http://www.worshipsoftware.com)). This computer program, purchasable from Integrity Music for \$199.95, is a useful resource for worship leaders. The list of features on the website is:

Choose From Over 8,500 Song Titles - Select the songs you need from our comprehensive cross reference of over 8,500 song titles from 28 hymnals



and songbooks. Extensive cross-referencing lets you search for songs by over 130 different criteria including theme, key, tempo, Scriptural references, author, publisher, even the date you last used it in service. Access a wealth of information about each song, including lyrics and sheet music (SATB + Chords) for most songs in Hosanna! Music Songbooks 1-13!

Schedule Events - From rehearsals to services, the Event Calendar keeps track of when and where events are scheduled. The new Scheduling Angel™ makes scheduling repeating events a breeze!

Plan Your Program - Use the included event templates, or customize your program by creating your own. The Worship Search Angel™ takes the guesswork out of finding the perfect music. Give it a few hints and let it suggest options and rank them according to your specifications. Need to work from home? The intelligent import/export procedure lets you easily carry around service and song information on a floppy disk.

Organize People - Worship Software 3.0 keeps track of an unlimited number of people and their roles. Schedule your choir for a rehearsal, ushers for a service, or a Sunday School teacher for a classroom. Attendance reports and schedules can be instantly created for individuals or groups.

Print Programs, Bulletins, Sheet Music, and More - Design and print your own programs, bulletins, slides, overhead transparencies, and labels or use our easy-to-follow templates. Worship Software 3.0 also compiles comprehensive program notes for musicians, and even structures the key modulations leading into each song in the program! And the new sheet music module lets you transpose and print song sheets for most songs in Hosanna! Music Songbooks 1-12.

This site also has screen shots from Worship Software.

The other two websites offer less expensive alternatives to the steep price tag of Integrity Music's Worship Software. The first of these is CampFire Guitar Home ([www.iserv.net/~northwds](http://www.iserv.net/~northwds)), the website for North Woods Software. They created CampFire Guitar to assist guitar players. It can be purchased at this site for \$30. It has numerous features that could prove useful to worship leaders, such as: A guitar chord database containing over 1500 chords, a guitar tuner, song display with a chord summary

showing every chord in a song, song printing with graphical chord summaries, and double-click on any chord in the song display to see the chord information.

Split Infinity Music ([www.simusic.com](http://www.simusic.com)) contains several useful tools for worship leaders at low prices. Three different programs can be purchased here. ChordPlayer (\$9.95) is "A chord library tool for guitar players" and has the following features listed on the website:

- Over 2500 different fingerings and hundreds of distinct chords
- Click-n-drag finger symbols allow you to try and hear any fingering
- Real-time playback of chords using the Windows MIDI functions
- Single strum, multiple strum, and note-by-note plucking to play chords
- Customizable strum speeds and patterns
- Selectable MIDI port and MIDI patch
- Volume control
- Customizable chord dictionary
- All options saved between sessions

Tray Transpose Tool (\$14.95) is a program for key transposition of chord sheets.

It has the following features listed on the website:

- Instant Transposition
- Chord Syntax Checking
- Root Chord Guessing
- Improved Chord Recognition
- Expanded Chord Types
- Support for Nashville/Jazz Chords
- Support for Latin/Spanish Chords
- Formatted Text Support
- Automatic Syntax Highlighting
- Optional Use of System Tray
- Check Web Site for Updates

Parse Song Database System (\$39.95) is a program for managing chord sheets.

The website contains a large number of screen shots for this program, as well as this list of features:

- Instant transposition of any song into any key

- Easy text-based editing
- Attach MIDI files to songs
- PlayList feature
- Printing features – including sample output
- Data fields available for each song
- Multiple sorting methods available
- Powerful search feature
- Import features
- Support for CCLI

Brandon Munday, the creator of Parse, in personal correspondence with us (see Appendix D), described his reasons for creating Parse:

Regarding Parse, we wrote it after needing it at my own church - we started a revival with meetings daily for about four months. I can transpose in my head too, but we have four worship teams and a couple dozen musicians and singers. So we needed something that all the musicians could use. We had stacks of paper building up, with hand-scrawled transpositions over transpositions over the original chords. It was awful. It took a couple years to complete but Parse has really cleaned up the music stands.

Split Infinity Music's website also has free online key transposition for chord sheets. At the site, one can download and print free sheet music for a small selection of praise songs, including one famous praise song, by permission of the authors. This site also contains a Public Domain Worship and Praise Archive; this contains chord sheets for a small number of public domain praise songs and the entire contents of The Cyber Hymnal ([www.cyberhymnal.org](http://www.cyberhymnal.org)). The Cyber Hymnal contains a database for over 3,200 hymns, including lyrics, scores, and MIDI files. All of the hymns on this site are public domain, except for a few copyrighted hymns for which the site has received written permission from the copyright owner to display the song on the site.

There are a variety of sizes of free online databases of praise song chord sheets in existence. Some of them have less than a hundred songs, and some have more than a thousand. Some, such as OLGA ([olga.net](http://olga.net)), "The On-Line Guitar Archive," do not

contain any praise songs themselves. OLGA has a search engine that can find songs elsewhere, as well as a chord database.

Two important free online databases of praise song chord sheets are Christian Guitar Resources ([www.christianguitar.ws](http://www.christianguitar.ws)) and The Gospel Music Archive ([www.gospel.mcmail.com](http://www.gospel.mcmail.com)). Christian Guitar Resources, formerly known as Jars of Christian Guitar Tabs, contains several resources for worship leaders. It has numerous useful articles, such as some explaining advanced guitar techniques and how to use them in leading worship. This site also has a database of chord sheets for over 350 praise and worship songs. Two other features of the database are the inclusion of lead guitar parts for nine songs and Microsoft PowerPoint documents for 41 songs, prepared for digital overhead projection. The Gospel Music Archive, a site with a country twang, contains a database of chord sheets for more than 800 songs. This website includes several articles about the basics of music theory and key transposition, and it also contains a chord database.

Some other free online databases of praise song chord sheets also contain a chord database. Examples of this would be:

1. Salt & Light ([www.net-data.com/personal/Salt&Light](http://www.net-data.com/personal/Salt&Light)), with a database of over 700 praise song chord sheets and a small chord database.
2. Do You SEE? ([www.DoYouSEE.com](http://www.DoYouSEE.com)), with a database of over 500 praise song chord sheets and a chord database.
3. Worship Resources ([www.calvarychapel.com/library/worship](http://www.calvarychapel.com/library/worship)), with a database of over 100 praise song chord sheets and a small chord database.

4. [www.mtbethelyouth.org/guitar](http://www.mtbethelyouth.org/guitar), with a database of over 100 praise song chord sheets and a chord database.
5. Christian Rockin' Guitar Tabs and Chord Charts ([members.aol.com/ccfibril/guitar/guitarpage.html](http://members.aol.com/ccfibril/guitar/guitarpage.html)) with a database of over 60 praise song chord sheets and a chord database.

The other four free online databases of praise song chord sheets we examined did not contain a chord database. They are:

1. Rockin' With The Cross ([1christian.net/guitar](http://1christian.net/guitar)), with a database of over 900 praise song chord sheets.
2. YourChristianHome.com ([www.yourchristianhome.com](http://www.yourchristianhome.com)), with a database of over 700 praise song chord sheets and numerous useful articles.
3. PWarchive.com ([www.pwarchive.com](http://www.pwarchive.com)), with a database of over 400 praise song chord sheets.
4. Dann's Page: Praise & Worship Archive ([www.geocities.com/Heartland/Pointe/6860/music.html](http://www.geocities.com/Heartland/Pointe/6860/music.html)), with a database of over 100 praise song chord sheets.

We found six other sites that could be potentially useful for worship leaders.

They are:

1. Worship Resource Center ([www.praise.net/worship](http://www.praise.net/worship)), which has numerous useful articles and a database of copyright information for praise songs analogous to the one found at the CCLI website.
2. Worship Leader Online ([www.worshipleader.org](http://www.worshipleader.org)), the official website for Worship Leader magazine, which contains numerous useful articles.

3. The Worship Company ([www.theworshipcompany.com](http://www.theworshipcompany.com)), which has numerous useful articles.
4. Worship World ([www.worshipworld.com](http://www.worshipworld.com)), which has numerous useful articles.
5. Passion Network ([www.268generation.com](http://www.268generation.com)), which has numerous useful articles.
6. WorshipLinks ([www.worshiplinks.com](http://www.worshiplinks.com)), which has links to over 900 worship related sites on the Internet.

This last site, WorshipLinks, demonstrates just how much the Internet has impacted the role of the modern worship leader. These 32 sites described here are representative of many other sites like them all over the Internet.

We have assembled a table comparing a number of characteristics of these 32 websites. The seven questions we have asked on Table 3.1 are:

1. Is it possible to purchase worship leader software at this site?
2. Is it possible to purchase CD's and songbooks at this site?
3. Does this site give away free samples, such as chord sheets or MP3's?
4. Does this site have a free online database of praise song chord sheets?
5. Does this site have a guitar chord database?
6. Is this site operated legally? (The rationale behind these evaluations will be presented in chapter 4.)
7. Does this website contain any articles or other miscellaneous worship leader resources?

**Table 3.1** A Comparison of 32 Internet Resources for Worship Leaders

Website Name	Software?	CD's, Songbooks?	Free Samples?	Database?	Chords?	Legal?	Other?
CampFire Guitar Home	Yes	No	No	No	No	Yes	Yes
Christian Copyright Licensing International	Yes	No	No	No	No	Yes	Yes
Christian Guitar Resources	No	No	No	352	No	No	Yes
Christian Rockin' Guitar Tabs and Chord Charts	No	No	No	63	Yes	No	Yes
Christianbook.com's Home Page	No	Yes	No	No	No	Yes	No
Chuck Girard Home Page	No	Yes	Yes	90	No	Yes	Yes
The Cyber Hymnal	No	No	Yes	3200	No	Yes	Yes
Dann's Page: Praise & Worship Archive	No	No	No	101	No	No	No
Do You SEE?	No	No	No	500	Yes	No	No
The Gospel Music Archive	No	No	No	800	Yes	No	Yes
IntegrityMusic.com	No	Yes	Yes	No	No	Yes	Yes
Maranatha Music Home Page	No	Yes	Yes	No	No	Yes	Yes
OLGA	No	No	No	Yes	Yes	No	No
Passion Network	No	No	No	No	No	Yes	Yes
PWarchive.com	No	No	No	472	No	No	No
Rockin' With The Cross	No	No	No	919	No	No	No
Salt & Light	No	No	No	700	Yes	No	No
Sheet Music Plus	No	Yes	No	No	No	Yes	No
Split Infinity Music	Yes	No	Yes	2200	No	Yes	Yes
Sunhawk.com	No	Yes	No	No	No	Yes	No
Vineyard Music International	No	Yes	Yes	No	No	Yes	Yes
The Worship Company	No	No	No	No	No	Yes	Yes
Worship Leader Online	No	No	No	No	No	Yes	Yes
Worship Resource Center	No	No	No	No	No	Yes	Yes
Worship Resources	No	No	No	112	Yes	No	No
Worship Software	Yes	No	No	No	No	Yes	No
Worship World	No	No	No	No	No	Yes	Yes
WorshipLinks	No	No	No	No	No	Yes	Yes
WorshipTogether.com	No	Yes	Yes	No	No	Yes	Yes
www.mtbethelyouth.org/guitar	No	No	No	141	Yes	No	No
YourChristianHome.com	No	No	No	717	No	No	Yes
ZionSong Music	No	Yes	Yes	No	No	Yes	No

### **3.2 A Survey of Worship Leader Interest**

It would only be reasonable to create an online database of praise song chord sheets with features that the online Christian community was interested in. Therefore, one portion of our project consisted in an attempt to ascertain in what ways such a database would truly be of use to the online Christian community, and how it should be designed in order to meet those needs. The three of us, as guitarists in churches and other Christian organizations, were all interested in this sort of online database, and the worship leaders we were acquainted with also considered the creation of an online database of praise song chord sheets to be a worthwhile endeavor. Realizing that what we really needed was opinions and input from more worship leaders and not just numerical statistics, we set out to accomplish this goal with the use of a survey. Instead of having lots of questions with multiple-choice answers where we could analyze the distribution of answers for a statistically significant sample of worship leaders, we chose to ask questions where the worship leaders would be required to write their own answers. This served our opinion-collecting goal in two ways. First of all, the size of the survey and the work required to fill it out would discourage uninterested worship leaders from responding. We certainly do not expect all worship leaders to be interested in this; on the contrary, we wanted to find out what other interested worship leaders thought about online databases of praise song chord sheets, as these worship leaders are the one who would be using it. And secondly, worship leaders with helpful input had the opportunity to write us with their own comments and ideas instead of just checking a box on a form that stated their interest in an online database of praise song chord sheets.



Chronologically, this survey was the earliest part of our project. It was carried out when we were just beginning to investigate the technical feasibility of online database creation. We were aware of the theological context of the worship leader from our personal experience in Bible-teaching churches, but we had very little knowledge of the traditional or historical roots of modern Christian worship. We had not yet studied the copyright issues surrounding worship music yet, either. At this early point in our project, we still hoped to create a fully functional free online database of praise song chord sheets ourselves. The opinions and input from the worship leaders we surveyed served to confirm some of our ideas and give us new ideas.

