

Job Recruiting in Virtual Worlds (Second Life)

A Major Qualifying Project
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2 Abstract

This project analyzes the potential of job recruiting in Second Life, a 3D virtual world. A survey focusing on both current users and non-users of virtual worlds was developed to explore the acceptance of Second Life as a job search tool and people's perceptions about potential virtual career fairs or virtual interviews. Results show that while users are not yet ready to make virtual worlds their primary job search tool, they are willing to try Second Life in conjunction with other conventional job search techniques.

3 Authorship Statement

This MQP paper was written in its entirety by Cosmin Tudor, with the guidance of Professor Eleanor Loiacono.

4 Executive Summary

Second Life is the most popular 3D virtual world created by Linden Labs. The current number of users is estimated to be around 12 million, with around a hundred thousand premium accounts. Second Life has its own economy, culminating with a floating exchange rate between real US dollars and a virtual currency called Linden dollars. Second Life's staggering growth over the past few years compelled many businesses to establish a presence in the world to get benefits such as increased market exposure or improved team collaboration. The dynamics of the virtual world provide a rich area of research

Recently, companies have begun to use Second Life as a recruiting tool for new potential employees. An interesting research area is investigating whether Second Life is a viable job search tool for users. In particular, answers were sought for the following questions:

- How does Second Life compare to other more conventional recruiting options?
- Can Second Life become the premier Internet recruitment tool?
- Does Second Life's recruiting appeal have the potential to attract new users to virtual worlds?
- Would potential Second Life users be comfortable with having a virtual interview?
- How important is appearance and behavior in Second Life for doing well in a virtual interview?

In order to explore the answer to these questions, the following top-down steps were followed as part of the methodology:

- *Identifying the Research Area* – virtual worlds have been identified as the main area of research. In particular, Second Life will be the main virtual world we will concentrate on in our study.
- *Conducting Literature Review* – existing research on virtual worlds was reviewed and documented.

- *Defining the Topic* – job recruiting in Second Life was identified as an interesting topic of research.
- *Research Questions* – the main research question is whether Second Life has the potential to become an efficient tool for job seekers.
- *Designing the Survey* – a survey was developed using the previously identified research questions.
- *Data Collection* – the survey was administered to both Second Life users in the virtual world as well as to non-users.
- *Data Analysis* – survey responses were aggregated and interesting patterns in the responses were analyzed

After the data analysis stage was completed, the following results and conclusions were identified:

- Second Life has potential for growth in the area of job recruiting. However, in order for the potential to be realized, job-seekers who are not actively using a virtual world must be made aware of the connection Second Life creates between employers and potential new hires. As a recommendation, companies with a presence in Second Life should consider redirecting applicants on their website to the virtual world in order to increase this awareness.
- Job recruiting in Second Life has the potential to attract new members in the virtual world, since the majority of non-members who participated in the survey indicated they would be willing to try the virtual world as a new job search tool.
- Job-seekers are willing to use Second Life in conjunction with other conventional job search methods. However, they do not view Second Life as a primary job search tool yet.
- Survey responses indicate that the quality of events and the number of people attending are considered the most important factors by individuals in their decision to attend a company recruiting event. Therefore, companies should strive on improving the quality of their recruiting events by having interactive events that bring people together and allow them to network.

- Individuals are currently not comfortable with an interview conducted entirely through instant messaging. Therefore, the companies must explore an alternate medium to conduct interviews in Second Life.

Consequently, Second Life's has potential as a job recruiting environment and there is promise for further growth in this area. However, companies need to work on raising user awareness about their presence and recruiting efforts in Second Life. They have to adapt their recruiting events to fit the users' needs and wants and they need to find an efficient virtual interviewing technique which makes both parties comfortable and also enables a good evaluation of the qualifications of a candidate. This is the only way in which companies can increase their return on investment in Second Life and ensure that a wide pool of job candidates is attracted to them in the virtual world.

5 Background

Social networking enables individuals to keep track and interact with their friends and relatives in an easy manner. In recent years, there has been a surge in the number of online social networking services offered to individuals. Sites tailored to facilitate communication between users have become increasingly popular recently and today a high percentage of the population is a member of at least one social network. Some of these sites represent fertile ground for businesses where they can reach out and advertise to a wide and diverse pool of individuals. Companies can benefit from being part of social networks by achieving higher brand recognition, enabling better team collaboration or even recruiting potential new hires.

5.1 Social Networking

A **social network** is a “social structure made of nodes (which are generally individuals or organizations) that are tied by one or more specific types of interdependency, such as values, visions, ideas, financial exchange, [...] conflict, trade, web links, or airline routes” (Social Network). A good way of describing a social network is by imagining a graph where each individual or corporation is depicted by a single point. The vertices between these points describe the real-life relationships between the entities described by the points.

Every person or organization is part of a diverse and complicated network. In case of individuals, examples of relationships include family, friends or work contacts. Visualizing even a small part of this network would provide great value for the individuals involved. For example, finding the employees in a company who are interested or have expertise in a certain research could foster creativity within the community, since they can easily come together and share their experience and expertise in the field. History shows that communities of people created around a common research interest can produce significant advances in the fields; a good example of this is the power of software open-source movements which created widely used software such as the Linux operating system or the Apache web server.

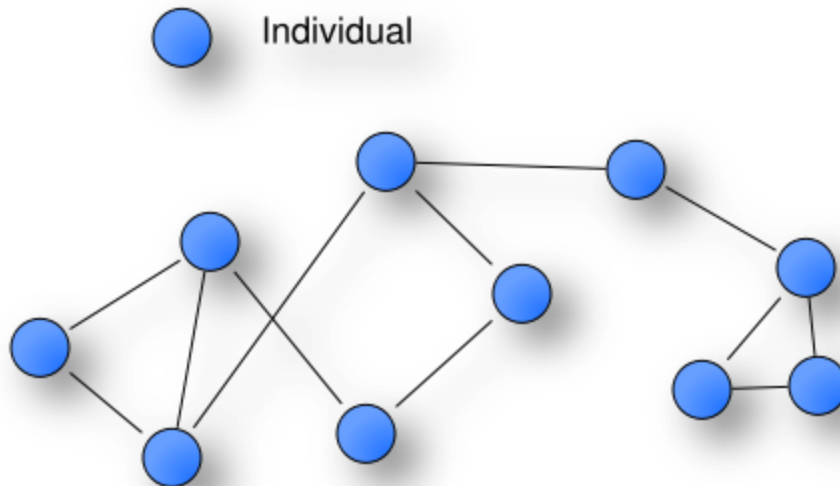


Figure 1 – Example of a graph depicting a social network. An individual or organization is represented by a point, and the relationships between two nodes is represented by a line

5.2 Online Social Networking

The emergence of **online social networks** has the potential of organizing all this information into one centralized place that would allow individuals to actively monitor and interact with their network of friends, relatives or contacts at any time.



Figure 2 – A sample of the existing social networking services

Social networking services “focus on the building and verifying of online social networks for people who share interests and activities, or who are interested in exploring the interests and activities of others” (Social Network Service).

Nowadays, online social network websites tend to be focused on a specific network niche. For example, LinkedIn focuses on connecting business professionals in order to better facilitate job recruiting and interaction across companies, while Facebook, MySpace or Friendster focus on connecting individuals who are friends in the real world. Also, companies are increasingly moving towards an internal interactive directory of employees, where information such as interests or current research can help communities come together within the company – this is a good way of fostering creativity (63, Joined-Up Thinking, 2007).

However, despite the benefits, there are also some drawbacks associated with social networks. An example of such a drawback is the way in which information is shared with users of the network. For example, a person might not want the information available to all his friends to be visible to his boss or work colleagues, but this might inadvertently happen. Today, many companies use social networking sites in order to gain more information about a job candidate without their knowledge (M10, Hesse, 2007).

5.3 Virtual Worlds and Second Life

Multi-User Virtual Environments (MUVES) refer to 3D virtual world environments where users interact with each other through their avatars and form a complex and vibrant community. An avatar is a graphical representation of a user and is easily customizable. Users can choose to change almost every feature of their avatar, such as their nationality, gender, hair color, facial features, body weight, height or waist size.



Figure 3 – Example of a Second Life avatar in the Orientation Island

Second Life is the most popular 3D virtual world created by Linden Labs. The current number of users is estimated to be around 12 million, with around a hundred thousand premium accounts. Second Life has its own economy, culminating with a floating exchange rate between real US dollars and a virtual currency called Linden dollars.



Figure 4 – Example of a virtual class in Second Life

Second Life has had staggering growth over the past years and as a result many businesses have established a presence in the world to get benefits such as increased market exposure or improved team collaboration. Despite the advantages, some companies are still hesitant about joining Second Life because of things such as management resistance or the difficulty of building a convincing business case for it (21, Piccoli, 2007).



Figure 5 - Example of an event organized by a company in Second Life

5.4 Second Life Demographics and Growth Analysis

An analysis of Second Life's usage reports indicates that the users of the virtual world are active and diverse. These attributes make them an ideal target for companies that have or plan to establish a presence in Second Life. We will analyze the most interesting statistics about the usage of the software as well as the demographics of the users of the virtual world.

5.4.1 Total Hours Used by All Residents

This is a measure of the number of hours all the residents in Second Life spend online monthly. It is a more accurate measure of usage than the number of users. This is because a large percentage of users register for an account, spend a couple of minutes in the world and then never use the account again; therefore the number of users registered might give a misleading image of the real usage of Second Life. The monthly number of total hours spent by residents in the world eliminates this problem.

Figure 6 shows an exponential increase in the total number of hours spent online by users. Especially the year 2006 and the beginning of 2007 display a dramatic increase from month to month. In the month of December 2007, there have been a little over twenty-five million hours spent by residents in the world.

This data shows that Second Life has dramatically increased in usage during the past few years and this increase has been sustained in the last few months. Not even the ban placed on gambling within the virtual world has had any significant effect and this indicates that the world has potential for further growth.