We conducted our survey in May of 1999 by setting up a web page with a form version of the survey and simultaneously e-mailing the survey to over 1300 churches, asking them to either reply to the e-mail with their answers or fill out the form version of the survey on the web page. The churches that received the surveys were chosen by systematically selecting churches from Yahoo's website, and searching for an e-mail address on each church's web page. We chose to use a web page and e-mail based survey because it is totally free, and because an online database of praise song chord sheets would only be of interest to worship leaders with Internet access. We received the majority of our responses within a week of sending the e-mails, and we probably received between five and ten more in the following few months. In all, we received 97 responses to our survey. While that number is too statistically insignificant to give us information about all worship leaders, the comments by the people who did respond made our survey worthwhile. Although we did receive fewer responses than we had initially expected, we still met our goal for the survey, as we did get useful feedback from interested worship

leaders. Our goal was to find out what interested worship leaders thought about online databases of praise song chord sheets, whether that number of interested worship leaders was five or 500.

A copy of our survey and all of our survey responses may be found in Appendix C. A number of the responses to our survey helped us as we began investigating the technical aspects of online database creation. Some of them also gave us ideas about how else to study the role of music in Christian worship and the copyright issues involved.

The first set of questions on our survey dealt with the identity of our survey respondents. We had 29 states and six foreign countries represented in our survey, as well as 22 different Christian denominations. Over a third of the respondents to our survey were associated with churches or other organizations that were either multi-denominational or non-denominational. The importance of this is that it provided us with feedback from a large variety of locations and denominations.

We also asked several questions about the musical style of the churches and Christian organizations we surveyed. As we suspected, a majority of the survey respondents sang contemporary praise and worship songs and were registered with CCLI. Understandably, these are the type of churches who would be interested in an online database of praise song chord sheets, as the other churches just sing the songs from their hymnals. Our question about musical instruments also was enlightening in another way. Both the Greek Orthodox respondent and the Orthodox Presbyterian respondent commented that they sang with no instrumental accompaniment for traditional and theological reasons, respectively. We had not yet studied the role of musical instruments throughout church history, so we were unaware that singing with no musical

accompaniment was actually the practice throughout most of church history. This motivated us to study the theological, traditional, and historical roots of modern Christian worship in depth.

The next set of questions dealt with several aspects of worship leading in each church. For example, we asked about how songs are displayed during worship. More than half of our respondents display songs with an overhead projector during worship services, but there were still several other uses, such as bulletins and hymnals. This result was useful when investigating the technical feasibility of online database creation, because we could see that the ability to print overhead transparencies directly from the database would be a useful feature for users.

Our next few questions on the survey were the ones that showed us our respondents' interest in an online database of praise song chord sheets. Of our 97 respondents, only 23 said they already use the Internet to find songs. When asked whether they would use a free online database of praise song chord sheets, 62 of our respondents said they would. That represents 39 worship leaders who, at the time of the survey, did not use the Internet to find songs, but would use one in the future if it were made available to them. Even though these numbers do not have statistical significance due to our unscientific survey, they do represent 39 people, and even if those 39 worship leaders were the only ones who were interested, it would still be a worthwhile service to these 39 worship leaders to create a free online database of praise song chord sheets.

The 23 respondents who already used the Internet to find songs were also useful to our project in another way. They gave us the addresses for the 14 websites they used to find songs. Seven of these sites we were already aware of by our own experience as

guitarists in churches and other Christian organizations, and four of these sites were new to us. These eleven sites are all reviewed in section 1 of this chapter. Three of the sites we were unable to access, due to either the pages being moved to a new server, a typographical error in the survey response, or some kind of server error when we attempted to access the site.

The survey respondents also evaluated several of our ideas for features of an online database of praise song chord sheets. In general, it appeared that there was a large amount of interest in extensive search capabilities, a moderate amount of interest in both online key transposition and a guitar chord database, and a small amount of interest in automatic report generation for CCLI and links to other useful music resources on the Internet. We took these views into consideration when investigating the technical feasibility of online database creation. Our survey respondents also gave us a number of other ideas and comments about features they were interested in. Two ideas we gained from the respondents of our surveys were having audio samples of the songs on the site and listing the Scriptural references for each song as well. These two ideas were written in by 15 respondents and eight respondents, respectively.

Several of our respondents also questioned us about how we were going to deal with the copyright issues surrounding the free copying and distribution of chords and lyrics online. At that point, we had neither studied the relevant copyright law nor how CCLI operates, so we made it a priority to look into these two areas. Overall, our survey provided us with useful feedback from interested worship leaders, and it also helped us to begin studying the role of music in Christian worship, the copyright issues, and the technical feasibility of online database creation.

## **4. Copyright Issues**

It is the responsibility of the worship leader to provide the praise team with music for the songs to be played and to provide the congregation with words for the songs to be sung. In doing this, it is necessary for the worship leader to follow copyright law, as both the music and the lyrics for songs are almost always copyrighted. A number of methods of either submitting to or circumventing the copyright laws are currently in use both by churches and by free online databases of praise song chord sheets. It is also important to consider what a Christian's attitude toward copyright laws should be, in light of the Christian's relation to the established authorities.

### **4.1 The Copyright Law**

According to U.S. copyright law, the owner of a copyright has the exclusive right to make copies of it. Currently, a songwriter owns the copyright for a song for the life of the author plus 50 years. After this time, the song enters public domain, and it may then be copied and distributed freely by anyone. Songs written before 1978 are under a previous version of copyright law. They enjoy a copyright period of 75 years after the time of writing before entering public domain. Therefore, all of the songs written in 1928 or earlier are public domain as of January 1, 2002 [Webber, IV, 1994].

A section of the current copyright law, which is found in Appendix B, also contains a provision for "fair use" of copyrighted material. This section states:

Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any

particular case is a fair use the factors to be considered shall include - (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work. The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.

Therefore, worship leaders and administrators of online databases need to consider whether their distribution of lyrics and chords for songs is illegal, or if it falls under the definitions of "fair use."

#### **4.2 Copyright Issues in Church History**

Throughout most of church history, the copyrighting of lyrics and music was not an issue in any way at all. The Jewish psalms were never "copyrighted material," and when new hymns were written in the early church, they were "given" to the church for use in worship. After the formation of the Roman Catholic Church in the fourth century, any music used in church services was essentially "owned" by the authorities of the church. During the post-Reformation period of church history, many denominations were officially affiliated with governmental bodies in Europe and the American colonies. During this time, the music used was essentially "owned" by the government.

After the proliferation of printing and the creation of U.S. copyright law in 1790, it became necessary for the authors of hymns to copyright their works. Even then, following copyright law was not a difficulty for churches. Each church would purchase a set of hymnals for their congregation. Each hymnal contained the lyrics and music for each song that would be sung. Different churches would buy new hymnals at different frequencies, ranging from 10 years to 50 years. Occasionally, a church would sing new

songs written by members of the church (used by their permission), but usually new songs wouldn't be circulated until they were published in a new hymnal.

Some hymn-writers viewed their songwriting ability as a gift from God to the church and chose to forgo their rights as songwriters. Some wrote hymns anonymously, while others had their songs entered into public domain immediately. Church Hymnal, a hymnal published by Tennessee Music and Printing Company in 1951, contains two gospel songs that are accompanied with the phrases, "This hymn is free to be used for the glory of God," and, "This little hymn is free to all publishers who will use it for the glory of God and His Son, our Savior." By labeling their hymns in such a way, the authors granted permission for any church to use their work. However, it is interesting to contemplate whether the authors in any way considered that heretical groups could potentially use their works freely, in which case the hymns wouldn't be used for the glory of God.

### **4.3 Current Practices**

During the first few decades of the praise and worship movement in the latter half of the twentieth century, the writers of praise choruses and new praise and worship songs employed several of the same methods as the hymn-writers of the preceding centuries. Some churches began purchasing songbooks from publishers to be used by the congregation in addition to the hymnal. However, the number of praise and worship songs and publishers soon became too varied for any church to be able to buy songbooks containing all of the new praise and worship songs that they wanted to sing. As a solution to this problem, churches began doing three different things. Some printed and

bound their own songbooks containing lyrics for praise songs, others printed the lyrics for each week's songs in the bulletin, while still others used overhead projectors to display the lyrics on a wall for congregational singing. With all of these methods, churches were copying copyrighted material. In order to comply with copyright law, it was necessary for each church to obtain permission from the publisher or author of the song before making a copy. Understandably, this became a logistical nightmare for churches that primarily sang new praise songs. This also became expensive, as most publishers charged a small fee for the copying of each song.

In 1985, the worship leader of a church in Portland, Oregon, came up with a new solution for the copyright problem faced by churches who sang the new praise and worship songs. He created a service whereby churches could each track their copying of songs for non-commercial uses and report to an organization that would then deal with all of the music publishers on behalf of all the churches the organization represented. Each church would then pay a fee to the organization, and the organization would pay the publishers appropriately. This organization, known initially as Starpraise Ministries, became Christian Copyright Licensing, Inc. in 1988. Currently, CCLI is known as Christian Copyright Licensing International, and it serves over 129,000 churches in the United States, Canada, the United Kingdom, Australia, New Zealand, South Africa, and Sweden. Under the present CCLI license, a church in the United States may do the following:

- Print songs and hymns in bulletins, programs, liturgies and songsheets.
- Create their own customized songbooks or hymnals.
- Create overhead transparencies, slides, or use any other format whereby songs are visually projected, such as computer graphics and projection.
- Arrange, print and copy their own vocal or instrumental arrangements of songs, where no published version is available.



Under this license, however, a church in the United States may not do the following:

- Photocopy or duplicate octavos, cantatas, musicals, handbell music, keyboard arrangements, vocal scores, orchestrations or other instrumental works.
- Translate songs from one language to another. This can only be done with the approval of the respective copyright owner.
- Rent, sell, lend, or distribute copies made under the Church Copyright License to groups outside the church, or to other churches. However, they may distribute tapes to shut-ins, missionaries, or others outside the church.
- Assign or transfer the Church Copyright License to any other church or group without CCLI's approval.

CCLI also tracks song usage by churches in the United States by requiring them to keep a record of every song copied during a six-month period every two years. These numbers are used by CCLI to determine approximate song usage by all the churches in the United States. Under the CCLI license, all copies must be printed with copyright information on them according to the CCLI requirements. The following song is an example of proper copyright information display according to the CCLI requirements:

LORD I LIFT YOUR NAME ON HIGH

Lord, I lift Your name on high  
Lord, I love to sing Your praises  
I'm so glad You're in my life  
I'm so glad You came to save us

You came from heaven to earth to show the way  
From the earth to the cross, my debt to pay  
From the cross to the grave, from the grave to the sky  
Lord, I lift Your name on high

Words and music by Rick Founds  
© 1989 Maranatha Praise, Inc.  
Used by permission. CCLI #878499

The copyright information for virtually every song covered by CCLI can be found at their website ([www.ccli.com](http://www.ccli.com)), as described in section 1 of chapter 3. One important thing that must be noted about the CCLI license is that it only gives churches the right to copy the

lyrics for songs. To copy sheet music, lead sheets, or chord sheets, a worship leader must get permission from the copyright owner.

A free online database of praise song chord sheets, then, has a difficult time defending its right to display the chords and lyrics for copyrighted praise songs. Some websites, such as Split Infinity Music ([www.simusic.com](http://www.simusic.com)), take this into consideration and only display chords and lyrics for songs that are public domain and songs for which they have obtained permission from the copyright owner to do so. Even if the CCLI license allowed the copying of chord sheets, a church still would not have permission to distribute copies to other churches. This would violate one of the prohibitions of the CCLI license. There also does not appear to be a way to justify the copying and distribution of praise song chord sheets freely under the "fair use" portion of the copyright law. An online database of praise song chord sheets is not generally being used for "criticism, comment, news reporting, teaching, scholarship, or research." While it is true that it is being used for non-profit purposes, it is also true that the free distribution of praise song chord sheets has a negative effect on the "potential market for or value of the copyrighted work." If the chords for all praise songs were readily available for free online, there would be virtually no market for the sale of chord sheets by the copyright owner. Neither the CCLI license nor the "fair use" portion of the copyright law allows the free distribution of chord sheets online.

For many years, the most popular database for chords for any songs online was OLGA, the On-Line Guitar Archive ([olga.net](http://olga.net)). It was begun in about 1992 and initially hosted at the University of Nevada at Las Vegas (UNLV). In 1996, EMI Publishing, a large music publisher, contacted UNLV regarding the copyright infringement by OLGA,

and OLGA was subsequently kicked off the UNLV server. OLGA eventually found a home at a new server, but they were forced to close on June 9, 1998, after being threatened with a federal summons by the Harry Fox Agency. All of the old OLGA files were so widely distributed, however, that it is still fairly simple to find them using search engines. The new OLGA has attempted to circumvent the copyright infringement problems by requiring that all new submissions to the archive meet these two criteria: 1) it is not taken from a copyrighted book or magazine, and 2) it must not contain lyrics. The new OLGA is also accepting donations from guitarists so that it can pursue a legal resolution in regards to the distribution of the old OLGA files.

Many free online databases of praise song chord sheets have avoided the legal problems that OLGA has been threatened with simply because they are so small and serve such a small niche of the online guitarists community. Even so, some are aware that they could be threatened with legal action, and they have taken precautions accordingly. Many sites, such as Christian Guitar Resources ([www.christianguitar.ws](http://www.christianguitar.ws)), display a legal notice similar to this:

You may only use this archive for private study, scholarship, or research. If your intentions are otherwise, do not proceed any further into this archive. Christian Guitar Resources does not accept guitar tabs that have been taken from songbooks, magazines, or any other published material. Tabbing a work by listening to the song is okay as long as you credit the musicians involved. The archive is legal as long as you use it for personal use. All songs are the tabber's own interpretations and Christian Guitar Resources is not responsible for any of the tabs. The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted material. Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a user makes a request for, or later uses, a photocopy or reproduction for

purposes in excess of "fair use," that user may be liable for copyright infringement.

Even with legal disclaimers like this, some online databases of praise song chord sheets have encountered difficulties. In January of 2002, Christian Guitar Resources had to remove all songs on their website published by Brentwood-Benson Music. Legal representatives for Vineyard Music, one of the four largest publishers of praise and worship music, also contacted YourChristianHome.com ([www.yourchristianhome.com](http://www.yourchristianhome.com)) about copyright violation, even though the site has a legal disclaimer that is even larger than the one at Christian Guitar Resources. The website's owner, Leo Chan, posted the following five messages on the website describing their interactions with the legal representatives of Vineyard Music.

October 10, 2001 - Due to some copyright concerns, we will be either be removing worship music from Vineyard Music or shutting down the entire worship library within the next few days. They believe YourChristianHome.com is in infringement of copyright laws and that the statute that we base our legalities on is superceded by another law. We will try to arrange something with Music Services (the company that administers Mercy/Vineyard Music), but it may involve a heavy fee. We've always tried our best to enforce CCLI, to ensure that the authors of worship music get the credit that they deserve. Perhaps we haven't been doing enough. We'll definitely keep you posted on what's going on. Have a blessed week!

October 13, 2001 - For those of you who have been using our worship library as a resource for your personal or corporate worship times (at church, fellowship, etc.), we'd like your feedback on the concerns that have been raised. First of all, please let us know if you would support paying for licensing fees by voting either Yes or No. Secondly, please let us know if this resource has been helpful to you and/or your church. We'd like to build a collection of testimonials to demonstrate the usefulness of the worship library. Send us an e-mail at [webmaster@yourchristianhome.com](mailto:webmaster@yourchristianhome.com). We'd appreciate your support in this matter! To let you know what we've done so far, we took the liberty of contacting CCLI regarding this issue. Unfortunately, they have no authority in the matter with online archives (they deal solely with church usage). We're still waiting on a response from Music Services. In the

mean time, have a blessed week! May your life reflect the life of our Lord Jesus Christ! :)

October 16, 2001 - We regretfully inform all visitors of YourChristianHome.com that all music by Mercy / Vineyard Publishing has been officially removed via request by Music Services. These songs have been removed temporarily in order to comply with their request. We are still working with them to see what we can do with keeping their music posted on our website. They have made it clear that we will not be able to post the music free of charge. There will be fees involved. We've created a message forum for you to discuss everything that's been going on and possible ways we can respond. Check it out at <http://pub8.ezboard.com/flchfrm2>. If you haven't done so already, please e-mail us at [webmaster@yourchristianhome.com](mailto:webmaster@yourchristianhome.com) with your comments pertaining to the worship library. If it's been a useful resource to you and your church, we want to hear about it! We'll keep you posted about this whole situation. May God's name be glorified in your daily lives! :)

November 4, 2001 - I'd like to let you all know what's been going on with Music Services (the representative of the Vineyard Music Group). As you all know, all the Vineyard songs have been made inaccessible for the last little while (this was to comply with their request to remove the songs). They are still in our databases, but simply inaccessible. I've been trying to negotiate with them a suitable fee in order to post their music. Currently, they've requested a fee of \$10/per song/per year. We have approximately 210+ Vineyard songs stored in our database which would work out to approximately \$2100 US a year (it would be a little more than that). Truthfully, we cannot afford to pay such a huge sum of money for licensing. Our advertising fees cover the price of our hosting fees. I would love to be able to post Vineyard Music on our site, but the cost is too large. I'll be honest, there are still other sites with Vineyard music being displayed and you could get them from there. But they've already gone after one of the larger sites and they've had to remove their songs. I think Music Services will continue to pursue this issue with other websites. So what can you do? If your church uses YourChristianHome.com as a resource for your church ministries, maybe you could set aside some money to help support the licensing fee. Let us know your thoughts about this. If we can't raise enough money to cover the licensing fees, then unfortunately we will not be posting up any other music from Vineyard Music. That's everything that's been going on with YourChristianHome.com lately! God bless! May your life reflect the life of our loving Savior!

January 9, 2002 - It's been a while since the last update to the worship library. Today, we've added over 70 songs into our database :) It's one of our largest updates to date. If you're wondering as to what happened with

the posting of Vineyard Music on our website, we were not able to raise enough funds to get all the songs posted online. In fact, for those of you who have sent money to us, we have not done anything with it yet. We were thinking about using the money to pay for as many songs as we could (perhaps the highest used Vineyard songs). If you want to financially support us in getting Vineyard music back on our site, please feel free to let us know. We'll let you know how you can do that. We're also looking for some music reviewers (for CDs) and music tabbers. If you're interested, please get back to us too :) Have a wonderful week! May the light of our Savior shine among You :)

The poll on their website, as of January 16, 2002, showed 340 votes for "Yes" and 370 votes for "No" in response to the question "Would you help support paying for licensing fees in order to post worship music on this site?" Two possible reasons that more people are voting "No" than "Yes" is that firstly, the Vineyard songs can be found at other sites, and secondly, people generally use online databases so that they can get the chords for songs for free instead of having to pay for the songbook. This is probably also why not enough guitarists in churches and other Christian organizations were willing to donate enough money to allow YourChristianHome.com to display all the Vineyard songs.

Another way in which an online database of praise song chord sheets could circumvent copyright law would be to locate the server in a country that does not observe international copyright laws. However, most countries that could serve as potential locations are war-torn third-world countries with unstable governments. Countries such as these also usually lack the high-speed Internet access that would be necessary for efficient use of the database.

#### **4.4 The Christian Response**

According to Romans 13:1ff and 1 Peter 2:13ff, Christians should submit to the governing authorities. Therefore, the proper Christian response to the copyright law is to

submit to it wholeheartedly. It should be the goal of every Christian to never copy or distribute copyrighted material without permission. The lyrics and music for modern praise and worship songs are copyrighted material. A CCLI license gives permission for a church to copy lyrics for worship services. Beyond this, however, Christians shouldn't copy lyrics or music for praise songs. The "fair use" portion of the copyright law doesn't provide for use by Christian churches and other Christian organizations in worship. That use is not news reporting, private study, scholarship, or research. It would also be highly questionable ethics to place the server in a different country in order to distribute copyrighted material in other countries freely. Beyond the appropriate submission to the governing authorities, Christians should also love each other as Jesus Christ loved them (John 13:34). Many authors of praise songs are professional musicians and songwriters, and they have no other source of income. When a worship leader visits a free online database of praise song chord sheets and downloads the lyrics and chords to a praise song without permission, that worship leader is effectively stealing from the songwriter, because the songwriter receives no income for the new copy on the worship leader's hard drive and any paper copies that are later printed out. Christians should never defraud other people in such a manner, especially their brothers and sisters in Christ. Basically, every worship leader who frequently uses online databases of praise song chord sheets needs to ask this question: Is it more worshipful to sing great praise songs illegally or to sing mediocre praise songs legally? There is no biblical mandate to sing the same popular praise songs that all the other churches are singing; yet there is a biblical mandate to submit to the governing authorities.

Therefore, only two ways exist for the legal creation of an online database of praise song chord sheets. The first way is the method employed by Split Infinity Music ([www.simusic.com](http://www.simusic.com)). All of the songs in their database are either public domain or are there by permission of the author. The other way would be to use one central company to manage everything between the music publishers and the churches. Each church would have access to all of the songs in the database by paying the central company a fee, and the central company would reimburse all of the music publishers appropriately. It appears that CCLI has seriously considered pursuing this option. On April 19, 2000, we emailed CCLI customer support inquiring what their official position was on online guitar chord databases. On April 20, they responded that CCLI doesn't deal with such matters; it is up to the individual publishers. A copy of this e-mail can be found in Appendix D. That same day, a survey appeared on their website. The questions on that survey were:

What is the size of your church or organization?

Does your church use lead sheets during its worship services? If yes, describe the frequency of use.

Would your church like to have access to an Internet Lead Sheet Library, consisting of thousands of popular and new worship songs, where you could download lead sheets immediately?

If an Internet Lead Sheet Library were available to you through an annual license, how interested would you be in obtaining one?

What do you think the annual fee should be for such a Lead Sheet Library?

CCLI has never created an Internet Lead Sheet Library, so it appears that interest decreases once a realistic price tag is attached to the database. From our survey, we saw that there are many worship leaders who are interested in a free online database of praise



song chord sheets, but it appears that far fewer people are interested in paying an annual fee for access to an online database of praise song chord sheets. This survey by CCLI and the recent events at YourChristianHome.com support this conclusion.

## **5. Technical Feasibility of Online Database Creation**

The technical feasibility of creating an online database of praise song chord sheets must be analyzed as a separate issue from legal feasibility. The ability to create dynamic, online databases of information has increased exponentially over the past decade, and a practical implementation should be considered most feasible, given an appropriate amount of time and a fairly small group of competent web programmers.

There are many free software packages available to web programmers today to aid in the development of such databases. With a combination of the freely available operating system Linux, the web-server Apache, the relational database system MySQL, and an array of free web authoring tools, the entire system could be implemented for only the time to program the system.

The following is a list of features that could feasibly be implemented into a first version of the online database:

- User accounts to provide individualized preferences
- Entire database searchable (keyword, author, title, tempo, style, etc.)
- Multiple formats for song output (digital, overhead, song sheets, etc.)
- Online key transposition of music
- Worship event planning utilities
- Automatic CCLI report generation based upon song usage
- User contribution options (lyrics, chords, MP3, etc.)

After analyzing the results of our survey of worship leaders, it was clear to us that a sample implementation would not only be useful for the study, but possibly even useful to many other churches and other Christian organizations around the country. The

positive results of the survey clearly showed that there was interest in the online community for such a database, which confirmed our original suspicions. The original intent of the sample system implementation was to create an online database of praise song chord sheets providing all of the above listed features.

### **5.1 A Series of Prototypes**

When we first began this project we chose to investigate the technical aspects of online database creation by making an online database of praise song chord sheets that one could perform complex searches on, select songs to be downloaded to the user's computer, and further manipulated from there. Along this vein, we went to work developing some prototypes in order to help nail down a "look and feel" that would be pleasing to the eye, easy to use, and in an environment that we could comfortably develop in. We created three significant prototypes, one using Visual Basic, one written in C++, and one written in Java. We chose to abandon the Visual Basic version because we weren't conversant with either that language or the available development tools. The deciding factors in choosing between the other two versions were that Java runs on any type of personal computer, and the Java prototype just looked better.

The next step was to come up with a file format that would suit our needs, and to identify what should be stored in a file containing a worship song. The decision for what information would be needed in a file was made based on the types of search criteria that we found in our survey, the sorts of things that we knew the computer would need to know, and the information required by CCLI to properly credit the creators of a song. Once we had these things, we went about designing a file format. We needed it to be a

format that could be easily read without using our program, so that ruled out any sort of pure binary data file. We ended up choosing to use XML, and we created our own schema for defining our file format.

While working on the file format, analyzing our data from the survey, and looking at available technology, we decided that all of the functionality of our database should be available right there on the website, without the users having to download anything, or install Java on their computers. After making this determination, we needed to look at the available ways of adding the sort of functionality we needed to a webpage. One method of adding functionality involved CGI, which allows a webpage to be generated dynamically from a program executed by the web server. In learning about this we discovered an alternative method, which seemed like a better idea, Java Server Side Includes. We preferred this over CGI because JSSI only has the server generate the small pieces of the webpage that we needed to change dynamically. The other benefit to using JSSI is that we would then be able to use the existing Java tools for dealing with XML documents.