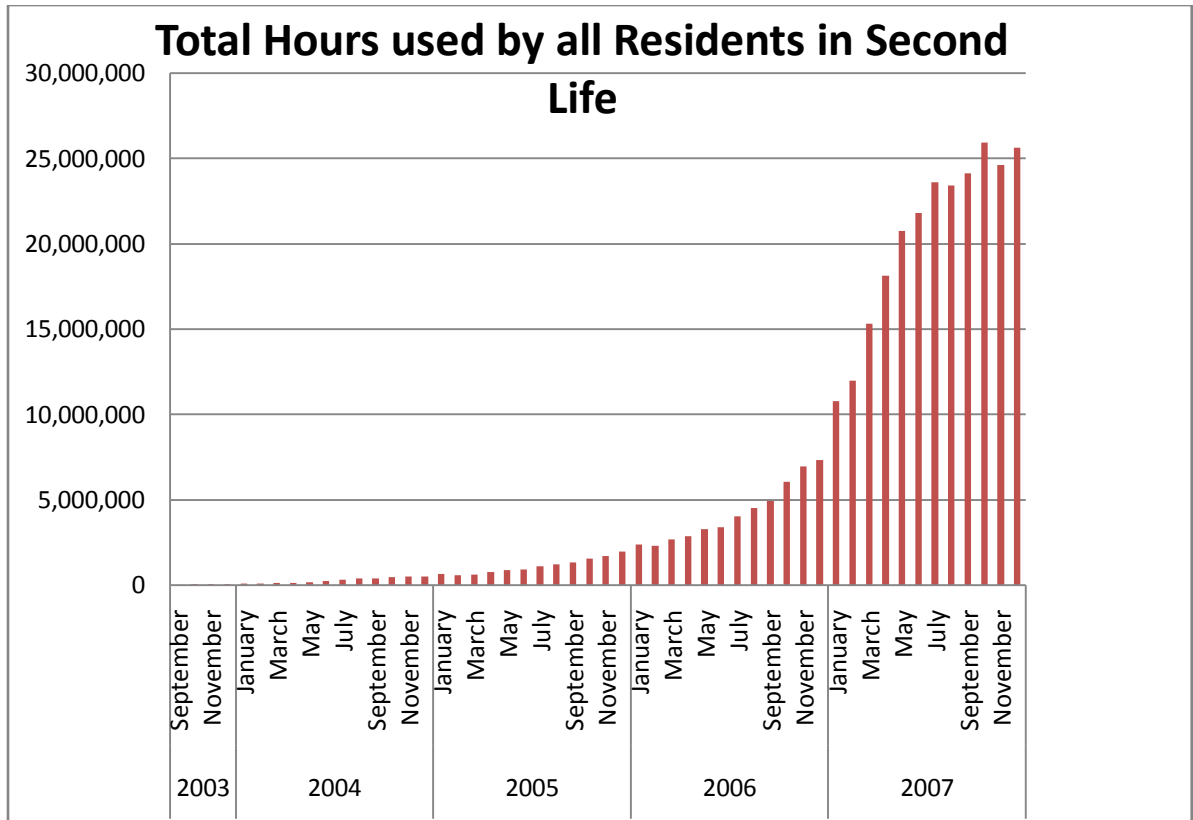


Figure 6 –Total hours used by all residents in Second Life over time

5.4.2 Land Size and Number of Islands

Measuring the total size of the land in Second Life is a good measure of how fast the world is growing in terms of areas that users can visit and interact. The increase in the land size is based on the user demand and is a good representation of the financial health of Linden Labs, since the fees they charge for the renting of land in Second Life is an important revenue stream for them. The number of islands over time is another indicator of the expansion of the virtual world. An island is the most expensive piece of land that can be purchased in Second Life and thus it charges the highest price to the renting residents. Usually, islands are purchased by companies which wish to penetrate the virtual world and reap the benefits of marketing their products through this non-conventional way.

As we can see in Figure 7, both the total land size and the number of islands display a steady increase during the year 2007. The number of islands jumped from 134 to 778 during this period. This six-fold increase demonstrates the investment of companies in this alternate way of achieving brand recognition. The sustained increase in total land size and number of islands serves as a testimony towards the robustness of the revenue model adopted by Linden Labs.

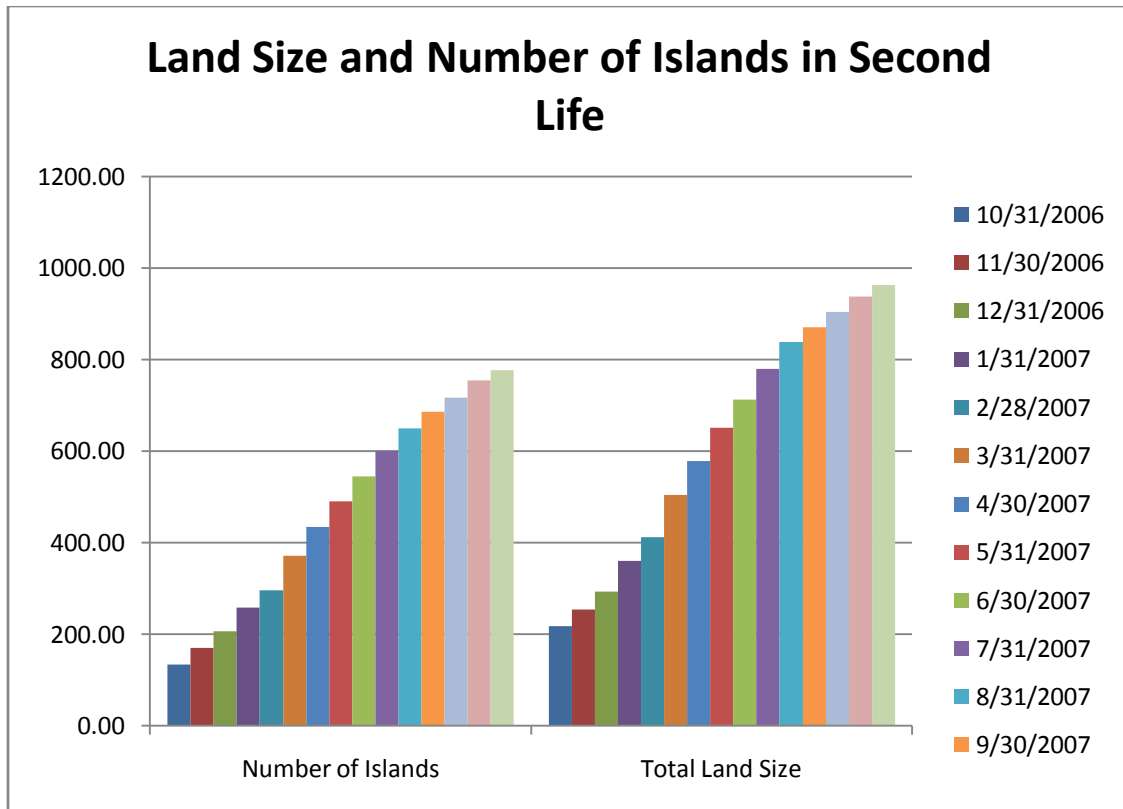


Figure 7 – Land size and number of islands in Second Life over time

5.4.3 The Economy

Unlike many other virtual worlds in existence, Second Life has a full-fledged economy that has implications in the real world. The main currency in this economy is called Linden Dollars, which can buy various virtual things and services in Second Life. The interesting and useful aspect of this virtual currency is that it can be exchanged for real-world currencies. There is a variable exchange rate between the Linden Dollars and real US dollars; this exchange rate is determined periodically by supply and demand

factors. This creates a dynamic economy where there are many residents that perform services for other users in order to gain a profit from their involvement. Another implication of the economy is that there is an added incentive for companies to join the world: in addition to brand recognition benefits and marketing of products, companies can choose to sell virtual copies of their products online and make a profit in the process.

The existence of this economy signifies the level of involvement of its users. Looking at the total Linden Dollar balance of all the residents is a good measure of this involvement. By looking at Figure 8 we can see that the amount of money released into the economy has increased constantly since 2005. However, this increase is somewhat slower than the exponential increase in the number of users from the end of the year 2006 and the beginning of 2007. This indicates that some people are still unwilling to spend real US dollars to buy Linden dollars and trying to win these people over and convince them of the benefits of becoming more financially involved in the virtual world seems to be Linden Labs' next big challenge. In spite of this, there are currently more than four billion Linden dollars circulating through the economy in Second Life, which equates to round 13.5 million real US dollars.

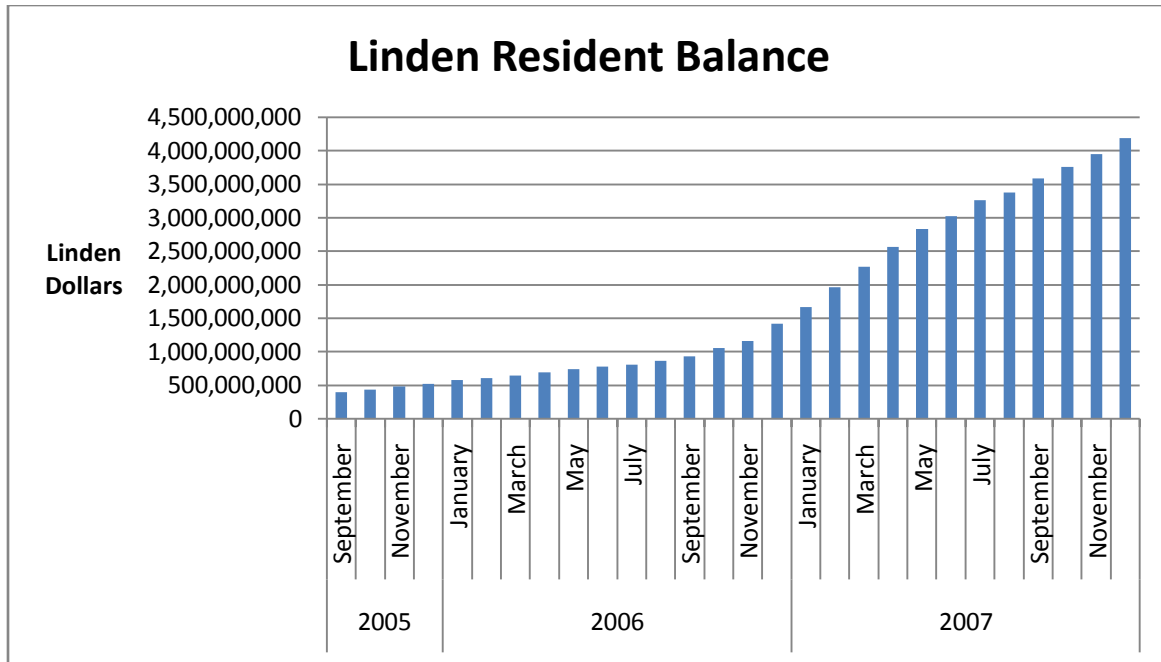


Figure 8 - Total Linden dollar balance of the residents in Second Life

Another statistic that shows the health of the Second Life economy is the total US dollars exchanged during a period of time. By looking at Figure 9, we can see that there is an upwards trend in this number throughout 2007. There is a short dip during the month of August, due to the ban on gambling which might have driven some people and organizations away from Second Life, but remarkably the number of US dollars exchanged has rebounded and increased throughout the last month of 2007. The number of currency buys reflects the same trend and both measures are a proof of the stability of Second Life's economy.

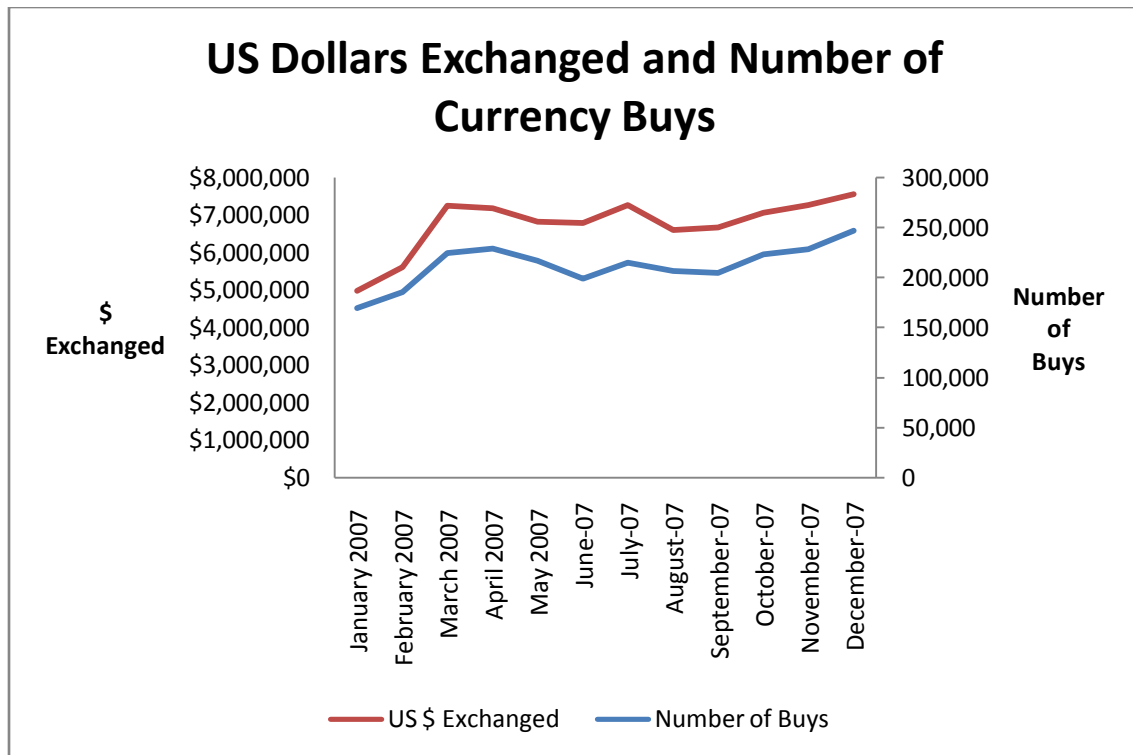


Figure 9 – Total US dollars exchanged over time and the number of currency buys in Second Life

5.4.4 Gender Usage

The gender breakdown of the users in Second Life provides a good overview of the mixture of people using the virtual world on a regular basis. As we can see from Figure 10, there currently is a 60-40 ratio of male to female. It is surprising that Second Life has such a high percentage of women; a study done by the Stanford University Medical Center on video games indicated that “video games activate reward regions of brain in men more than women” (Brandt, 2008), therefore the majority of users of video games tend to consist of men. Second Life has a high percentage of women - this suggests that individuals consider virtual worlds a complex social environment rather than just a video game.

Another surprising observation that can be made is that there was a period in 2005 when the number of women in Second Life was actually higher than the number of men. This indicates that firms can cater and showcase their products to both genders in the virtual world, since both males and females are richly represented.

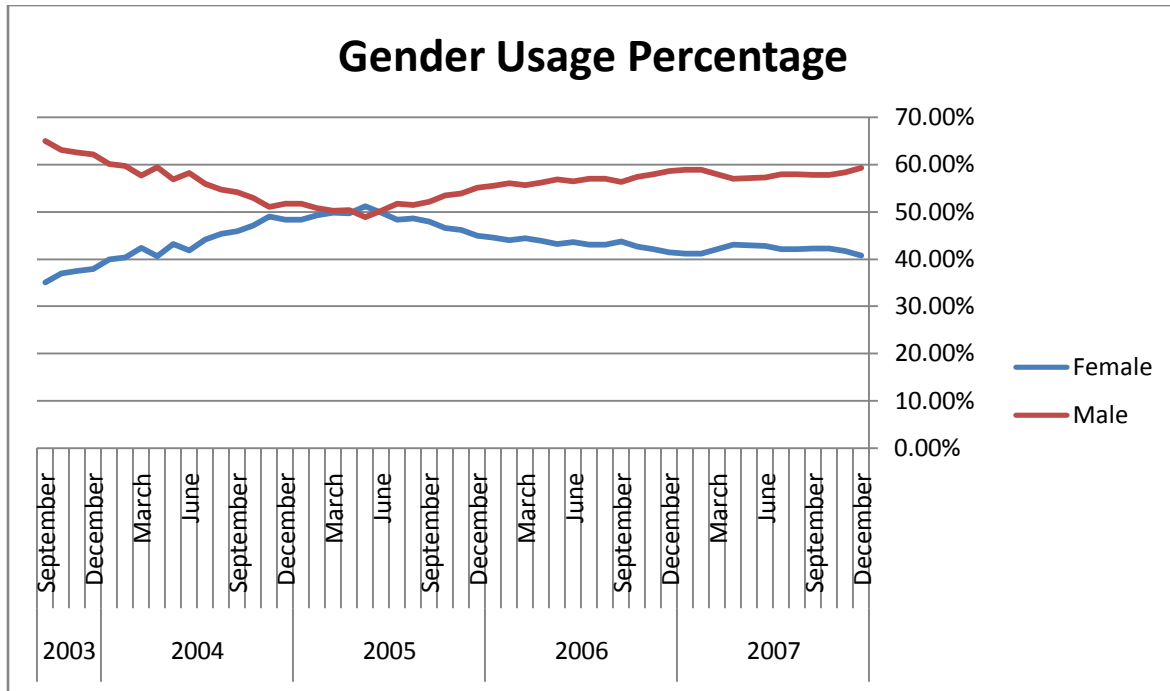


Figure 10 – Gender usage breakdown in Second Life

5.4.5 Age Breakdown

All the age brackets are represented in Second Life and knowing the specific numbers of active users in each of these categories can help companies reach target audiences. Looking at Figure 11, we can see that the age group of 25-34 year olds is the predominant category when considering both the number of hours and the percentage of avatars present in the virtual world. Usually, this is the age group that is hardest to reach through conventional TV or Internet advertising and therefore Second Life is fertile ground for companies to try to reach out to this age group by establishing a presence in the virtual world.

The next interesting observation we can make is that 18-24 year olds have the second highest number of avatar in Second Life; however they are only fourth in number of total hours spent online. Both the age groups of 35-44 and 45+ year olds spend more time online on average than their younger counterparts. Again, this behavior is contrary to expectations, since usually younger people are the heaviest users of video games. These numbers show that there is a strong user base of Second Life that is very diverse

across all age brackets – therefore there is a large audience that the companies can reach through their presence and indirect advertising in Second Life.

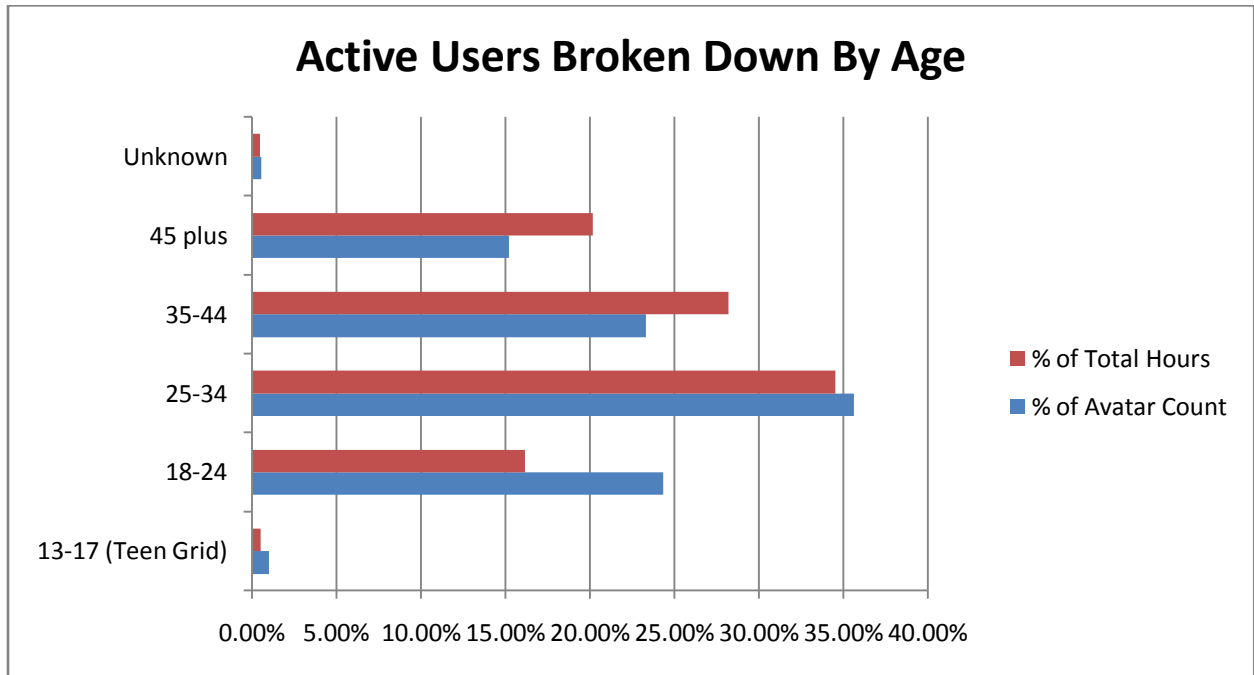


Figure 11 – Active users in Second Life broken down by age

5.4.6 Number of Premiums

The number of premiums in Second Life is a good measure of the number of users who choose to upgrade from a free account to a premium one which requires a monthly fee. There are various levels of premium accounts and a steady growth in the number of these accounts would indicate that Linden Labs has a healthy growing influx of revenue growth over time.

Looking at the graph from Figure 12, we can see that in the past three years there has been steady growth in the number of premiums in Second Life. Although this growth seems to slow down towards the end of 2007, there are currently over ninety thousand premium accounts in Second Life. Adding this revenue to the revenue received monthly from companies and individuals who are renting islands shows that Linden Labs seems to have a steady influx of revenue which will enable them to further invest time and resources in improving the virtual world.

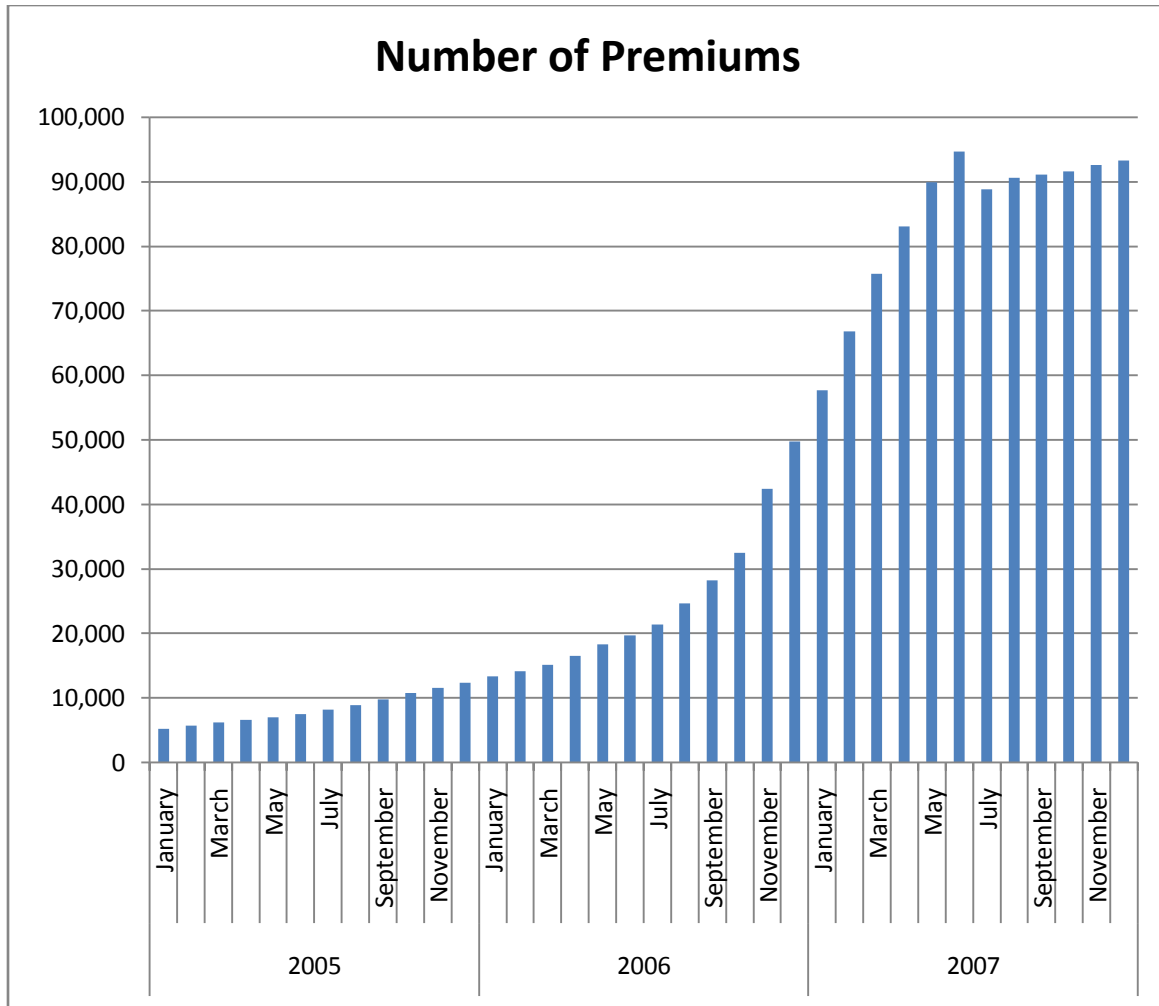


Figure 12 – Total number of premium accounts in Second Life over time

5.4.7 Population Count

The number of in-world residents best depicts the growth of Second Life over time. The number of users in any social networking environment determines the success of the service. Second Life has almost 12 million accounts by the end of 2007 – this forms a huge market for potential consumers and thus attracts many companies to establish a presence in Second Life.