At this point one member of the IQP group went ahead with developing the Java code to process the praise song files, while another member learned how to configure the Apache web server so that it would allow the use of JSSI. We also wanted to use MySQL, a free relational database that would allow us to put the task of actually doing the searches onto some pre-existing software, and not to do it ourselves. We therefore learned how to configure MySQL to run on a RedHat Linux system. The preliminary code and webpage design were finished before the Linux system was ready and fully configured to run all the different things together. There were also some serious

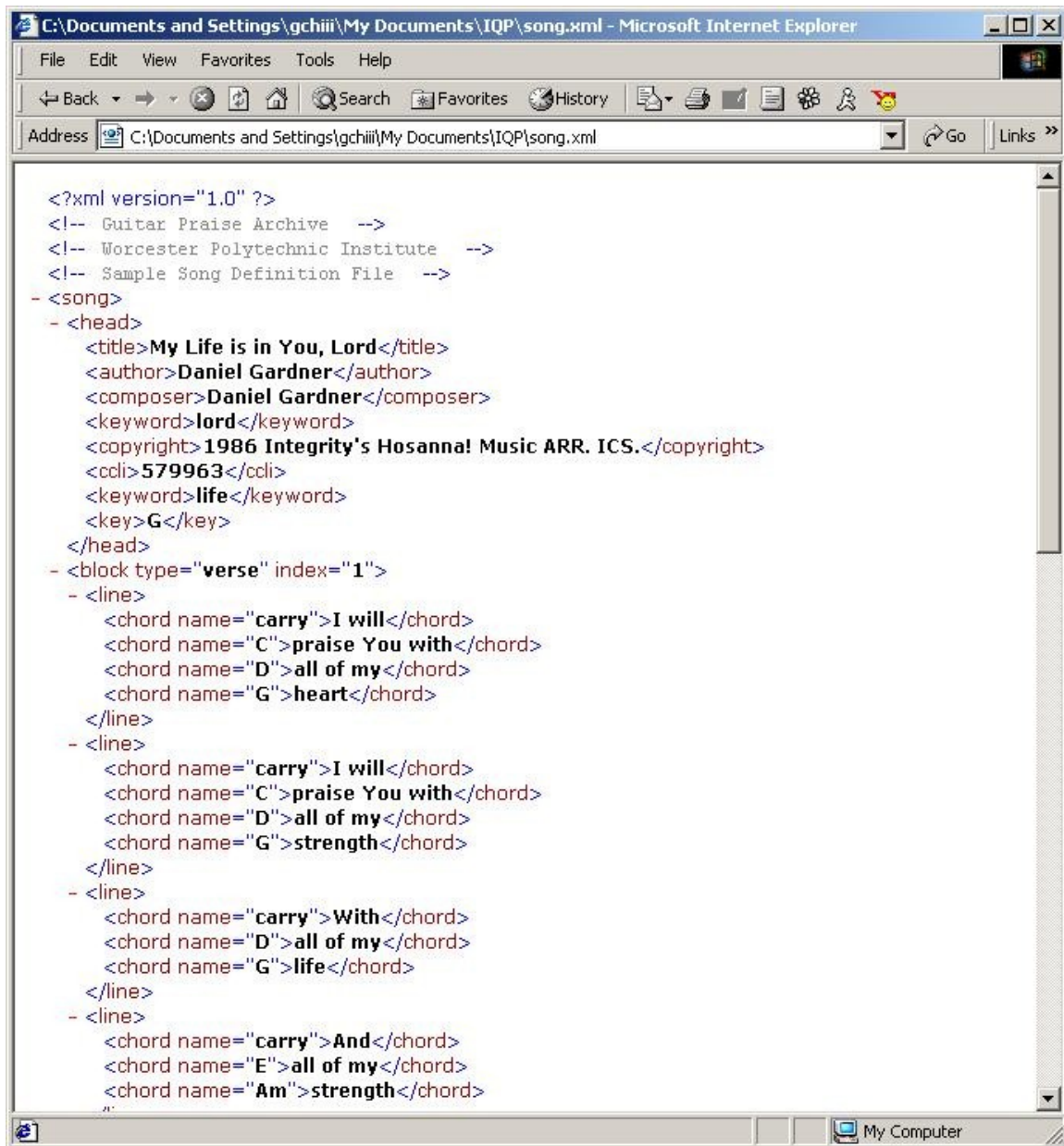
problems getting MySQL, Apache, and JSSI to all work together without crashing the server.

## 5.2 Design Strategy

In any web-based application, there are three distinct levels of design that need to be considered. First, there exists **content** that will be conveyed to a user – in this case, the content is praise songs. Secondly, some **logic** will be applied to the content to determine what information about the song (author, lyrics, chords, etc.) should be conveyed to the user. Lastly, the method of **presentation** for the newly parsed content must be determined (HTML, application, mobile telephone, etc.).

At the time of the original design and implementation, a few new technologies were emerging that appeared to be a huge help in creating vast, flexible web-based applications. XML and Java Servlets were both new technologies available to web developers and were designed into the test system.

XML is a language used to represent content in a hierarchical, platform independent, application independent form. As we wanted the database to ultimately be accessible from many sources (the Web, locally installed applications, and potentially an internet enabled local application), XML was exactly what was required. We quickly, with the help of some computer-savvy worship leaders, developed an XML schema for working with praise songs. This schema allowed for the elegant storage of practically every available aspect of a praise song (title, author, key, CCLI number, tempo, lyrics, chords, etc.) allowing an application to use any and all of this information in any way that it desired. Figure 5.1 is an example of a song represented using our XML song schema.



```

<?xml version="1.0" ?>
<!-- Guitar Praise Archive -->
<!-- Worcester Polytechnic Institute -->
<!-- Sample Song Definition File -->
- <song>
- <head>
  <title>My Life is in You, Lord</title>
  <author>Daniel Gardner</author>
  <composer>Daniel Gardner</composer>
  <keyword>lord</keyword>
  <copyright>1986 Integrity's Hosanna! Music ARR. ICS.</copyright>
  <ccli>579963</ccli>
  <keyword>life</keyword>
  <key>G</key>
</head>
- <block type="verse" index="1">
- <line>
  <chord name="carry">I will</chord>
  <chord name="C">praise You with</chord>
  <chord name="D">all of my</chord>
  <chord name="G">heart</chord>
</line>
- <line>
  <chord name="carry">I will</chord>
  <chord name="C">praise You with</chord>
  <chord name="D">all of my</chord>
  <chord name="G">strength</chord>
</line>
- <line>
  <chord name="carry">With</chord>
  <chord name="D">all of my</chord>
  <chord name="G">life</chord>
</line>
- <line>
  <chord name="carry">And</chord>
  <chord name="E">all of my</chord>
  <chord name="Am">strength</chord>
  ..

```

Figure 5.1 Sample XML Code

The full schema and one song using it may be found in Appendix E.

The second new technology, Java Servlets, provided us with the means to do the majority of the background programming for the web site. Because using Java Servlets is as easy as programming Java, performing user logins, usage tracking, outputting multiple

display formats, transposing music, and any of the other logic intense parts of the site would become much easier to implement.

The presentation of the sample implementation would be a simple website accessible from any standard web browser (like Internet Explorer, or Netscape Navigator). Presentation of song data proved to be somewhat difficult in that most songs must be either printed for the guitarist or for an overhead projector. A web browser using HTML does not offer the consistency required to guarantee a quality overhead for use in public worship. Tools exist to provide XML content in various other forms (such as PDF), but the effort required for implementation would have been too great. Creating professional quality overheads and chord sheets would, however, be possible using such a tool. For the use of the prototype, only HTML was used as a presentation medium. Figure 5.2 provides a glimpse at a potential presentation of data.

### **5.3 Successes and Difficulties**

Due to the infancy of the technology we were unable to actually implement the search features of our system. When we first started, the method for using Java on the server to dynamically generate HTML pages was rather clumsy. The first system used Java Server Side Includes (JSSI). Our web site was designed with this specification in mind. Unfortunately the implementation of JSSI for the Apache web server was incredibly buggy, very unstable, and full of security problems. During the time that our Linux server was running with this configuration, it was hacked into and messed up by some hackers who also attacked a number of other WPI Linux systems. This convinced us that we needed to use a more secure system. The people who developed Apache and

the JSSI plug-in for Apache had decided that they should focus their efforts on developing a newer and more robust system that the creators of Java proposed, and this

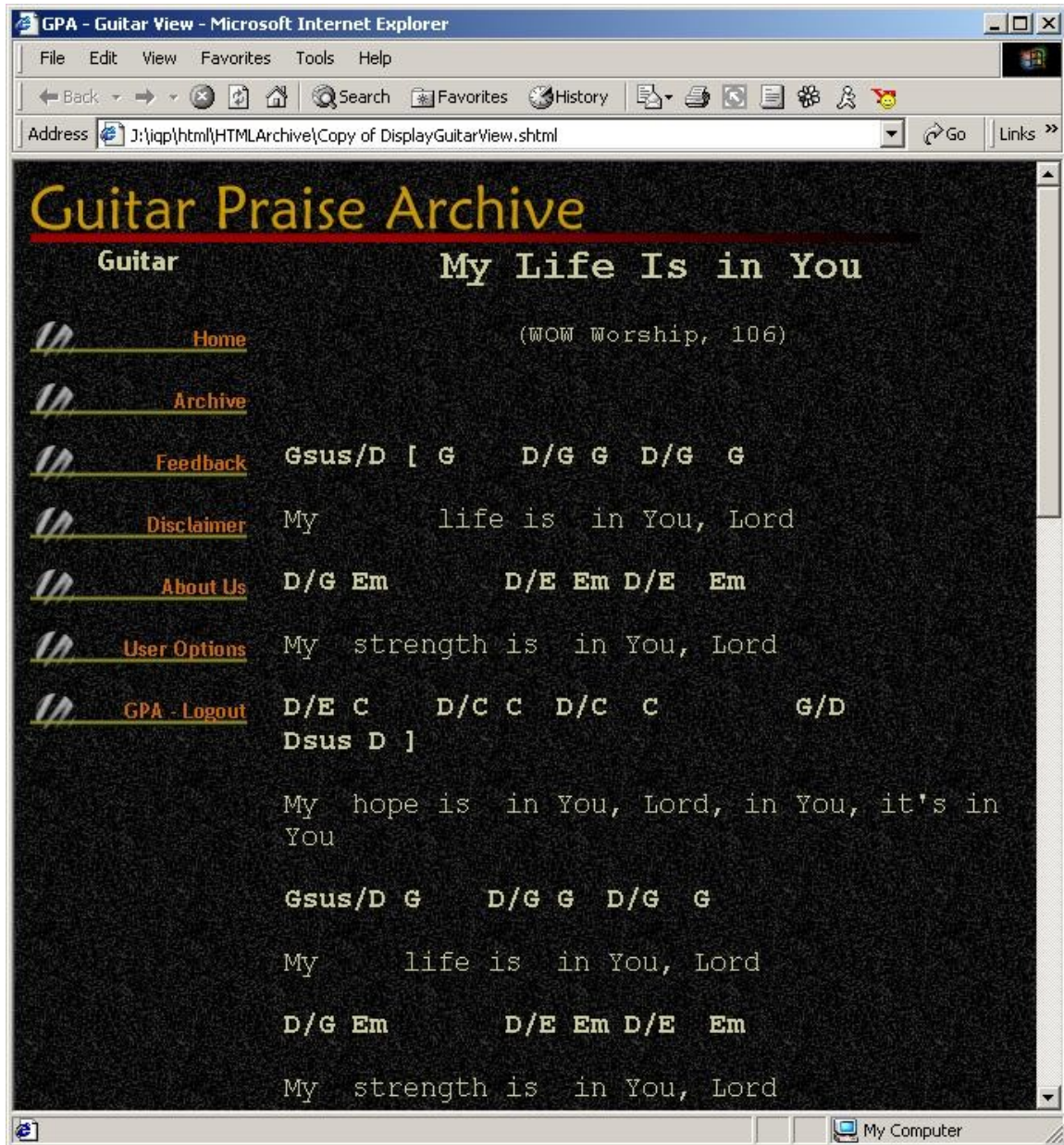


Figure 5.2 Sample Screenshot of HTML Display

was Java Server Pages (JSP). The Apache Team created Tomcat, the Java Servlet Engine



add-on to Apache that allows one to use JSP. Because of the instability of the JSSI plugin and the abandonment of support for that project, we had to switch our website over to the Tomcat system and start reconfiguring and learning a brand new system.

The sample implementation of the system was begun and brought to a level of partial functionality. A system for allowing multiple users to access the site, while preserving their preferences, was designed and implemented. Users were able to configure their preferences and display a sample song based upon their preferences (with or without in-line, raised, or end-line chords) for different display mediums (chord sheet, lyrics sheet or overhead). This level of functionality in a web application would sufficiently meet the needs of a large section of our surveyed group.

However, many of the features that we desired to integrate were omitted because of implementation complexity within the confines of the project as well as ambiguity in dealing with copyright laws. One of our key features, automatic key transposition, was not implemented merely because of the complexity of the algorithm. Worship event planning, CCLI report tracking, and user uploads were also not implemented due to the lack of time dedicated to system implementation. However, several online databases now offer these features, proving their feasibility. Software such as Split Infinity Music's Parse Song Database Management System 2.0, released in March 2000, and Integrity Music's Worship Software 3.0, released in March 2001, shows that the technology is now available; thus it is no longer necessary to implement it in a prototype.

Overall, the conceptual design of the system was quite reasonable and, with work, would provide the necessary features to users. With all of these features implemented, our design could stand out as one of the best online databases of praise song chord sheets.

## **6. Conclusions and Future Work**

Our intention with this project, therefore, was to determine the answer to this question: Is it feasible to create a free online database of praise song chord sheets for use by guitarists in Christian churches and other Christian organizations? The conclusion we have come to is that it is possible, but only under certain conditions. Our study of the role of music in Christian worship showed us the motivation to create such a database, which is the desire to praise and glorify God in song for his attributes and actions, especially for his awesome work of redemption in sending his Son to die for our sins. It also showed us the present role of the worship leader in Christian churches and other Christian organizations. Our study of the current computer and Internet resources for the worship leader showed us both that a large number of useful websites and computer programs already exist, and that worship leaders are interested in websites and computer programs such as these, especially when they're free. Our study of the copyright law, however, showed us that despite the godly motivations behind the free distribution of Christian music and numerous worship leaders' interest in the creation of an extensive, useful, and free online database of praise song chord sheets, such a database would be illegal under U.S. copyright law. Therefore, there are only two options whereby the creation of a database would fully comply with copyright law. Either the database would have to consist entirely of songs that are either in the public domain or are used by the author's permission, or it would have to be an expensive database administered by a central organization such as CCLI. Our investigation of the technical aspects of online database creation showed us that it is in fact feasible to create an online database such as

this, and the presence of commercial products comparable to what we originally desired to create demonstrates this.

Throughout all of the research, work, and writing of this IQP, we have become more familiar with this area of interaction between society and technology, and we are now better equipped for our role as engineers in society. The skills we have learned in examining technology's impact in society in this small area will prove useful later in life when we will need to examine how our future careers in science and technology will impact society.

## Glossary

**Chord sheet:** A page displaying the lyrics and chords for a song. The chords may be displayed either "in-line" or "above line."

**Hymn:** A song written to praise God, either by singing to him directly or by singing about his works and attributes. Although this word can be used to describe all songs of praise sung in worship services, it's usually used to describe metrical songs written primarily between the Reformation and the mid-nineteenth century.