Looking at the graph from Figure 13, we notice that the growth of the number of users has been staggering in the past two years from 2006 to the end of 2007. There were less than one million users at the beginning of the 2006 and this number has increased

twelvefold in just two years. This growth has been partly ignited by the extensive media coverage that Second Life received in this period – many international publications have recognized the potential of virtual worlds to become the main arena of web interactions between people and have increased the exposure of Second Life.

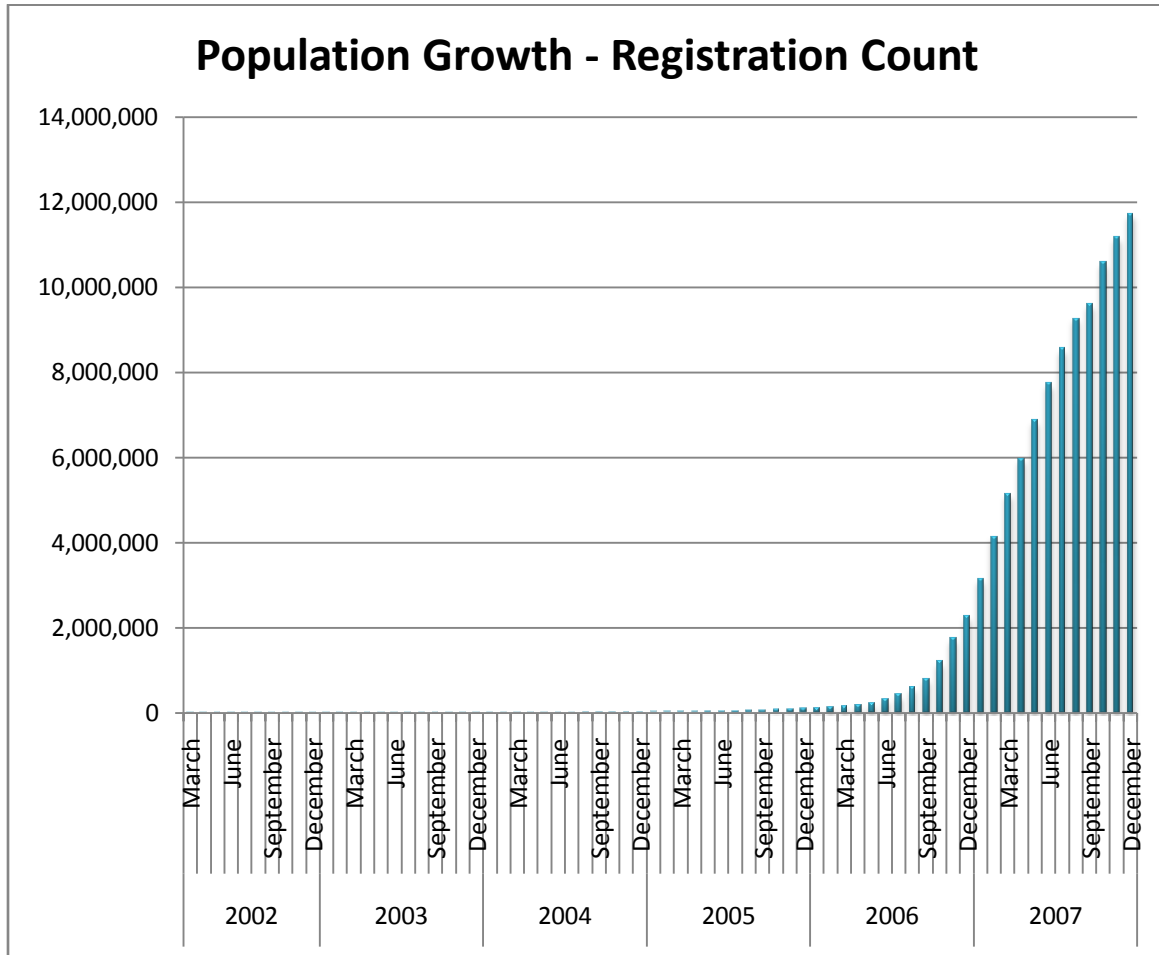


Figure 13 – User membership growth in Second Life over time

6 Project Objectives

As can be seen from the previous section, Second Life appears to be a viable source for companies to reach potential employees. The main objective of the project was to investigate this claim from the job seekers' perspective. In particular, answers were sought for the following questions:

1. *How does Second Life compare to other more conventional recruiting options?* – compare virtual world recruiting to other job search techniques.
2. *Can Second Life become the premier Internet recruitment tool?* – determine whether Second Life has the potential to overtake Internet job boards as a job search tool.
3. *Does Second Life's recruiting appeal have the potential to attract new users to virtual worlds?* – make conclusions on Second Life's potential to increase its exposure to non-users based on the prospect of getting a job.
4. *Would potential Second Life users be comfortable with having a virtual interview?* – determine whether users would be comfortable with instant messaging as a virtual interviewing medium.
5. *How important is appearance and behavior in Second Life for doing well in a virtual interview?* – this question is aimed at understanding the users behavior when the possibility of attending such a virtual interview in Second Life. We want to understand whether the users would consider redesigning their avatar to achieve a professional business look for a virtual recruiting event or an interview.

To answer these questions, a literature review was first completed (see Section 7). Next, a survey was developed with questions designed to answer the list of research topics above (see Section 8). Finally, data was collected and analyzed and a list of conclusions and recommendations was compiled (see Sections 9, 10 and 11).

7 Literature Review

There has been extensive research done on various topics in Second Life. Past areas of research included topics ranging from analysis of the demographics of Second Life's users to analysis on the perception of people regarding the potential of virtual worlds. In order to narrow down our area of research and settle on a specific topic, previous research needs to be analyzed and understood.

7.1 Second Life Background Research

As discussed in section 5, ample literature review was done on the demographics and potential of further growth of Second Life. Yearly demographics documents released by Linden Labs were downloaded and trends in Second Life's growth in different areas were analyzed. Additionally, a study done by the Stanford University Medical Center on video games was analyzed. This study indicated men use video games more than women. This is because the game stimulates certain reward regions of men's brain more than women and therefore the enjoyment of playing the game is greater for men. Analyzing this study was important, since the fact that Second Life has a high percentage of women shows that it is regarded as a complex social environment rather than just a game.

7.2 Cutter Benchmark Review Research

Besides the research done on the demographics of Second Life, other literature on the topic of virtual worlds was reviewed in order to get a better understanding of what additional research is needed. A first set of articles reviewed were published in the 'Analyzing IT Metrics for Informed Management Decisions' section of Cutter Benchmark Research issue of May 2007. Its focus is on multi-user virtual environments (MUVEs); in particular, the survey and analysis concentrates on both virtual worlds, where as described above "there is no goal and little pre-defined structure provided by the creator of the game" (6, Blake & Adams, 2007) as well as online-playing environments

(ORPEs), which is “characterized by a preestablished buildout of the environment” (6, Blake & Adams, 2007).

The survey was aimed at IT professionals working for various corporations across the world. It was administered to 105 respondents, with the questions ranging from basic demographic information to strengths and weaknesses of virtual world or company plans regarding the usage of Second Life in the future. The results of the survey show that most of the survey participants have heard of virtual worlds but have never visited any. The perceived strengths of virtual worlds in terms of potential usefulness to a company include employee training, peer learning, education and virtual collaboration. Weaknesses are also pinpointed: the respondents considered that reverse branding, distribution channels or brand development do not add particular value to a company present in Second Life. Overall, most of the participants consider that there are “many opportunities to leverage virtual worlds for commercial benefit” (25, Piccoli, 2007) and also “if [they] had the appropriate financial and technical responses at [their] disposal, [they] would consider implementing a virtual world application” (25, Piccoli, 2007) in their company. Finally, another interesting finding of the analysis is the main reasons their companies have not already joined Second Life or another virtual world is that they either “don’t know how to build a business case for it” (18, O’Driscoll, 2007) or they think “management is skeptical and will resist” (25, Piccoli, 2007). The least important reasons for not implementing seem to be that virtual worlds are too risky, employees are not comfortable with virtual world or that the IT department will not support it.

Overall, the research conducted by Cutter Consortium on virtual worlds provides a useful overview of what companies currently think of multi-user virtual environments and pinpoints the areas where virtual worlds need to improve in order for more businesses to consider joining the movement.

7.3 Data Base for Advances in IS Potential Research Topics

The Data Base for Advances in IS issue from November 2007 dedicates a whole issue on potential areas of future research on virtual worlds. Each article presents the background of a topic and sets a roadmap on activities and research that can be performed in the future. Here are some of the most interesting topics that are presented in the articles of the journal:

Sustainable Virtual World Ecosystems

This area of research is aimed at “understanding the social aspects of both trust and conflict” (29, Fletcher, 2007). Trust can be defined as the willingness of users to share their information with other members in the community, while conflict refers to undesirable behavior in the virtual world by its users. The research would concentrate on “how social tensions affect the appropriation of virtual world technologies by users, user groups and other stakeholders” (30, Fletcher, 2007). There are two different schools of thoughts regarding the way users are affected by social tensions – on a basic level, one states that real-life experience shape the way in which users responds to conflict, while the other view is that the user’s responses are dependent on their status in Second Life. Doing research on both views in parallel would shed more light on the way in which users handle trust and conflict in virtual worlds.

Virtual Worlds Versus Online-Playing Environments

Research in this area focuses on the differences between virtual worlds and ORPEs. Sample results from this research can be seen in the Cutter Benchmark Review analysis described above (Konsynski, 2007).

Diffusion of Virtual Innovation

This area of research is aimed at identifying “the accelerators and inhibitors of virtual world technology adoption” (40, Hardin, 2007). There are three types of accelerators and inhibitors – individual, group and organizational levels. Research should

be done in order to identify these factors; this will ultimately help to understand the adoption rate of new technologies in the virtual worlds.

Virtual Worlds as a Medium for Advertising

Although significant research seems to have been done in this area already, a framework for future research is given in this article. There is a methodology that should be followed by the people who will embark in this research. Some of the topics suggested by the article for research are understanding factors that affect advertising effectiveness, comparing advertising in virtual worlds to other forms of Internet advertising, understanding the impact on advertising on the customer in terms of utility and branding. Other potential topics include reverse branding and customer typology or the future of advertising in virtual worlds.