**Hymnal:** A book of hymns designed for congregational use, displaying the lyrics, vocal melody, and vocal harmony for each song in standard treble and bass clef musical notation. Some modern hymnals now contain praise and worship songs as well.

**Key transposition:** The modification of the key of a song by moving every note up or down an equal number of half steps. The two major reasons for use of this by worship leaders is to either move the key of a song down so that it is easier to sing or to change the key of a song to match the key of the other songs being sung in order to simplify song transitions.

**Lead sheet:** A page displaying the lyrics, chords, and melody for a song. The melody appears in standard treble clef musical notation.

**MIDI:** Music Instrument Digital Interface, a standard for digitally representing musical information.

**MP3:** Moving Pictures Experts Group-1 audio layer 3, a method of compressing music and either storing it digitally or transmitting it digitally over the Internet.

**Praise and worship:** A popular style of music used in Christian worship that combines the sound of rock 'n' roll with generally short songs.

**Psalms:** 150 God-inspired songs written by the Israelites between 1500 and 500 BC.

**Sheet music:** Pages displaying the lyrics, chords, and standard treble and bass clef musical notation for a song, including the vocal melody, vocal harmony, and instrumental harmony.

**Tablature:** A method of displaying guitar chords and riffs by the use of six horizontal lines, each representing a string on the guitar, and numbers on the string representing frets where each strummed or plucked string is held down. This notation is used commonly on the Internet, as it is done entirely with text.

**Worship:** The act of ascribing worth to something or somebody. Traditionally, Christians meet on Sunday to corporately ascribe worth to God with prayers, hymns, reading of Scripture, preaching, giving, and communion. The term "worship" is commonly used

nowadays to refer specifically to the time of congregational singing with instrumental accompaniment.

**Worship leader:** Also known as a praise team leader, this is the individual responsible for planning and leading congregational singing in Christian worship.

**Worship team:** Also known as a praise team, this is the group of people who assist the worship leader in planning and leading congregational singing. This group can vary in size and content from a single pianist or guitarist to an entire praise and worship band consisting of multiple guitarists, a keyboard player, a drummer, and several backup singers.

**XML:** "Extensible Markup Language (often written as eXtensibleMarkup Language to justify the acronym). XML is a set of rules for defining semantic tags that break a document into parts and identify the different parts of the document. It is a meta-markup language that defines a syntax used to define other domain-specific, semantic, structured markup languages." [Harold, 1999]

## **Bibliography**

Bergsten, Hans. JavaServer Pages. O'Reilly & Associates, Inc.: Sebastopol, CA. 2001.

Berlin, Dan, et al. CGI Programming Unleashed. Sams.net Publishing: Indianapolis, IN. 1996.

CampFire Guitar Home. © 1997, 1998 and beyond North Woods Software  
<<http://www.iserv.net/~northwds/>>

Chan, Leo, ed. YourChristianHome.com || The One Stop Resource for Christians. © 2000-2001 GraFx Creative <<http://www.yourchristianhome.com/default.phtml>>

Cheong, Wesley, ed. Welcome to Worship World. © 1999 Wesley Cheong  
<<http://www.worshipworld.com/welcome.htm>>

Christian Guitar Resources - Christian guitar tabs. © 2001 Christianguitar.ws  
<<http://www.christianguitar.ws/>>

Christian Rockin' Guitar Tabs and Chord Charts.  
<<http://members.aol.com/ccfibril/guitar/guitarpage.html>>

Christianbook.com's Home Page. © 2002 Christianbook.com  
<<http://www.christianbook.com/>>

Church Hymnal. Tennessee Music and Printing Company: Cleveland, TN. 1951.

Comparative Study Bible, Revised Edition (New International Version, The Amplified Bible, King James Version, Updated New American Standard Bible). Zondervan Publishing House: Grand Rapids, MI. 1999.

Cyber Hymnal, The. <<http://www.thecyberhymnal.org/>>

Dann's page: Praise & Worship Archive.  
<<http://www.geocities.com/Heartland/Pointe/6860/music.html>>

Dean, Talmage W. A Survey of Twentieth Century Protestant Church Music in America. Broadman Press: Nashville, TN. 1988.

Do You SEE? - Sing to the Ends of the Earth.  
<<http://doyousee.basementproductions.net/cgi-bin/welcome.pl>>

Fettke, Tom, ed. The Hymnal for Worship & Celebration. Word Music: Nashville, TN. 1986.

Girard, Chuck. CHUCK GIRARD HOME PAGE. <<http://www.chuck.org/>>

Gospel Music Archive, The. <<http://www.gospel.mcmail.com/>>

Guitar Search Engine, The. <<http://www.ws64.com/guitarchords/gitsearch.html>>

Harold, Rusty, ed. XML Bible. IDG Books Worldwide, Inc.: Foster City, CA. 1999.

Index of /guitar. <<http://www.mtbethelyouth.org/guitar/>>

"Internet Related Resources" Worship Leader Magazine. Nashville, TN. p. 18. Fall 2000.

java.sun.com - The Source for Java(TM) Technology. © 1995-2002 Sun Microsystems, Inc. <<http://java.sun.com/>>

JavaServer Pages. Hungry Minds, Inc.: New York, NY. 2001.

Maranatha Music Home Page. © 1996-2001 Maranatha!  
<<http://www.maranathamusic.com/>>

McFedries, Paul. The Complete Idiot's Guide to Creating an HTML Web Page, Second Edition. Que Corporation: Indianapolis, IN. 1997.

Medinets, David. PERL 5 by Example. Que Corporation: Indianapolis, IN. 1996

Milne, Nathanael C. Father, Savior, King, and Friend (Humanities Sufficiency).  
Worcester Polytechnic Institute: Worcester, MA. 2000.

Munday, Brandon, ed. Split Infinity Music. © 2001 Split Infinity Music  
<<http://www.simusic.com/>>

OLGA - The On-Line Guitar Archive. © 2001 The On-Line Guitar Archive, Inc.  
<<http://olga.net/>>

Osbeck, Kenneth W. 101 Hymn Stories. Kregel Publications: Grand Rapids, MI. 1982.

Pardi, William J., Eric M. Schurman. Dynamic HTML in Action. Microsoft Press:  
Redmond, WA. 1998.

:: Passion Network ::. © 2000/2001 Passion  
<[http://www.268generation.com/enter\\_random.htm](http://www.268generation.com/enter_random.htm)>

Peabody, Jeff. "Spinning the Web into an Effective Tool" Worship Leader Magazine.  
Nashville, TN. pp. 24-28. Fall 2000.

Pfeiffer, Charles F., Howard F. Vos, John Rea, eds. Wycliffe Bible Dictionary.  
Hendrickson Publishers, Inc.: Peabody, MA. 1975.

PWarchive.com. <<http://www.pwarchive.com/>>

Redman, Robb. "The Digital Worship Leader" Worship Leader Magazine: Nashville, TN. pp. 37-38. Jan/Feb 2000.

Rockin' With The Cross - Christian Guitar Tablature & More.  
<<http://1christian.net/guitar/>>

Salt & Light - Guitar Resources. © 1999 Salt & Light <<http://www.net-data.com/personal/Salt&Light/>>

Sheet Music Plus - World's Largest Online Sheet Music Store. © 1997-2001 Musician Store and Sheet Music Plus <<http://www.sheetmusicplus.com/>>

Siever, Ellen, Stephen Spainbour, Nathan Patwardhan. PERL in a Nutshell. O'Reilly & Associates, Inc.: Sebastopol, CA. 1999.

Sunhawk.com - Digital Sheet Music On-Line. © 1997-2002 Sunhawk Digital Music LLC <<http://www.sunhawk.com/>>

Web Graphics Software by Xara. © 2002 Xara Ltd. <<http://www.xara.com/>>

Webber, Robert E., ed. The Complete Library of Christian Worship, Volume II: Twenty Centuries of Christian Worship. Star Song Publishing Group: Nashville, TN. 1994.

Webber, Robert E., ed. The Complete Library of Christian Worship, Volume III: The Renewal of Sunday Worship. Star Song Publishing Group: Nashville, TN. 1993.

Webber, Robert E., ed. The Complete Library of Christian Worship, Volume IV: Music and the Arts in Christian Worship, Book One. Star Song Publishing Group: Nashville, TN. 1994.

Welcome! - The Apache Software Foundation. © 1999-2002 The Apache Software Foundation <<http://apache.org/>>

Welcome to CCLI in the United States. © 2002 CCLI <<http://www.ccli.com/UnitedStates.cfm>>

Welcome to IntegrityMusic.com. © 2002 Integrity Inc. <<http://www.integritymusic.com/>>

Welcome to Vineyard Music International. <<http://www.vineyardmusic.com/>>

Worship Company, The. <<http://www.theworshipcompany.com/>>



Worship Leader Online. © 2002 Worship Leader  
<<http://www.worshipleader.com/home.html>>

Worship Resource Center - The Web site for all church / congregation praise and worship resourc. © 1996-2001 Praise.Net Technology <<http://praise.net/worship/>>

Worship Resources. <<http://www.calvarychapel.com/library/worship/>>

Worship Software <<http://www.worshipsoftware.com/>>

Worship Together Home Page. © 2001 WorshipTogether.com  
<<http://www.worshiptogether.com/default.asp?ct=USCANADA>>

WorshipLinks: Praise and Worship Links, Articles, and Resources. © 2002 Ecclesia Communications <<http://www.worshiplinks.com/>>

ZionSong Music - Praise & Worship Music, Recordings, Orchestrations, Books. © 2001 ZionSong Music <<http://www.zionsong.com/>>

## **Appendix A: CCLI Terms of Agreement**

### Church Copyright License Manual Terms of Agreement

#### **1.0 RIGHTS GRANTED**

- 1.1 Subject to the payment by Church of the Annual Fee, and the Church's compliance with the other terms and conditions hereof, CCLI, for the term of one year from date of License, grants to Church the nonexclusive rights to the Songs in the Program for the following uses:
- a. To print Songs in bulletins, liturgies, programs, and songsheets.
  - b. To print Songs in bound or unbound songbooks compiled by the Church.
  - c. To make overhead transparencies, slides, or to utilize electronic storage and retrieval methods for the visual projection of Songs.
  - d. To print customized vocal and/or instrumental arrangements of the Songs, where no published version is available.
  - e. To record Songs in Church worship services by either audio or audio-visual means.
- 2.1 The rights licensed to Church by CCLI are subject to the following conditions:
- a. The quantity of copies referred to in 1.1a, 1.1b, and 1.1d may not exceed the church size ("Church Size").
  - b. The quantity of copies duplicated per worship service pursuant to 1.1.e may not exceed 15% of the Church Size, and the Church may recover up to \$4.00 (US), \$5.00 (CAN) per audio tape and \$12.00 (US), \$15.00 (CAN), per video tape for copies duplicated up to the 15% limitation without additional payment to CCLI.

#### **2.0 RESTRICTIONS**

- 2.1 The following rights are excluded from the Program:
- a. Rental or sale of copies created pursuant to 1.1 (a)-(d) for any form of direct or indirect remuneration or consideration, whether by way of payment, gift, donation, freewill offering, etc.
  - b. Distribution of copies created pursuant to 1.1 (a)-(d) outside the jurisdiction of Church use.
  - c. Photocopying or duplicating any choral sheet music (octavos), cantatas, musicals, handbell music, keyboard arrangements, vocal solos or instrumental works.
  - d. Language translations of the Songs.
- 2.2 In addition to those restrictions set forth in 2.1 above, any and all rights not expressly granted to Church by this agreement are reserved by the Owners.

#### **3.0 CCLI'S DUTIES**

- 3.1 CCLI shall supply Church with a list of participating copyright owners (hereinafter referred to as Authorized List) whose entire Catalog of Songs are available for use in the Program.
- 3.2 CCLI shall keep Church updated of any additions or deletions to the Authorized List.

- 3.3 When required CCLI shall supply Church with a report form, (the Copy Report) which contains Song titles and different categories of Fixation Activity.
  - a. Fixation Activity is the reproduction (copying) of a Song onto a fixed medium (e.g. slides, transparencies, bulletins, songbooks, tapes, customized arrangements, etc.).
  - b. The Copy Report is supplied to Church to compile on a weekly basis the Fixation Activity of Songs.

#### **4.0 CHURCH DUTIES**

- 4.1 Church agrees that it will not alter or change the basic lyric, melody, or fundamental character of any Song.
- 4.2 Church agrees that each reproduced version of a Song will contain the Song title, writer credit(s), and copyright notice in substantially the following form:  
"Hallelujah," words and music by John Smith and Mary Doe  
© 1975 John Smith Music Co.  
Used By Permission. CCLI License # \_\_\_\_\_
- 4.3 When required Church agrees to compile on a weekly basis the Fixation Activity of any Song onto the Copy Report. The Copy Report shall be submitted to CCLI by the required date.
- 4.4 Church agrees to comply with the terms of this Church Copyright License.

#### **5.0 LICENSE FEES**

- 5.1 The License Fee shall be payable annually.
- 5.2 The renewal of the License Fee shall be due and payable prior to the expiration of the Church Copyright License.
- 5.3 The failure to pay the License Fee will result in the cancellation and revocation of all rights herein granted.
- 5.4 CCLI shall have the right to increase the License Fee in subsequent years upon written notice at renewal.