Virtual Customer Relationship Management

This research would expand on a framework provided to companies on how to manage the relationships with virtual customers. The framework concentrates on how to cooperate with customer to design virtual products that would be successful in real-life (Mousavidin, 2007).

Team Collaboration in Virtual Worlds

This research area looks at the potential of virtual worlds to enhance team collaboration. Some research topics proposed by the articles are a comparison between virtual worlds and alternate media, manipulation of identity in virtual worlds and the possibility of virtual leadership emergence. Understanding these issues would enable better decisions to be made in the future regarding team collaboration in virtual worlds (Carroll, 2007).

Consumer Spending in Virtual Worlds

The article gives three areas of interrelated research within the scope of the topic of consumer spending. The first area is “understanding the emerging business models and dynamics of the economic system for virtual item transactions in virtual world” (74, Ives

& Piccoli, 2007). After the business model is understood, an analysis of the implications of the virtual economic system on the real world should be undertaken. Finally, the article suggests researching the management of virtual assets.

Marketing Strategies in the Virtual World

The article identifies the attributes of a product that can be easily experienced in a virtual environment. The identified attributes are visual, audio, interactivity and various combinations of them. The research would focus on how each of these attributes affects the customer attitude towards a product, since this will ultimately help the companies tailor their marketing strategies to maximize customer satisfaction.

Social Issues in the Virtual Worlds

This article encourages researchers to look at the social aspects of virtual worlds, such as the future impact of different cultural values on the virtual worlds after their expansion in other countries or the potential usage of virtual worlds in developing countries.

Expressive Communication in Virtual Worlds

This research area focuses on the way people communicate in virtual worlds. Means of communication include gestures and face expressions displayed by the avatar, tone of voice if the feature is used to talk to other persons or body orientation. This should be compared to more conventional talking methods such as text-messaging or videoconferencing and a conclusion should be made on the level of comfort that people have when communicating in virtual worlds (Carey, 2007).

User Acceptance of Virtual Worlds

Research in this area should concentrate on analyzing the factors that determine the user acceptance of virtual worlds. The article identifies two types of user responses to virtual world: imaginal responses, which include role projection, fantasy or escapism and emotional responses, which include emotional involvement, arousal or enjoyment. This can lead to initial acceptance, which with time can become sustained. Research on these

factors will ultimately help virtual worlds developers understand what features make people become users of their virtual worlds and also what makes them become active users (Wu, 2007).

Virtual Worlds: A Political Incubator

This research area focuses on the potential formation of political innovation within the virtual worlds. The aim of this research is to investigate “keywords in the codes and rules of the virtual communities, as well as the compilation of a glossary of such keywords, as a way to map and analyze the conceptual and political innovation of the latest political incubator” (104, Cajvaneanu, 2007).

The Economics of Virtual Worlds

The research proposed on this topic is restricted to determining which business model the economy activity of the virtual world follows. 8 different possible business models are described in the article – determining which model best fits the economic activity in the virtual world can help individual and companies have a better understanding of the market they are spending their money in (Noam, 2007).

7.4 Other Studies

There have been a number of other studies that have been done on virtual worlds. In particular Second Life is a very popular research environment, mainly because of its high number of active users. Here is a list of some of the existing research:

Second Life User Acceptance Survey

Prepared by the Second Life Research Team, this paper gathers information about things such as the user’s willingness to pay money in Second Life or their perceived usefulness of virtual worlds in their life. The survey also asks for demographic information as well as current and future usage of Second Life of the participants.

Second Life Research Survey

This survey looks at 5 different aspects of Second Life: first is activity within the virtual world, which looks at many possible things people do in Second Life. Next is money, which investigates the spending patterns of the participants. Another area of research is gambling, since this survey was conducted before the global ban on gambling that Linden Lab imposed on Second Life. Fourth is user engagement with Second Life, where various questions are designed to understand the user behavior while away the virtual world. Finally, there is research done on perceptions of events within Second Life.

There are also various market research companies that have reports they are selling to general public. Information in these reports include the building and real estate market, the women's clothing market, information about real life brands in Second Life, etc.

8 Methodology

The methodology for the project followed a top-down approach. The model of research followed is shown in Figure 14 – it starts with general exploratory literature review in a broad research area and then focuses on a specific research question that has not yet been answered and needs further exploration. This approach to research ensures that the work done in the field is not redundant and will add to the further understanding and expansion of the topic.

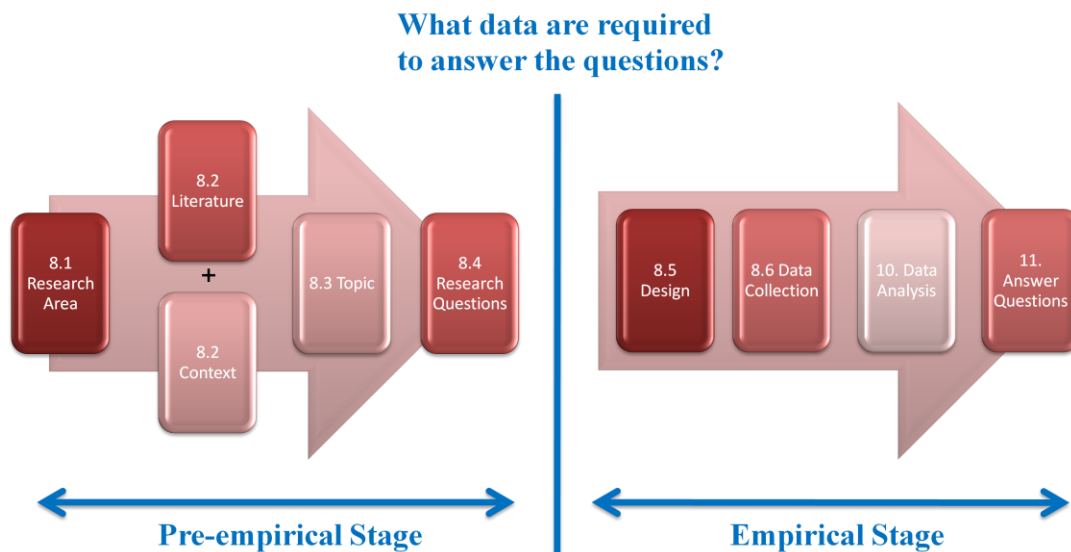


Figure 14 – This is the model of research followed during the methodology phase (8, Punch, 2003)

Below is a description of the way in which the research question and goals were designed:

8.1 Research Area

Broadly defined, the research area for this project is virtual worlds. Second Life was chosen as the area of interest. In order to get familiar with the virtual world and the technology, a new account was created in Second Life and significant time was spent understanding the virtual community and the types of interactions between members. Experiencing Second Life was the first step in thinking about possible research topics.

After this initial contact with virtual worlds, the following major broad topics appeared as possible areas of research:

Current Business Involvement Analysis

This would involve identifying what companies have major presences in Second Life, visiting and analyzing their sites in Second Life and ultimately offering additional areas of improvement and new involvement opportunities. The action plan for this research area would be compiling a list with companies involved in Second Life based on research of articles and media coverage, starting to visit their sites/islands and tracking the level of involvement and activities offered to the general public.

Industry Analysis

This would focus on choosing an industry and researching on its level of development within Second Life. Examples of such industries would be finance, since virtual banks already present or the automotive industry, where some companies are releasing their new models in Second Life before the real world to test the user acceptance. The goals of this research would identify potential for development and generate a list of suggestions.

Businesses Survey

The goals of survey would be to determine the extent of the current involvement of companies in Second Life. This will examine future intentions of expanding presence in the virtual world and understand the companies' perceived business value of having a presence in Second Life. The driving force for the companies to participate would be sharing the results of the survey with each participating company. This can provide valuable information about business involvement in the virtual world. Another incentive could be the delivery of a set of recommendation regarding the level of involvement. The subsequent steps would be to investigate ways of reaching out to the divisions of the businesses involved in Second Life, by either contacting them in real life or in Second Life.

User Survey

The goals of this survey would be to determine current and future intended activity levels to get an idea of where Second Life is headed in the future. There has been a lot of media coverage recently signifying that Second Life might have reached a plateau in usage because the ban placed on gambling and this would be a good area to analyze. The driving force for the users to respond to the survey would be a small monetary incentive. Also, the results of survey would be shared with companies who have a presence in Second Life – this enables the participants to reach out to companies with their ideas or desires. The next steps would be investigating ways of reaching out to general public in Second Life with a survey. Possible ideas would include arranging with a company present in Second Life or with an owner of land to host the survey on their property. Another option would be to rent a piece of land for a certain period of time (from a virtual renting company) and host the survey there. The key issue that would need to be considered is ways to make sure that turnout is adequate. For this a place with lots of visitors needs to be found or a good incentive needs to be given to the people in order to persuade them to take this survey.

8.2 Literature Review & Context

The literature review exploring the area of virtual worlds and Second Life is discussed in more detail in Section 7.

8.3 Topic

After reviewing part of the existing research and analyzing the expert's opinions on future areas of research that need to be analyzed, a decision was made to focus on the recruitment opportunities of businesses in Second Life. This is an area that affects both individual users as well as businesses, since it provides a great platform for job seekers to be put in contact with companies and for companies to quickly and efficiently screen out candidates for later interviews.

Another proof of Second Life's potential as a recruitment tool is the presence in the virtual world of TMP Worldwide, a major recruiting company. They have their own island in Second Life and offer services to companies such as career fair the possibility of interviewing potential new-hires and test their creativity in different ways. Fortune Magazine called this the "most radical dotcom 2.0 recruitment wave" (Benner, 2007).

Investigating how Second Life brings together job seekers and hiring companies can also be compared with other more conventional recruiting areas. Here is a list of the other means for job seekers to get in contact with companies:

- *Job Fairs* – job seekers interact directly with recruiters from many employees and can ask questions about the company or the position. They can also leave their resume with the recruiters and often they will be later called in for an interview.
- *Direct Employer Contact* – this includes attending company presentations, networking with current employees, sending the resume directly to the company or creating a profile on the employee's website and directly applying to posted jobs.
- *Private Employment Offices* – job seekers pay a fee to these offices, which then try to match the candidate's resume with known available openings at the time.
- *Internet job boards (Monster.com, CareerBuilder.com)* – job seekers post their resume online, give information about themselves and their job interests and are then matched with employees that have available positions at the time. Also, by making a profile public, a job-seeker can ensure that he/she has constant exposure to any new employers that wish to search for a new candidate.
- *College Career Centers* – these are usually available only to students and alumni of a particular university. They provide services such as organizing career fairs and having a job board where a student can apply and be selected for a preliminary on-campus interview with an employee.
- *Classified Ads in newspapers or journals* – employers sometimes advertise a position in newspapers or magazines in the field. Job seekers can respond to the ads by sending their resume for that particular position.

A survey by NACE (The National Association of Colleges and Employees) administered to around 12000 graduating students showed that there is currently a discrepancy between the historically most efficient ways of searching for a job and the most popular ways to search for a job. As we can see from the Figures 15 and 16, the most popular job search methods for students was getting their resume to the employee either by mail or by creating a profile on the employee’s website. However, the most successful job searches involved career fairs and using the services of a college career center to get in contact with the companies. This shows that job seekers are not completely aware of the advantages of various job search methods. In light of this information, we plan to investigate the perception of job seekers about the potential of Second Life as a successful job search tool.