#### **6.0 TERMINATION**

- 6.1 Church shall have the right to terminate this license at any time. Said termination shall be effective 30 days after receipt by CCLI of written notice of termination.
- 6.2 CCLI shall have the right to terminate this license for any of the following reasons:
  - a. Failure by Church to pay the License Fee in which case termination shall be automatic and shall occur on the expiration date.
  - b. Non-compliance with the terms and conditions of this Church Copyright License, in which case said termination shall be effective 30 days after receipt by Church of written notice of termination.
- 6.3 In the event of termination, Church agrees to return to CCLI its License Kit and sign an affidavit of liability for any continued unauthorized use of Songs copied during the term of the license.

6.4 Money Back Guarantee. In the event Church requests termination prior to the third month of coverage, CCLI shall refund the License Fee minus postage and a 25% handling charge. Thereafter, the refund shall be the prorated unused portion of the License Fee minus postage and a 25% handling charge.

**7.0 OTHER**

7.1 This License cannot be assigned or transferred by Church without CCLI's approval.

**ADDENDUM #1 (MOBILE COPYRIGHT LICENSE ONLY)**

Notwithstanding the Church Copyright License Terms of Agreement, the following are additional restrictions and responsibilities for Mobile Copyright Licensees:

- a. The right to record songs as otherwise set forth in subparagraph 1.1e is removed from the "Rights Granted" section and becomes a "Restriction."
- b. Mobile Copyright licensee agrees to retain sole possession of all copies made pursuant to this license agreement.
- c. Mobile Copyright licensee agrees to distribute a Church Copyright License application to an appropriate representative at each location where Mobile Copyright License is used.

## **Appendix B: US Code Title 17 (Selected Sections)**

### **CHAPTER 1: SUBJECT MATTER AND SCOPE OF COPYRIGHT**

#### **Sec. 106. Exclusive rights in copyrighted works**

Subject to sections 107 through 120, the owner of copyright under this title has the exclusive rights to do and to authorize any of the following:

- (1) to reproduce the copyrighted work in copies or phonorecords;
- (2) to prepare derivative works based upon the copyrighted work;
- (3) to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
- (4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly;
- (5) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly; and
- (6) in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.

#### **Sec. 107. Limitations on exclusive rights: Fair use**

Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include -

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work. The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.

## **Appendix C: The Worship Leader Interest Survey**

### **The Survey**

What is your name, and what church or Christian organization are you part of?

Where is your church or Christian organization located?

The primary audience for our project is Christians. Are you a Christian, and what denomination, if any, are you affiliated with?

Are you registered with Christian Copyright Licensing International (CCLI)?

Does your church or organization sing primarily traditional hymns, contemporary praise songs, or a combination of both?

What musical instruments does your church use for worship?

Acoustic Guitar?

Electric Guitar?

Organ?

Piano?

Drums?

Bass?

Saxophone?

Clarinet?

Flute?

MIDI?

Other?

How would you rate yourself and your worship team's music aptitude?

Do you print your own songbooks?

How do you display music during worship services?

Bulletin?

Overhead?

Digital?

You don't?

Other?

Do you have internet access?

Do you currently use the internet to find songs for worship services?

If yes, what sites do you currently use?

Would you use an online database of worship music?

If yes, how often?

Once a month?

Twice a month?

Every week?

Several times a week?

Every day?

Please rate the following items as not important, important, or very important in an online database of worship songs and music.

Searchable by Song Title, Author, Keyword

Online chord transposition

Guitar chord database

Automatic annual report generation for CCLI

Links to other music resources on the web (how to play guitar, how to read music, etc.)

Do you have any other characteristics that you would like to see in an online database of worship songs and music?

Would you be interested in receiving the results of this survey as well as the location of the database when it is completed?

If yes, then what is your e-mail address?

Praise the Lord.

Praise God in his sanctuary;  
praise him in his mighty heavens.  
Praise him for his acts of power;  
praise him for his surpassing greatness.  
Praise him with the sounding of the trumpet,  
praise him with the harp and the lyre,  
praise him with tambourine and dancing,  
praise with the strings and the flute,  
praise him with the clash of cymbals,  
praise him with resounding cymbals.

Let everything that has breath praise the Lord.

Praise the Lord.

Psalm 150 (NIV)

### **The Responses**

There were 97 responses.

The names and organizations of those surveyed will not be disclosed in order to maintain survey confidentiality.

The locations of the churches and Christian organizations surveyed are:

(a) By State - Alaska, 1; California, 4; Colorado, 3; Connecticut, 1; Florida, 2; Georgia, 2; Illinois, 4; Indiana, 1; Iowa, 2; Kentucky, 1; Maryland, 2; Massachusetts, 7; Michigan, 3; Minnesota, 1; Mississippi, 1; Missouri, 1; New Jersey, 4; New Mexico, 1; New York, 3; North Carolina, 2; Oklahoma, 1; Pennsylvania, 3; Rhode Island, 1; South Carolina, 1; Tennessee, 5; Texas, 8; Virginia, 4; Washington, 6; Wisconsin, 1

(b) By Country - Australia, 1; Canada, 13; Germany, 1; New Zealand, 1; Northern Ireland, 1; U.K., 1

The number who responded "yes" to the question of whether they were Christians was 94. The number who responded "no" was 0.

The denominations represented were:

Anglican Church of Canada, 1; Assembly of God, 4; Association of Vineyard Churches, 1; Baptist, 11; Calvary Chapel, 1; Church of Christ, 1; Episcopal, 2; Evangelical Anglican, 1; Evangelical Free, 3; Free Will Baptist, 2; International Ministerial Fellowship, 1; Lutheran, 1; Lutheran (Missouri Synod), 2; Orthodox, 1; Presbyterian, 4; Reformed Baptist, 1; Reformed Presbyterian, 1; Roman Catholic, 3;



Southern Baptist, 7; United Church of Canada, 2; United Church of Christ, 1; United Methodist, 4; Multi-denominational, 10; Non-denominational, 28

The number who responded "yes" to the question about whether or not they were registered with CCLI was 73. The number who responded "no" was 19.

The number who sing primarily traditional hymns is 10, the number who sing primarily contemporary praise songs is 27, and the number who sing a combination of both is 59.

The instruments used are:

Acoustic Guitar, 67; Electric Guitar, 49; Organ, 41; Piano, 75; Drums, 56; Bass, 50; Saxophone, 20; Clarinet, 17; Flute, 29; MIDI, 21; Other, 40

The 40 "Other" instruments were:

- (1) synthesizer, percussion
- (2) Harp, Brass of all types, Percussion of all types
- (3) trumpets
- (4) a sixteen piece band and a recorder group
- (5) cello, violin
- (6) keyboard; (sometimes) violin, viola
- (7) We wish we'd have more instruments!
- (8) Harp
- (9) a capella
- (10) Brass
- (11) conga, tambourine, mandolin, violin, oboe, french horn
- (12) Electric keyboards mimicking all the above
- (13) violins, cello, percussion
- (14) Keyboard
- (15) keyboard
- (16) Other percussion
- (17) percussion
- (18) bongos, tambourine
- (19) keyboards
- (20) Vocal
- (21) Organ (synth), Aux. Percussion
- (22) varies
- (23) Cello, Congas, Keyboard
- (24) Oboe
- (25) Keyboard
- (26) Kurzweil PC88 MX, Trumpet
- (27) Keyboard
- (28) Brass: Trumpet, trombone, french horn, tuba, timpani
- (29) Various brass, synthesizer
- (30) Keyboard
- (31) synthesizer
- (32) Violin, Synth

- (33) orch, 1 Sun per month
- (34) electric piano, bodrun (irish drum), penny whistle
- (35) Brass, strings
- (36) Classical Guitar
- (37) We have a small band-----traditional instruments such as clarinets, flutes, saxes, trumpet, trombone, percussion
- (38) oboe, viola, fiddle, violin, lots of percussion baby
- (39) Yamaha DX7 II Synthesizer
- (40) Trumpet

Those surveyed rated their and their worship team's musical aptitude as follows:

- (1) varying skill levels
- (2) Pro
- (3) Average
- (4) High
- (5) above the average
- (6) excellent
- (7) ...trained keyboardist, vocalist and music educator
- (8) Slightly less than average
- (9) very good
- (10) We have one professional musician--he's paid and he is FANTASTIC! Our vocal teams are developing--they usually sing in unison, but would like to do harmony if we could find enough music that they could sight-read. Most people don't feel comfortable doing it by ear. We're strong enough amateur musicians that we're creating a CD for our congregation's use in their private prayer and meditation times. Our music director, who plays keyboard, organ, piano, cello, is our only professional--and a fantastic professional at that. For really BIG occasions, he brings in a couple of professionals who play bass and violin. The challenge for him is that all of our other instrumentalists--many of them high school students. We're in a fairly new town with no university, no entertainment industry (a bedroom town for Toronto) and few prospects of being able to hang onto musicians once they go to high school. The challenge for amateur instrumentalists is getting music that they don't have to transpose themselves. They have busy lives and the level of skill that a good high school student develops. We can NEVER find enough music for them.
- (11) Good
- (12) very good
- (13) pretty good
- (14) Good
- (15) Average
- (16) good
- (17) Fair
- (18) superb
- (19) average
- (20) A
- (21) decent
- (22) semi-pro

- (23) Very high
- (24) Pretty good
- (25) medium high
- (26) Average
- (27) good
- (28) very good
- (29) Average
- (30) From 1-5, 3.5
- (31) 6 out of 10
- (32) medium
- (33) Mediocre
- (34) music ed major and organist for 35 years
- (35) College/Graduate level
- (36) average
- (37) better than average/ very good
- (38) good
- (39) Mine is top notch - I have a Master of Music
- (40) average
- (41) Excellent vocalists, drums and keyboards. Guitar and Electric bass are adequate
- (42) Good, not excellent
- (43) Mixed - Novice to experienced
- (44) on a scale of 1 to 10, about a 7 or 8
- (45) Pretty good!
- (46) varies
- (47) Pretty good
- (48) Very good
- (49) Above average
- (50) adequate
- (51) Need Improvement
- (52) moderate
- (53) semi-pro
- (54) Not high. We have some on the worship team with exceptional musical aptitude.
- (55) semi-professional to professional
- (56) very knowledgable
- (57) Good
- (58) so-so
- (59) 8 on a scale of one to ten - always room for improvement but generally tight and competent
- (60) explain
- (61) God's musical aptitude far surpasses ours
- (62) ... isn't strong.
- (63) Average
- (64) good
- (65) highly varied, but outcome is pretty good

- (66) medium
- (67) Good
- (68) Good
- (69) excellent
- (70) 1-10 scale: me--5, team--6
- (71) Outstanding
- (72) Mid-level
- (73) Average
- (74) Qualified
- (75) good
- (76) medium to high
- (77) above average
- (78) adequate, but not great
- (79) 7 on a scale from 1 to 10 (10 being highest)
- (80) excellent
- (81) very competent
- (82) fair
- (83) High
- (84) Professional
- (85) Amateurs
- (86) high
- (87) pretty good
- (88) Sometimes it's good, and sometimes it needs work
- (89) 4 out of 10
- (90) varies
- (91) poor by modern standards
- (92) Good
- (93) Joyful Noise (me) - Team -Professional
- (94) acceptable for Liturgical purposes
- (95) ...ranges from quite good to a really poor attempt!

Of those surveyed, 74 print their own songbooks, and 21 do not.

The methods of music display during worship services are:

Bulletin, 21; Overhead, 55; Digital, 14; No display, 12; Other, 25

The 25 "Other" methods of music display are:

- (1) Slide
- (2) hymn books and printed
- (3) New Tribes Mission Book
- (4) hymnal
- (5) Hymn books
- (6) hymn books
- (7) Hymnal
- (8) personal songbook
- (9) Power point

- (10) hymnal
- (11) Psalm Books
- (12) Video Projector with Power Point
- (13) hymnal
- (14) hymnal with occasional overhead
- (15) Hymnal
- (16) books
- (17) Hymnals
- (18) Missalette
- (19) Hymn Books
- (20) slides
- (21) hymnal
- (22) hymnal
- (23) Hymnal
- (24) video projector
- (25) Hymnal

Of those surveyed, 93 have Internet access, and 1 does not.

Of those surveyed, 23 currently use the Internet to find songs for worship services, and 72 do not.

The sites used by the 23 that do are:

- (1) <www.1christian.net/guitar>, <1christian.net/guitar>
- (2) <gospelcom.net/worshiptogether>, <worshiptogether.com>, <www.worshiptogether.com>
- (3) <www.christianbook.com>
- (4) <www.agapemusic.com>
- (5) <www.ccli.com>
- (6) <www.sunhawk.com>
- (7) <worship.dhs.org/worship>
- (8) <olga.net>
- (9) <www.christianmusic.org/guitar>
- (10) <www.calvarychapel.com/library/worship>
- (11) <www.geocities.com/Paris/LeftBank/1448/music1.html>
- (12) <www.geocities.com/Heartland/Pointe/6860/music.html>
- (13) <chuck.org/chuck/lyric\_index.html>
- (14) <kcd.hypermart.net>

Of those surveyed, 62 said they would use an online database of worship music, 5 said they would not, and 26 said they did not know.

The expected frequencies of use were:

Once a month, 22; Twice a month, 18; Every week, 22; Several times a week, 4; Every day, 0

The ratings for "Searchable by Song Title, Author, Keyword" were:  
Not important, 2; Important, 27; Very important, 54

The ratings for "Online chord transposition" were:  
Not important, 37; Important, 29; Very important, 16

The ratings for "Guitar chord database" were:  
Not important, 30; Important, 37; Very important, 18

The ratings for "Automatic annual report generation for CCLI" were:  
Not important, 38; Important, 37; Very important, 7

The ratings for "Links to other music resources on the web (how to play guitar, how to read music, etc.)" were:  
Not important, 39; Important, 39; Very important, 6

Other characteristics that survey respondents would like to see in an online database of worship songs and music are:

- (1) Download Midi Accompaniment Tracks for keyboard, etc.
- (2) It would need to do more than the current CCLI database
- (3) Digital recording of the songs so the leaders knew exactly what the song was suppose to sound like, knew the tempo, etc.
- (4) How about "Ready for overhead" words to songs with all required information.
- (5) How about suggested medleys by theme, or Scripture
- (6) God already gave us one of those. It's called the Book of Psalms ! The internet is one of His tools which He raised up to be used in the expansion of His Kingdom.
- (7) Yes, lead sheets should contain the melody written in standard musical notation in addition to the words and chords. A recording or a midi file would be helpful for learning/selecting new songs.
- (8) Medley, continuity of songs/hymns
- (9) An Audio Sample of the song in question, and a brief history behind it
- (10) Organized by voice part. For instance, 2-part women's, 4-part mixed, etc.
- (11) I'd like to be able to listen to the songs, and to search on category of songs
- (12) Which Scripture (if any) a song is based on
- (13) Database of Current Major Hymnals (eg. LBW, LW)
- (14) Large variety....different languages
- (15) Really good proofreading; CCLI publishes theirs with errors
- (16) Sheet music available for Choir or ensemble. Updates on the newest praise choruses each month or published. Sounds tracks (minus ones) available to order or purchase over the net. overheads with pictorial backgrounds when possible.
- (17) Searchable by first line.
- (18) Quick loading, easy to find songs through a search engine
- (19) Topical search, Tempo search, doctrinal search, Scrutiny of lyrics the site endorsed, Lead sheets, piano music

(20) How would you sort out all the copyright mess? Are you talking about a music store online? I would like to be able to find: small orchestra music, children's songs, vocal ensembles.

(21) Searchable by Scripture reference; searchable by occasion, season of the year, searchable by composer, not just author of text.

(22) Word searchable. Related bible verses to songs.

(23) Perhaps a recording of what it sounds like

(24) Scriptural References

(25) Ability to play a song sample (mp3?)

(26) It may be helpful as long as children's songs are also included.

(27) New Zealand content - Parachute Music

(28) Searchable by scripture verses!!!! a must. That is scripture used in the song text. (this is usually one or two)

(29) It would be helpful if it indexed denominational music publications.

(30) How to play guitar chords that others play, like D2, D6, D9 etc.

(31) Complete textual content search, word count

(32) Make it easy to search and one that recommends songs to perform.

(33) Samples of songs being played would be good to get an idea what the song sounds like.

(34) Yes, where to find the recorded music.

(35) Helps on keyboard -- how it differs from piano.

(36) MIDI files, or a way to hear the songs before we try to learn them.

(37) Dreaming big: MP3 song snips, links to purchase sites for recordings and printed music

(38) Song Search - Category - Church Year - Scripture

(39) For those of us who are not real proficient with the web and midi-technology, making it user friendly enough to help us take advantage of it and know how to use it to its fullest.

(40) Audio demos and written music would be most useful, if Integrity and Maranatha and others will make their songs available that way. Maybe they are already available that way.

(41) Parts written for other instruments, not just guitar and piano.

(42) Generation of MS Word 97 file with certain font sizes, font types used, appended with MY CCLI number and copyright info for each song. It would be nice if the song was generated and compressed to Winzip format or other standard compressed format. It would be nice to have songs with simply their Chords written above, (i understand that to put staff on the web is probably illegal when copyrighted) Also, ZIP all compiled worship songs into one Zip file so we can download all available songs with one click.

(43) Good stuff

(44) Ready to print chord sheets for musicians and ready to print overheads.

(45) It would save time if you could pull up those that are suitable for congregational singing separately from those that are performance pieces for small ensembles or soloists. Thematics would also be good--forgiveness, grace, God's love, etc. I'd also appreciate being able to pull music for youth as well as music that's singable by kids. We train our amateur musicians from the age of 5. (We use a group of singers

from 5-12 years as the vocal team for the very first set of congregational singing every Sunday. It's our farm team for adult leadership.)

- (46) I'd love to see some melody sheet music :)
- (47) Sound bytes of actual song
- (48) Adherence to the Orthodox modes of Church Chant. Adherence to the Ode forms of the Troparia and Kontakia.
- (49) Searchable by topic.
- (50) a format that is useable for everyone, and that carries if not all the available music out there, is contributed to directly by authors or publishers, and is free (for those who have CCLI numbers)
- (51) how fast or slow they are meant to be played

Of the survey respondents, 85 expressed interest in receiving the results of the survey by e-mail, and receiving the address of the completed website. 83 of those 85 also gave us their e-mail address, and the results were e-mailed to them on January 14, 2002.

We also received a few general comments in response to the survey. These were:

- (1) Sounds great, but we are working in the Dominican Republic in Spanish. We do need Spanish songs and songbooks.
- (2) Your project sounds like it would fill a specific niche in the online community. Keep me posted on its release, if it is released to the public.
- (3) If you haven't already done so, I would urge you to research what you can -- and can't -- legally do with such a project. Every attempt I've ever heard of for such a thing would have been illegal due to copyright infringement.
- (4) Thanks... and good luck on your project. I did fill it out yesterday at the web site. Let me know when the site's set up. I have one guitar player who would go nuts!!! I don't understand how you're going to get around the copyright laws, though.
- (5) Would just like to say that our church views the preaching and teaching of the Word of God as the vocal point of the worship service. That is the main emphasis of our worship service and the most time is devoted to that. Music is only one aspect of worship, and again the emphasis of the music should be teaching the doctrines and tenets of the faith, rather than repetition "feel good" kinds of songs.
- (6) You folks probably don't know much if anything about Psalm singing. Psalms used to be sung almost exclusively by the church for hundreds of years. It is only in the past 150-200 years that man-written poems set to music have replaced the God-written Psalms which He wrote to be used in His praise. If you want to know more -- [and there is a LOT more!] -- just ask.
- (7) One final comment - how far are you guys from Boston. I will be there in September, and would be interested in perhaps getting together if that's a possibility.
- (8) If this survey and project is as good as you say it will be, then this thing rocks.
- (9) Good survey and a fantastic idea! Good to know someone out there is thinking about this. God bless!



## Appendix D: E-mail Correspondence

These are e-mails that we received from other parties regarding this IQP.

-----  
Date: Wed, 26 May 1999 16:07:36 -0700  
From: Director of Copyrights <dirofcopyrights@ccli.com>  
To: George C. Huntington III <gchiii@WPI.EDU>  
Subject: Message Received

Thank you very much for your note! We will be replying as soon as possible.

In the meantime, if you need to contact us urgently, please phone:

National: 1-800-234-2446  
International: 1-503-257-2230

The CCLI web site address is <http://www.ccli.com/>

Thank you very much.

Director of Copyrights.

-----

Date: Mon, 14 Jun 1999 10:01:44 +-100  
From: Danielle Mol <danielle@xara.com>  
To: "'frappier@WPI.EDU'" <frappier@WPI.EDU>  
Subject: RE: WebStyle

Dear Joshua

Thank you for your interest in WebStyle.  
As with most of these requests, we would be happy to oblige but would like to ask that you perhaps post a few of our banners on your web database site once it goes live.  
You can download these from [http://www.xara.com/banner\\_ads/](http://www.xara.com/banner_ads/)

Please e-mail me your postal address and I will arrange for a disk to be sent out to you.  
Let us know when your site goes live. We'd be very interested to see it.

Kind regards

Danielle Mol  
Marketing Assistant  
Xara Ltd  
.....

mailto:danielle@xara.com  
http://www.xara.com

-----Original Message-----

From: Joshua W Frappier [mailto:frappier@WPI.EDU]  
Sent: 11 June 1999 15:57  
To: Sales  
Subject: WebStyle

To Whom It May Concern:

My name is Joshua Frappier and I am a student at Worcester Polytechnic Institute (Worcester, Massachusetts). I am currently working with two other students on a project which will require a fairly extensive web database. In an attempt to create a website which will appeal to our target group, I began looking for fast graphics software that would speed up our web development. I stumbled across WebStyle on Tucows and was very impressed and think that it would be a great asset to our project. Would Xara Ltd. be at all interested in donating a license for our work as we cannot ourselves afford additional software for our project? We feel strongly about software piracy and are trying very hard to avoid it at all costs. The project is purely educational and the client groups are the Christian Bible Fellowship at the Institute as well as some local churches. The website will not in any way be used for financial gain as all involved parties are non-profit organizations. We would greatly appreciate any help that Xara Ltd. could offer in achieving our goal. Thank you for your time,  
Joshua W. Frappier

-----  
Date: Mon, 14 Jun 1999 08:56:54 -0400  
From: Nhi Nguyen <nnguyen@allaire.com>  
To: 'Joshua W Frappier' <frappier@WPI.EDU>  
Subject: RE: Homesite 4.0

Although we cannot donate the software, we do provide educational discounts through university bookstores. Please contact yours and they should be able to help you out.

-----Original Message-----

From: Joshua W Frappier [mailto:frappier@WPI.EDU]

Sent: Friday, June 11, 1999 11:24 AM  
To: sales@allaire.com  
Subject: Homesite 4.0

To Whom It May Concern:

My name is Joshua Frappier and I am a student at Worcester Polytechnic Institute (Worcester, Massachusetts). I am currently working with two other students on a project which will require a fairly extensive web database. In an attempt to create a website which will appeal to our target group, I began looking for software that would aid in our web development. I stumbled across Homesite 4.0 on Tucows and was very impressed and think that it would be a great asset to our project.

Would Allaire be at all interested in donating a license for our work as we cannot ourselves afford additional software for our project? We feel strongly about software piracy and are trying very hard to avoid it at all costs. The project is purely educational and the client groups are the Christian Bible Fellowship at the Institute as well as some local churches. The website will not in any way be used for financial gain as all involved parties are non-profit organizations.

We would greatly appreciate any help that Allaire could offer in achieving our goal.

Thank you for your time,  
Joshua W. Frappier

---

Date: Wed, 19 Jan 2000 10:57:50 -0500 (EST)  
From: Robin Dziczek <robin@WPI.EDU>  
To: Nathanael Charles Milne <nmilne@WPI.EDU>,  
Joshua W Frappier <frappier@WPI.EDU>  
Subject: Visual Cafe

Visual Cafe 4.0 Expert Edition would be \$99.95. It would take approx. 1 week to receive here on campus.

Robin Dziczek  
Textbook Buyer  
Assistant Manager  
Tatnuck Bookseller @ WPI  
ext 5247---508 831 5247  
robin@wpi.edu

---

Date: Thu, 20 Apr 2000 15:58:53 -0700  
From: CCLI Customer Support <support@ccli.com>  
To: Nate Milne <nmilne@WPI.EDU>  
Subject: Re: Online songs

[ The following text is in the "iso-8859-1" character set. ]  
[ Your display is set for the "US-ASCII" character set. ]  
[ Some characters may be displayed incorrectly. ]

Dear Nate,

Thank you for your inquiry. If you are wishing to put songs on a web site, with the chords, you would want to contact the publishers of the songs directly for permission. This would actually not involve CCLI.

If you are wishing to download songs from web sites, then you may wish to also contact the publishers who own the songs to verify if this is okay to do. From our understanding, there are many web sites that have the music/chords to songs, however, many of these are may not be legal web sites. So, best thing to do is contact the publishers just to make sure.

If you need any further assistance, you may also phone Customer Service at 1-800-234-2446.

Sincerely,

Linda  
Customer Service

----- Original Message -----  
From: Nate Milne <nmilne@WPI.EDU>  
To: <support@ccli.com>  
Sent: Wednesday, 19 April, 2000 5:32 PM  
Subject: Online songs

> Hello,  
> I am the worship team leader for the Christian Bible Fellowship at  
> Worcester Polytechnic Institute (Lic. #878499). I am wondering what  
> the  
> official CCLI position is on online guitar chord databases for praise  
> songs.  
> Thank you,  
> Nate  
>  
>  
> "So we fix our eyes not on what is seen, but on what is unseen. For  
> what  
> is seen is temporary, but what is unseen is eternal.  
> -Paul, an apostle of Christ Jesus  
> -2 Corinthians 4:18  
>  
>  
>

-----  
Date: Mon, 26 Nov 2001 19:04:17 -0500  
From: "Brandon Munday" <brandon@simusic.com>  
Subject: Re: Public Domain Worship and Praise Archive  
Organization: Split Infinity Music  
To: <fargonate@lycos.com>

Thanks for the info. I've seen several variants of Create In Me, and CCLI had several when I originally did the search. Maybe they've trimmed it back some. I'll check on the others when I have time.

Regarding Parse, we wrote it after needing it at my own church - we started a revival with meetings daily for about four months. I can transpose in my head too, but we have four worship teams and a couple dozen musicians and singers. So we needed something that all the musicians could use. We had stacks of paper building up, with hand-scrawled transpositions over transpositions over the original chords. It was awful. It took a couple years to complete but Parse has really cleaned up the music stands.