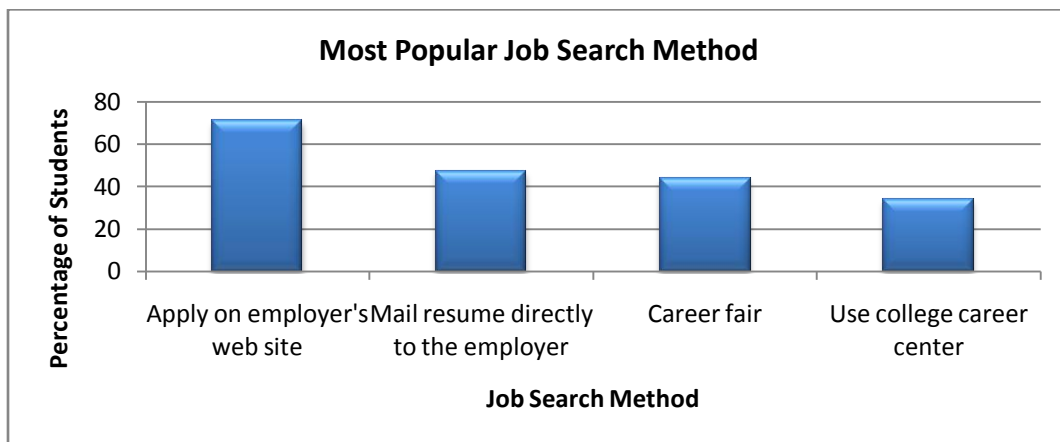


Figure 15 – The most popular job search methods among college students as indicated by the NACE survey

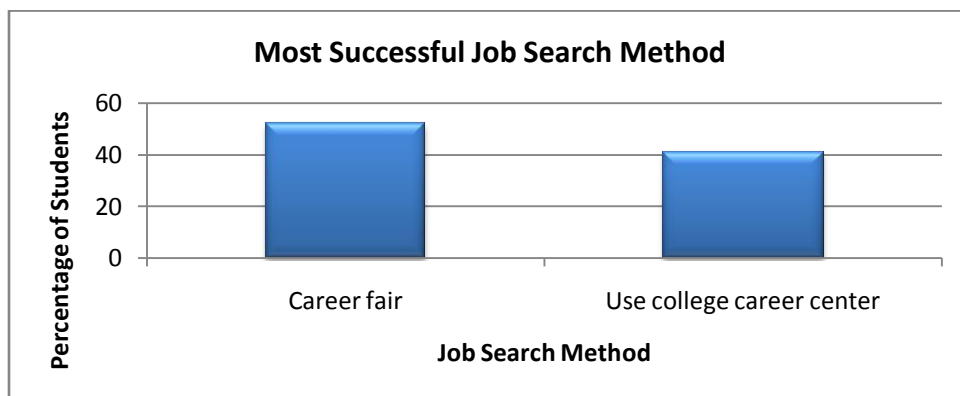


Figure 16 – The perceived most popular job search tool among college students as indicated by a NACE survey

Another study conducted by techies.com among IT workers shows different results from the NACE survey described above. IT workers consider networking and online job boards the most efficient method of searching for a job. In contrast, directly contacting the company is considered to be the least effective method to search for a new job. See Table 1 for full results.

How would you rate the effectiveness of the following job-search tools?	
Networking with friends/co-workers	.8
Online job boards	.7
Headhunter - placement agency	.3
Newspaper want ad	.1
Career Fairs (the live, in-person kind)	.9
Contract position that turns full-time	.9
Niche/vertical newsgroups	.6
Directly contacting a desired company - without knowing if there is an open position	.3
<i>Source: techies.com</i>	

Table 1 – NACE survey results regarding the effectiveness of various job search tools

Part of the differences between the two surveys described above can be attributed to the different backgrounds of the survey participants: students will most likely have a different view on job searching than IT professionals that have been in the field for many years. However, these differences also point out that there is no universally perceived superior job search.

8.4 Research Questions

The following research questions have been identified about virtual recruiting in Second Life:

1. *How does Second Life compare to other more conventional recruiting options?* – this question explores the relationship between Second Life and other recruiting tools such as job fairs, direct employer contact or college career centers. We want to understand where job recruiting in Second Life stands when compared to today's most used job search tools.
2. *Can Second Life become the premier Internet recruitment tool?* – this question is aimed at looking at the differences in the users' perception of Internet job boards when *compared* to virtual world recruiting. Internet job boards are currently the main arena for employers to go online and search for qualified candidates. We want to try to understand whether Second Life has the necessary potential to become the main search tool for companies to recruit potential new hires.
3. *Does Second Life's recruiting appeal have the potential to attract new users to virtual worlds?* – the goal is to understand the effect of job recruiting on the growth of Second Life. We want to see whether the potential of *finding* a new job will make non-members join Second Life in order to use the virtual world environment as a place where they can network with professionals, attend virtual job fairs and have virtual interviews with companies interested in their services. If these non-members would be willing to join Second Life just on the premises of finding a job, then Second Life would have huge upside for growth if the non-members are made aware of the recruiting activities in the virtual world.
4. *Would potential Second Life users be comfortable with having a virtual interview?* – companies use Second Life as a pre-screening tool to eliminate non-qualified candidates and determine which potential new hires should be called for further rounds of interviews. In order to do this, they have to hold a virtual interview with the job candidates, which will usually be conducted entirely through instant messaging. Therefore, the users' willingness and level of comfort

with such interviews conducted entirely through typing is crucial for the success of Second Life in the job recruiting area.

5. *How important is appearance and behavior in Second Life for doing well in a virtual interview?* – this question is aimed at understanding the users behavior when the possibility of attending such a virtual interview in Second Life. Because Second Life allows a great extent of creativity on the users' side for the avatar design, most people wear virtual outfits which would be inappropriate for any real life interviews. We want to understand whether the users would consider redesigning their avatar to achieve a professional business look for a recruiting event or an interview. This will enable us to better understand the correlation between user perceptions of real life compared to virtual interviews.

8.5 Design

In order to study these questions, a survey was designed to closely investigate the main research questions stated above. The whole survey in its original format can be found in Appendix 1, however the items of the survey are discussed in the following subsections.

8.5.1 Demographics Information

The first page of the survey contains some questions which will give us an understanding about the background information of the respondent. This section will ask the participant information about their gender, age group and familiarity with Second Life as a virtual world. Also, depending on their answer on whether they currently have an avatar in Second Life, the respondents are directed to a different page customized to their status. The demographic information questions are numbered 1 through 4 in the survey.

8.5.2 Second Life User Information

The next page contains questions for the users who have an avatar in Second Life. These questions are aimed at providing an understanding of the type of virtual world user that the survey participant is. More specifically, participants have to indicate whether they possess a free or premium account as well as their daily estimated number of hours spent online in Second Life. Also, things such as the amount of time the respondents have been using Second Life or the most common place where they access the virtual world from are recorded. Additionally, participants need to indicate if they are members of Second Life because of a work assignment and also how much money they have spent or earned in the virtual world so far.

The last questions on this page are aimed at understanding the motives and reasoning of the respondents for joining Second Life. Regarding the motive for joining the virtual world, they can choose from a variety of answers such as dating, to make money or dissatisfaction with real life. Also, they have to indicate whether they have made any changes in their avatar's appearance, gender or age compared to real life. Finally, the participants are asked whether they have a different level of morals in the virtual world as compared with the set of morals they employ in real life. The Second Life user information questions are numbered 5 through 19 in the survey.

8.5.3 Other Virtual Worlds

This page is designed to identify whether the survey respondents are members of a different virtual world other than Second Life. These set of questions will give us an understanding of the participants' familiarity with virtual worlds. Based on their responses on future questions, the respondents who are users of virtual worlds can be the basis of a good analysis on whether they are willing to try Second Life as well based on the prospect of being able to be recruited in-world. The questions about other virtual worlds are numbered 20 through 23 in the survey.

8.5.4 Job Recruiting Questions

This is the page which all the respondents of the survey have to answer regardless of their status as a user or non-user of a virtual world. This is because we are interested in the appeal of Second Life as a job recruiting tool to both current users as well as non-users, since there might be significant potential for growth in this area. The job recruiting questions are numbered 24 through 42 in the survey. The page begins with questions intended to determine the level of familiarity of the respondent with the presence of a significant number of companies in Second Life as well as with the recruiting efforts going on in the virtual world from big technology companies such as Intel, IBM or EMC.

Next, participants are asked whether they are currently looking for a job or if they would be interested in switching jobs should the right opportunity arise. This question is aimed at understanding the respondents' current position in the job market and will be the basis of an interesting analysis between the answers of job-seekers as opposed to people who are not interested in switching jobs currently.

Next, the survey aims to answer the question of how job recruiting in Second Life compares to other more traditional job search techniques, such as career fairs, direct employee contact, Internet job boards, private employment offices, college career centers or classified ads in newspapers or magazines. The participants are asked to rate each option from a scale of 1 to 7, where 1 stands for "Not Effective" and 7 stands for "Very Effective". This will enable us to understand the user perception of the value that Second Life adds to an individual looking for a job. Also, the respondents are asked to select the Internet job boards, if any, that they have used so far in their current or previous job search processes.

The next set of questions is aimed at understanding the potential impact that virtual interviewing and job recruiting might have on the membership of Second Life. The users are asked to indicate whether they would participate in a future recruiting event organized by a company in Second Life or whether they would visit the virtual headquarters of a company if they resembled their real life headquarters. Also, the users who are not current members of Second Life are asked whether they would be willing to join the virtual world based on just the prospect of participating and recruiting event and

the possibility of finding a job. This will strongly indicate whether Second Life can increase its membership rate by advertising this new recruiting trend of the companies of recruiting in Second Life.

The next questions aim to recognize the views of the people on the presence of companies in Second Life. They are asked to select from a list of incentives which would be sufficient to determine them to attend a company recruiting event – some of the choices include job prospect, real-life headquarters model, virtual promotional give-away items, meeting current employees and hearing about current projects. Their answers to this question will be useful in recognizing improvements that companies need to make in order to attract more potential job seekers to their events. The next question is designed with the same goal of identifying areas of improvement for the businesses - the respondents are asked to identify the most important component of a company's presence in Second Life from a list including the size of the company's island in the virtual world, the incentive offered, the frequency and quality of events or the number of people regularly attending the events.

The next questions continue to probe the participants' acceptance of Second Life as an environment suitable for job recruiting. In particular, they are asked about the way in which they would use the virtual world in their job search process assuming they were looking for a job. The choices include making Second Life their primary job search tool, using Second Life in addition to other more conventional job search techniques, using Second Life sparingly in their job search process and not using it at all. The responses to this question will help us understand the role of Second Life in the arena of job searching techniques.

The ensuing questions aim to understand the level of comfort of the people with virtual interviewing. Since companies use the virtual world as a pre-screening tool where they eliminate non-qualified candidates and make decisions about which candidates should be called for further rounds of real-life interviews, virtual interviewing is the main technique by which they assess the qualifications of a potential new hire. Therefore, it is crucial to be aware of the users' responsiveness to this new medium of interviewing. The questions are designed in such a way to determine whether respondents would even

consider having a virtual interview if given a chance, since there might be a number of people who would completely reject this interviewing medium regardless of the job prospect. Other questions try to understand whether users would be comfortable with a virtual interview and whether candidates are more comfortable with face-to-face, phone or virtual interviews.

Finally, the last set of questions on this page probes the level of comfort of survey participants with virtual job career fairs. The questions try to understand whether respondents believe that real life job career fairs enable job seekers to present the skills better or whether they see a virtual career fair as better since it eliminates any potential inhibitions that might occur in real life. Also, since there are real recruiting agencies that are currently holding various career fairs recruiting events, the participants' knowledge of this existence is tested.

8.5.5 Job Boards

The respondents are only taken to these questions if they have indicated on the previous page that they are aware that there are a significant number of companies present in Second Life and that major technology firms use the virtual world as a recruiting tool. The questions on this page ask the participants whether they visited the site of company present in Second Life yet or whether they have participated in a recruiting event in Second Life so far. Finally, the respondents are asked to express the opinion whether Second Life recruiting is better or worse than normal Internet job boards such as Monster.com. The questions regarding job boards are numbered 43 through 45 in the survey.

8.5.6 In-World Behavior

This page contains question number 46 in the survey. It requires the participants to rate statements on a scale from 1 to 7 where 1 stands for "Strongly Disagree" and 7 stands for "Strongly Agree". These questions are aimed at understanding various aspects of a user's behavior inside a virtual world in order to explore interesting issues about things such as temporal dissociation and focuses immersion in the virtual world,

heightened enjoyment and control, curiosity, role projection, escapism, emotional involvement, arousal, behavior or ego-identity status. See the Appendix for a list of all the sub-questions.

8.5.7 Thank you Page

This is the final page, which contains a few thankful statements and gives participants the option to write their name in order to receive extra credit for participating.

8.6 Data Collection

A decision was made to make the survey available in Second Life and online. This meant data could be collected from non-users as well as users of the virtual world. This will help us make conclusions about how recruiting in a virtual world is perceived by non-users as well as users.

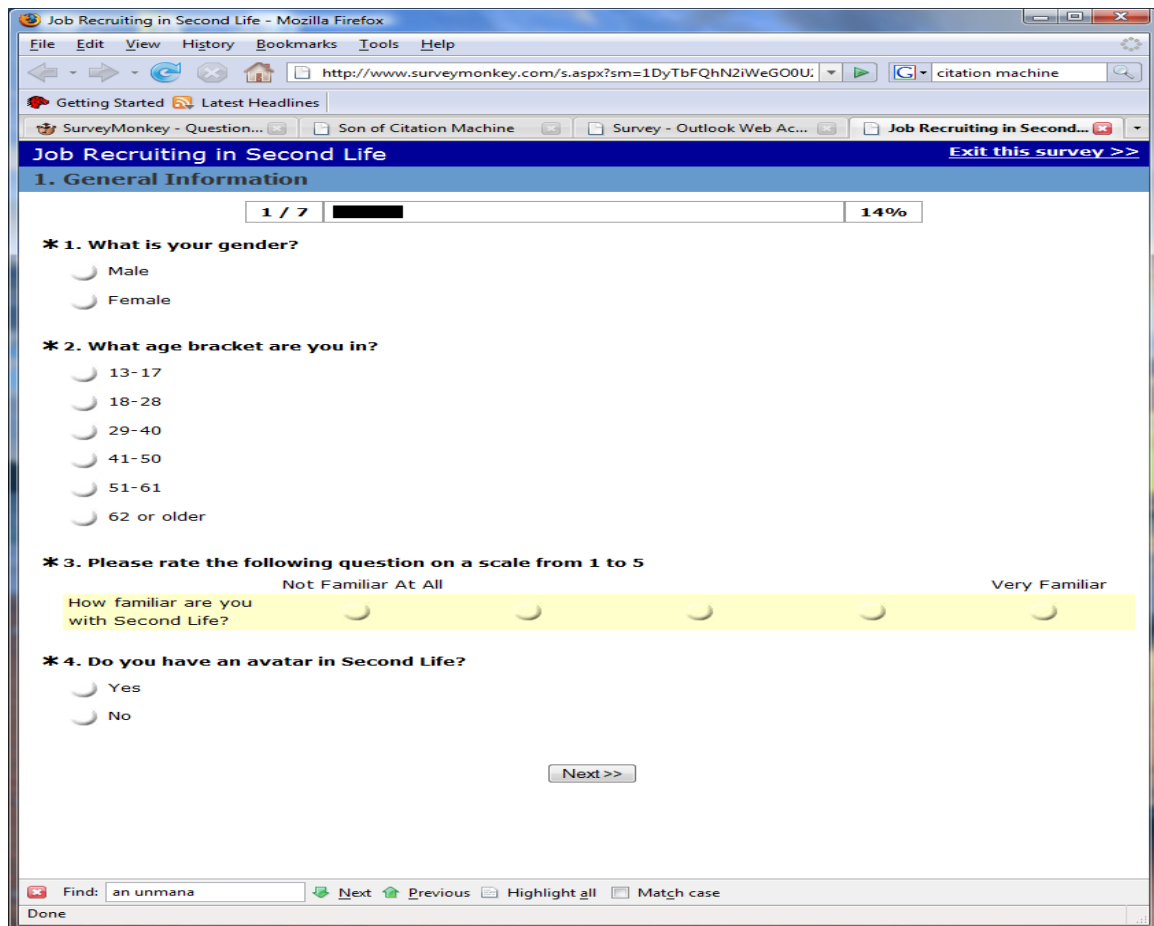


Figure 17 – First page of the survey administered to respondents

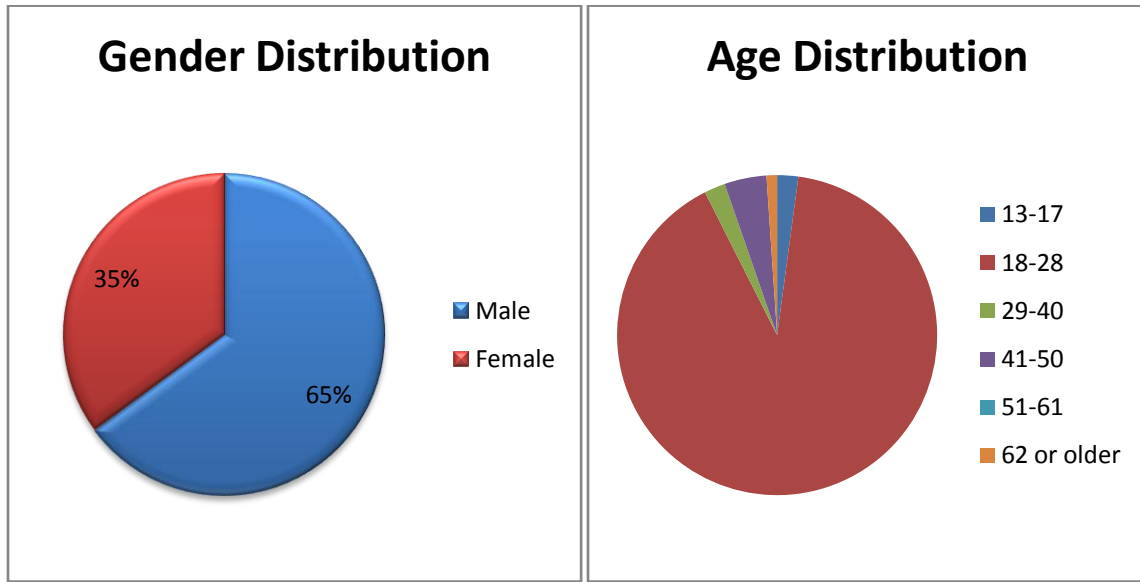
The scope of the project is to analyze people's acceptance of Second Life as a job recruiting tool. Part of this analysis involves understanding the willingness of job-seekers to join Second Life purely based on the possibility of finding a job. Therefore, we have decided to make college students our main sample target. This is due to multiple reasons. Firstly, college students tend to be active job seekers, either for internship opportunities or for full-time jobs. They usually use a wide variety of job searching techniques and therefore they can comparatively express their impression about Second Life recruiting. Secondly, college students tend to accept new technologies quicker than other age groups, so they would not dismiss new potential job search tools because of fear of change. Finally, college students tend to be familiar with social networking websites and virtual worlds – even though they are not the most preponderant age group in Second Life, a majority of college students know what a virtual world is.

9 Results

The survey was distributed to both members of Second Life in-world and to non-members by having the survey hosted by SurveyMonkey.com, a survey creation and distribution website. There were 94 total respondents to this survey, the majority of which were non-members of Second Life. The participation rate in-world was surprisingly low, given that a monetary incentive of 10 Linden dollars was offered to each person who completed the survey. There are many reasons for this low participation: the first may be the high number of events which offer a higher monetary incentive for participants, so users prefer to spend their in-world time more efficiently. There are also many surveys offering monetary incentives which can be taken by residents. Another reason for the low participation may be the lack of exposure of the survey – the distribution method in Second Life was by creating a survey object and then distributing note cards to users. A much more efficient way of distributing the survey would have been by having a third party host it on their land – this way the survey would have been available to Second Life residents at all times.

A breakdown of the demographic information of the respondents who have filled in the survey shows that 64.9% of the respondents were male, while a majority 90.4% of the survey participants was situated in the age group of 18-28 year olds.

Figure 18 – The gender and age distribution of survey respondents



Because of the low in-world participation, most of the participants in the survey were not members of Second Life. Also, almost 48% of the respondents indicated that they are not at all familiar with Second Life or virtual worlds in general. Even though these people are not the sample of the population desires, they will form the basis of an interesting comparison between them and users more familiar with Second Life.

4. Do you have an avatar in Second Life?	
Answer Options	Response Percent
Yes	7.4%
No	92.6%

Table 2 – Answers to question number 4

Answer Options	1 (Not Familiar)	2	3	4	5 (Very Familiar)
3. How familiar are you with Second Life?	41	22	14	4	3

Table 3 - Answers to question number 3

The information about the users in Second Life is limited to 8 responses, which does not provide an adequate sample size for any analysis; therefore, we will use this data sparingly in our subsequent analysis. Overall, the results show that all of the respondents

have a free account in the virtual world, spend around 1-6 hours in-world weekly, do not usually spend or earn any money in Second Life either personally or on behalf of a business. 50% of the respondents to these questions indicated that dating is the main reason they have joined a virtual world, along with the possibility of being someone else than in real life by creating their own avatar. 71.4% of the participants have a different level of morals in Second Life compared to real life, while the same percentage creates an avatar with better looking body image and physical appearance. A full description of the breakdown of the answers to the questions is given in the Appendix.

Respondents were asked whether they are members of other virtual worlds as well and a majority of 91.5% indicated that they are not. The remaining 8.5% of the users were asked details about their virtual worlds and the results can be seen in Table XX. Surprisingly, some users listed Facebook and Yahoo as virtual worlds; even if both sites have social networking features, they are not similar to virtual worlds. These answers might indicate that some of the respondents were unaware of what exactly a virtual world is in the first place. Other users listed online-playing environments (ORPEs) such as Final Fantasy, World of Warcraft or Flyff as virtual worlds they are part of – although not similar in scope to MUVES (Multi User Virtual Environments) like Second Life, these environments are reasonable close to a virtual world and can be considered as one.

Number	Response Text
1	Facebook
2	Facebook
3	Final Fantansy XI
4	Flyff
5	Yahoo
6	World of Warcraft

Table 4 – Other virtual worlds respondents are members of

The answers to the job recruiting questions in Second Life are of the most interest to us, since they will be the basis for most of the analysis done on the data. 65% of the respondents indicated that they are not aware that a significant number of companies have a presence in Second Life, while 73% of them did not know that large companies use Second Life as a recruiting tool for potential employees. Additionally, 65% of the

respondents indicated that they are searching for a job or would be interested in switching a job should the right opportunity arise:

24. Are you aware that a significant number of companies have a presence in Second Life?		
Answer Options	Response Percent	Response Count
Yes	34.9%	29
No	65.1%	54

Table 5 – Answers to question number 24

25. Are you aware that large companies (such as Intel, IBM or EMC) are using Second Life as a recruiting tool for potential employees?		
Answer Options	Response Percent	Response Count
Yes	27.4%	20
No	72.6%	53

Table 6 - Answers to question number 25

26. Are you currently looking for a job or would you be interested in switching a job should the right opportunity arise?		
Answer Options	Response Percent	Response Count
Yes	65.1%	54
No	34.9%	29
<i>answered question</i>		83
<i>skipped question</i>		11

Table 7 - Answers to question number 26

Next, the respondents were asked to rank various job search methods in terms of their perceived effectiveness on a scale from 1 to 7, where 1 stands for “Least Effective” and 7 for “Very Effective”. Real-life job fairs received a rating average of 4.44, direct employer contact has an average of 4.66 while college career centers received a rating of 4.16. Internet job boards have a rating of 3.5, while Second Life recruiting has an average rating of 2.77.