--Brandon

\* R. Brandon Munday \* (brandon@simusic.com) \* (http://www.simusic.com)  
\* Split Infinity Music \* PO Box 382 \* Great Mills MD 20634 \* 800-994-0382  
\* Song databasing, transposition, and guitar chording tools for musicians

----- Original Message -----  
From: "Nate Milne" <fargonate@lycos.com>  
To: <brandon@simusic.com>  
Sent: Wednesday, November 21, 2001 5:17 PM  
Subject: Public Domain Worship and Praise Archive

> Hello,  
> I was looking through your archive, and I think I have the copyright information for several of those songs...  
>  
> Create in Me a Clean Heart  
> Words and music by Keith Green  
> (c) 1984 For The Shepherd Music  
> CCLI Song # ?? (I don't know why this song isn't in the database at www.ccli.com, because everybody sings it... unless there's a dispute over whether or not Keith Green wrote it himself, like his CD's say, or whether it was written anonymously by somebody else... and it's too bad he died almost 20 years ago, so nobody can ask him)  
>  
> There's a River of Life (I've Got a River of Life)

> Words and music by Betty Carr Pulkingham and L. Casebolt  
> (c) 1971, 1975 Celebration  
> CCLI Song #1650939  
>  
> Rejoice in the Lord Always  
> Words and music by Evelyn Turner  
> (c) 1967 Word Music, Inc.  
> CCLI Song #15692  
>  
> This Is My Commandment  
> Words and music by Betty Carr Pulkingham  
> (c) 1974, 1975 Celebration  
> CCLI Song #1889298 (I'm only about 95% sure that this is the proper  
copyright information, as every songbook and CD I have says this song  
is  
"author unknown"... but this entry in the CCLI database has an author  
that  
is a known author of scripture songs, and the date is correct, too, so  
I  
think that's the right copyright info).  
>  
> By the way, a couple of friends of mine and I were trying to create a  
database and program like Parse for a school project, except that we  
didn't  
complete it. Currently I'm trying to write up what we did, which is  
why I  
came across your website. Cool stuff, anyway. If I wasn't able to  
just  
memorize words and chords for songs and change keys in my head, your  
program  
would be really useful.  
> In Christ,  
> Nate Milne  
> ---  
> "What is more, I consider everything a loss compared to the  
surpassing  
> greatness of knowing Christ Jesus my Lord, for whose sake I have lost  
all  
> things. I consider them rubbish, that I may gain Christ and be found  
in  
> him, not having a righteousness of my own that comes from the law,  
but  
> that which is through faith in Christ Jesus - the righteousness that  
comes  
> from God and is by faith." (Philippians 3:8-9)  
>  
>  
>  
>

---

Date: Tue, 8 Jan 2002 23:22:04 -0500  
From: "Brandon Munday" <brandon@simusic.com>  
Subject: Re: Public Domain Worship and Praise Archive  
Organization: Split Infinity Music  
To: <fargonate@lycos.com>

Version 2 was released around March 2000. Several minor updates have been released since then.

--Brandon

\* R. Brandon Munday \* (brandon@simusic.com) \* (http://www.simusic.com)  
\* Split Infinity Music \* PO Box 382 \* Great Mills MD 20634 \* 800-994-0382  
\* Song databasing, transposition, and guitar chording tools for musicians

----- Original Message -----

From: "Nate Milne" <fargonate@lycos.com>  
To: "Brandon Munday" <brandon@simusic.com>  
Sent: Tuesday, January 08, 2002 6:59 PM  
Subject: Re: Public Domain Worship and Praise Archive

> Hello,  
> I have one more question. When was the current version of Parse made available to the public? I'm still working on writing up our project, and that would be a really useful piece of information. I'd like as exact a date as possible.  
> Thanks a bunch,  
> Nate  
> ---  
> "What is more, I consider everything a loss compared to the surpassing greatness of knowing Christ Jesus my Lord, for whose sake I have lost all things. I consider them rubbish, that I may gain Christ and be found in him, not having a righteousness of my own that comes from the law, but that which is through faith in Christ Jesus - the righteousness that comes from God and is by faith." (Philippians 3:8-9)  
>  
>  
> On Mon, 26 Nov 2001 19:04:17  
> Brandon Munday wrote:  
> >Thanks for the info. I've seen several variants of Create In Me, and CCLI  
> >had several when I originally did the search. Maybe they've trimmed it back  
> >some. I'll check on the others when I have time.  
> >  
> >Regarding Parse, we wrote it after needing it at my own church - we started  
> >a revival with meetings daily for about four months. I can transpose in my

> >head too, but we have four worship teams and a couple dozen musicians and  
> >singers. So we needed something that all the musicians could use. We had  
> >stacks of paper building up, with hand-scrawled transpositions over  
> >transpositions over the original chords. It was awful. It took a couple  
> >years to complete but Parse has really cleaned up the music stands.  
> >  
> >--Brandon  
> >  
> >\* R. Brandon Munday \* (brandon@simusic.com) \*  
> (http://www.simusic.com)  
> >\* Split Infinity Music \* PO Box 382 \* Great Mills MD 20634 \* 800-  
> 994-0382  
> >\* Song databasing, transposition, and guitar chording tools for  
> musicians  
> >  
> >----- Original Message -----  
> >From: "Nate Milne" <fargonate@lycos.com>  
> >To: <brandon@simusic.com>  
> >Sent: Wednesday, November 21, 2001 5:17 PM  
> >Subject: Public Domain Worship and Praise Archive  
> >  
> >  
> >> Hello,  
> >> I was looking through your archive, and I think I have the  
> copyright  
> >information for several of those songs...  
> >>  
> >> Create in Me a Clean Heart  
> >> Words and music by Keith Green  
> >> (c) 1984 For The Shepherd Music  
> >> CCLI Song # ?? (I don't know why this song isn't in the database  
> at  
> >www.ccli.com, because everybody sings it... unless there's a dispute  
> over  
> >whether or not Keith Green wrote it himself, like his CD's say, or  
> whether  
> >it was written anonymously by somebody else... and it's too bad he  
> died  
> >almost 20 years ago, so nobody can ask him)  
> >>  
> >> There's a River of Life (I've Got a River of Life)  
> >> Words and music by Betty Carr Pulkingham and L. Casebolt  
> >> (c) 1971, 1975 Celebration  
> >> CCLI Song #1650939  
> >>  
> >> Rejoice in the Lord Always  
> >> Words and music by Evelyn Turner  
> >> (c) 1967 Word Music, Inc.  
> >> CCLI Song #15692  
> >>  
> >> This Is My Commandment  
> >> Words and music by Betty Carr Pulkingham  
> >> (c) 1974, 1975 Celebration



> >> CCLI Song #1889298 (I'm only about 95% sure that this is the proper  
> >copyright information, as every songbook and CD I have says this  
> >song is  
> >"author unknown"... but this entry in the CCLI database has an  
> >author  
> >that  
> >is a known author of scripture songs, and the date is correct, too,  
> >so I  
> >think that's the right copyright info).  
> >>  
> >> By the way, a couple of friends of mine and I were trying to  
> >create a  
> >database and program like Parse for a school project, except that we  
> >didn't  
> >complete it. Currently I'm trying to write up what we did, which is  
> >why  
> >I  
> >came across your website. Cool stuff, anyway. If I wasn't able to  
> >just  
> >memorize words and chords for songs and change keys in my head, your  
> >program  
> >would be really useful.  
> >> In Christ,  
> >> Nate Milne  
> >> ---  
> >> "What is more, I consider everything a loss compared to the  
> >>surpassing  
> >> greatness of knowing Christ Jesus my Lord, for whose sake I have  
> >>lost  
> >>all  
> >> things. I consider them rubbish, that I may gain Christ and be  
> >>found  
> >>in  
> >> him, not having a righteousness of my own that comes from the law,  
> >>but  
> >> that which is through faith in Christ Jesus - the righteousness  
> >>that  
> >>comes  
> >> from God and is by faith." (Philippians 3:8-9)  
> >>  
> >>  
> >>  
> >>  
> >>  
> >  
> >  
>  
>  
>  
>

## Appendix E: XML Schema and Sample Song

### XML Schema for our Song File Format

```

<?xml version="1.0"?>
<Schema name="SDFSchema" xmlns="urn:schemas-microsoft-com:xml-data"
xmlns:dt="urn:schemas-microsoft-com:datatypes">
  <ElementType name="title" content="textOnly"/>
  <ElementType name="author" content="textOnly"/>
  <ElementType name="composer" content="textOnly"/>
  <ElementType name="translator" content="textOnly"/>
  <ElementType name="copyright" content="textOnly"/>
  <ElementType name="ccli" content="textOnly"/>
  <ElementType name="transposer" content="textOnly"/>
  <ElementType name="email" content="textOnly"/>
  <ElementType name="homepage" content="textOnly"/>
  <ElementType name="theme" content="textOnly"/>
  <ElementType name="scripture" content="textOnly"/>
  <ElementType name="keyword" content="textOnly"/>
  <ElementType name="use" content="textOnly"/>
  <ElementType name="notes" content="textOnly"/>
  <ElementType name="language" content="textOnly"/>
  <ElementType name="key" content="textOnly"/>
  <ElementType name="tempo" content="textOnly"/>
  <ElementType name="head" content="eltOnly">
<element type="title" minOccurs="1" maxOccurs="1"/>
  <element type="author" minOccurs="0" maxOccurs="*" />
  <element type="composer" minOccurs="0" maxOccurs="*" />
  <element type="translator" minOccurs="0" maxOccurs="*" />
  <element type="copyright" minOccurs="0" maxOccurs="1" />
  <element type="ccli" minOccurs="0" maxOccurs="1" />
  <element type="transposer" minOccurs="0" maxOccurs="*" />
  <element type="email" minOccurs="0" maxOccurs="1" />
  <element type="homepage" minOccurs="0" maxOccurs="1" />
  <element type="theme" minOccurs="0" maxOccurs="*" />
  <element type="scripture" minOccurs="0" maxOccurs="*" />
  <element type="keyword" minOccurs="0" maxOccurs="*" />
  <element type="use" minOccurs="0" maxOccurs="*" />
  <element type="notes" minOccurs="0" maxOccurs="1" />
  <element type="language" minOccurs="0" maxOccurs="*" />
  <element type="key" minOccurs="0" maxOccurs="1" />
  <element type="tempo" minOccurs="0" maxOccurs="1" />
  </ElementType>
<AttributeType name="name" dt:type="string"/>

```

---

```

<AttributeType name="length" dt:type="int"/>
  <ElementType name="chord" content="textOnly">
<attribute type="name" default="carry"/>
<attribute type="length" default="1"/>
  </ElementType>
  <AttributeType name="index" dt:type="int" default="0"/>
  <AttributeType name="direction" dt:type="string" default="none"/>
  <AttributeType name="repeat" dt:type="int" default="1"/>
  <ElementType name="line" content="mixed">
    <element type="chord" minOccurs="0" maxOccurs="*" />
    <attribute type="index" />
    <attribute type="direction" />
    <attribute type="repeat" />
  </ElementType>
<AttributeType name="type" dt:type="enumeration" dt:values="chorus verse bridge tab"
default="verse"/>
  <ElementType name="block" content="eltOnly">
    <element type="line" minOccurs="1" maxOccurs="*" />
    <attribute type="index" />
    <attribute type="type" />
    <attribute type="direction" />
    <attribute type="repeat" />
  </ElementType>
  <ElementType name="song" content="eltOnly">
<element type="head" minOccurs="1" maxOccurs="1" />
  <element type="block" minOccurs="1" maxOccurs="*" />
  </ElementType>
</Schema>

```

### Sample XML Song File

```

<?xml version="1.0"?>

<!-- Guitar Praise Archive -->
<!-- Worcester Polytechnic Institute -->
<!-- Sample Song Definition File -->

<song>
  <head>
<title>My Life is in You, Lord</title>
<author>Daniel Gardner</author>

```

---

```

<composer>Daniel Gardner</composer>
<keyword>lord</keyword>
<copyright>1986 Integrity's Hosanna! Music ARR. ICS.</copyright>
  <ccli>579963</ccli>
  <keyword>life</keyword>
  <key>G</key>
</head>

  <block type="verse" index="1">
<line><chord name="carry">I will </chord><chord name="C">praise You with
</chord><chord name="D">all of my </chord><chord name="G">heart</chord></line>
<line><chord name="carry">I will </chord><chord name="C">praise You with
</chord><chord name="D">all of my </chord><chord
name="G">strength</chord></line>
<line><chord name="carry">With </chord><chord name="D">all of my
</chord><chord name="G">life</chord></line>
<line><chord name="carry">And </chord><chord name="E">all of my </chord><chord
name="Am">strength</chord></line>
<line><chord name="F">All of my </chord><chord name="Am">hope is in
</chord><chord name="D">You (Uh uh oh)</chord></line>
  </block>

  <block type="chorus">
<line><chord name="carry">My </chord><chord name="G">life (life) is in You
Lord</chord></line>
<line><chord name="carry">My </chord><chord name="Em">strength (strength) is in
You Lord</chord></line>
<line><chord name="carry">My </chord><chord name="C">hope (hope) is in You
Lord</chord></line>
<line><chord name="carry">In </chord><chord name="G">You, it's in
</chord><chord name="D">You</chord></line>
<line><chord name="carry">My </chord><chord name="G">life (life) is in You
Lord</chord></line>
<line><chord name="carry">My </chord><chord name="Em">strength (strength) is in
You Lord</chord></line>
<line><chord name="carry">My </chord><chord name="C">hope (hope) is in You
Lord</chord></line>
<line><chord name="carry">In </chord><chord name="G">You, it's in
</chord><chord name="D">You</chord></line>
  </block>

```

---

```
<block type="verse" index="last">
<line direction="Last time only"><chord name="carry">In </chord><chord
name="G">You, it's in </chord><chord name="D">You, in </chord><chord
name="G">You, it's in </chord><chord name="D">You, it's in </chord><chord
name="C">You</chord><chord name="G"/></line>
</block>
</song>
```