27. Please rank each of the following job search methods in terms of your perceived effectiveness:								
Answer Options	1 (Not Effective)	2	3	4	5	6	7 (Very Effective)	Rating Average
Job Fairs	9	6	9	14	15	18	11	4.44
Direct Employer Contact through their website	7	10	10	6	15	14	21	4.66
Private Employment Offices	9	9	14	23	7	12	7	3.91
Internet job boards	10	10	23	19	12	4	4	3.5
College Career Centers	8	5	12	18	25	11	4	4.16
Classified ads in newspapers or journals	16	16	17	13	8	6	5	3.23
Second Life Recruiting	25	14	12	14	3	1	6	2.77

Table 8 - Answers to question number 27

Participants were also asked to indicate what job boards they have used for job hunting in the past. This is done to give us an understanding of what the top job boards are and whether Second Life can become the premier Internet job search tool in the future. The results show that Monster.com was used by 47% of the survey participants, while CareerBuilder.com has been used by 27.7% of them. Finally, 38.6% have not used a job board so far.

28. Select the Internet job boards have you used for job hunting:		
Answer Options	Response Percent	Response Count
Monster.com	47.0%	39
CareerBuilder.com	27.7%	23
Yahoo HotJobs	13.3%	11
Dice.com	6.0%	5
AskTheHeadHunter.com	1.2%	1
None	38.6%	32
Other (please specify)	13.3%	11

Table 9 - Answers to question number 28

Next questions focus heavily on the perceived usefulness of Second Life as a job search tool in the respondents' view and their acceptance of the virtual world in the process. 54.2% of the respondents would participate in a future recruiting event organized

by companies in Second Life, while the rest of 45.8% would not participate in such an event if given the chance.

29. Would you participate in a future recruiting event organized by companies in Second Life?		
Answer Options	Response Percent	Response Count
Yes	54.2%	45
No	45.8%	38

Table 10 - Answers to question number 29

Next questions focus heavily on the perceived usefulness of Second Life as a job search tool in the respondents' view and their acceptance of the virtual world in the process. 54.2% of the respondents would participate in a future recruiting event organized by companies in Second Life, while the rest of 45.8% would not participate in such an event if given the chance.

32. If you are not a current member of Second Life, would you consider joining Second Life as part of your job search process?		
Answer Options	Response Percent	Response Count
Yes	62.0%	49
No	38.0%	30

Table 11 - Answers to question number 32

When asked the level at which they would use Second Life for, 38.6% of the survey participants indicated that they would use it in addition to other job search tools. 4.8% would make Second Life their primary search tool, while 24.1% would use Second Life sparingly in their job search. 32.5% percent of the respondents would not use Second Life as a job search tool.

33. If you were looking for a job, which statement would adequately describe your stance:		
Answer Options	Response Percent	Response Count
Primary Job Search Tool	4.8%	4
In Addition to Other Job Search Tools	38.6%	32
Sparingly	24.1%	20
Not Use	32.5%	27

Table 12 - Answers to question number 33

Next, the respondents answer questions about possible incentives that would encourage them to attend company recruiting events even if they are not immediately looking for a change of jobs. More than 50% of the participants indicated that monetary reward would be sufficient for them to attend such an event even if they would not necessarily be looking for a job. 51.8% said that meeting current employees is sufficient, while 27.7% would need no incentive since the job prospect would be enough for them to attend the recruiting event.

30. Which of the following would be a sufficient incentive for you to participate in a recruiting event? (pick all answers that apply)		
Answer Options	Response Percent	Response Count
Monetary Reward	50.6%	42
Interactive Company Presentation	34.9%	29
Real-Life Headquarters Model	20.5%	17
Virtual Promotional Give-Away Items	21.7%	18
Meet current employees	51.8%	43
Hear about current projects	41.0%	34
No incentive, job prospect would be enough	27.7%	23
Other (please specify)	2.4%	2

Table 13 - Answers to question number 30

More than 70% of the respondents considered that if a company recreated their headquarters in Second Life, they would consider visiting the virtual island of the company in Second Life to get a feel of what the workplace looks like.

31. If a company recreated their headquarters in Second Life, would you consider visiting them in Second Life to get a feel for what the workplace looks like?		
Answer Options	Response Percent	Response Count
Yes	71.1%	59
No	28.9%	24

Table 14 - Answers to question number 31

39.8% of the survey participants consider that the quality of events is the most important component of the presence of a company in Second Life. 24.1% stated that the number of people attending the event is the most important to them, while a little bit more than 18% indicated that the incentives offered by the company are the main component that would attract them to the virtual company headquarters.

36. What do you consider to be the most important component of the presence of a company in Second Life?		
Answer Options	Response Percent	Response Count
Size of island	10.8%	9
Incentives offered	18.1%	15
Frequency of events	7.2%	6
Quality of events	39.8%	33
Number of people attending their events	24.1%	20

Table 15 - Answers to question number 36

Next, there are a number of questions which probed the participants' level of comfort with virtual interviews. 59% of the respondents would participate in a pre-screening interview in Second Life, but only 38.6% would be comfortable with an interview conducted entirely through instant messaging. Additionally, more than 80% of the respondents said they prefer face-to-face interviews:

34. If you were looking for a job, would you participate in a pre-screening interview in a virtual world, such as Second Life?		
Answer Options	Response Percent	Response Count
Yes	59.0%	49
No	41.0%	34

Table 16 - Answers to question number 34

40. Would you be comfortable with an interview conducted entirely through instant messaging?		
Answer Options	Response Percent	Response Count
Yes	38.6%	32
No	61.4%	51

Table 17 - Answers to question number 40

41. Which of the following statement best describes your stance on interviews:		
Answer Options	Response Percent	Response Count
I prefer face-to-face interviews	81.9%	68
I prefer phone interviews	3.6%	3
I prefer instant messaging interviews	8.4%	7
I have no preference	6.0%	5

Table 18 - Answers to question number 41

Lastly, the last questions on this page probe the participants' opinion about virtual job fairs as compared to real life career fairs. Only 6.9% of the respondents have attended a job fair in Second Life so far. In addition, more than 81% of them believe that real-life job fairs allow candidates to present their skills better than a virtual career fair would, while 10.8% have no preference between the two.

38. Have you ever attended a job fair in Second Life?		
Answer Options	Response Percent	Response Count
Yes	6.9%	5
No	93.1%	67

Table 19 - Answers to question number 38

39. Which of the following statement best describes your stance on job fairs:		
Answer Options	Response Percent	Response Count
I believe that real-life job fairs allow job candidates to present their skills better than a virtual career fair would	81.9%	68
I believe that virtual job fairs are better for a candidate since it eliminates any potential inhibitions that might occur in real-life career fairs	7.2%	6
I believe there is no significant differences between virtual and real-world job fairs from the candidate's point of view	10.8%	9

Table 20 - Answers to question number 39

On the Job Boards page, only users who have indicated that they are aware that there is a significant number of companies present in Second Life and that major companies use the virtual world as a recruiting tool can answer the questions. The results to the question comparing Internet job boards with Second Life recruiting show that almost 30% believe they are more or less the same, 23.5% percent see Second Life recruiting as marginally better, while 20.6% consider Internet job boards to be better job searching tools:

45. What is your perception about Second Life as a job search tool as compared to an Internet job board, (such as Monster.com or CareerBuilder.com)?		
Answer Options	Response Percent	Response Count
Much better	11.8%	4
Marginally better	23.5%	8
Same	29.4%	10
Much worse	20.6%	7
Marginally worse	14.7%	5

Table 21 - Answers to question number 45

Finally, the questions regarding the in-world behavior of users have received limited response due to the low level of participation of in-world Second Life users. Briefly, all the respondents who are residents of Second Life are male, have free accounts and do not spend or earn any money in-world. Also, almost half of them have joined Second Life to date, while a third are members of the virtual world to interact with other online community members or to be someone else and create their own cool avatar. 62.5% of these users have a different set of morals in the virtual world, while more than 70% create an avatar that is a better-looking copy of themselves.

Users of Second Life who have responded to the survey indicated that they usually spend more time in-world than initially intended. Also, they tend not to be distracted very easily by outside factors when they are logged into Second Life. Their responses indicate that they enjoy Second Life and will return in-world in the future. All their responses to the questions can be found in the Appendix 1.

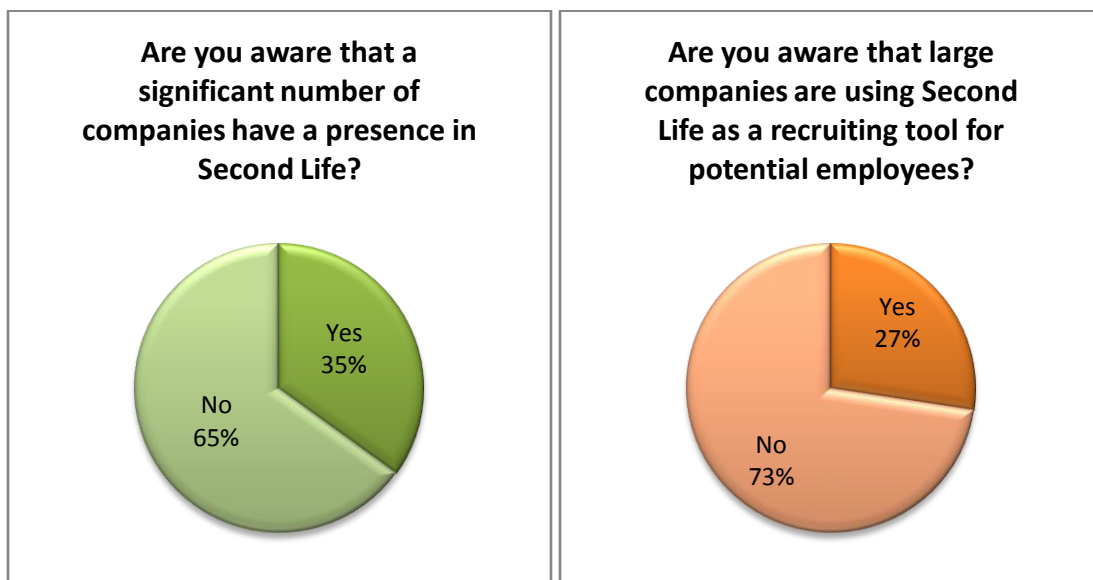
10 Data Analysis

We will analyze the data from different perspectives in order to both answer our stated research questions and project goals and also to detect any interesting patterns in the distribution of the responses.

10.1 User Awareness

A first surprising observation is the lack of awareness that the respondents have in regard to the presence of companies in Second Life and their recruiting efforts. Almost 65% of the respondents are not aware that many companies have a presence in Second Life, while 73% are not aware that companies are using Second Life as a potential recruiting tool for employees.

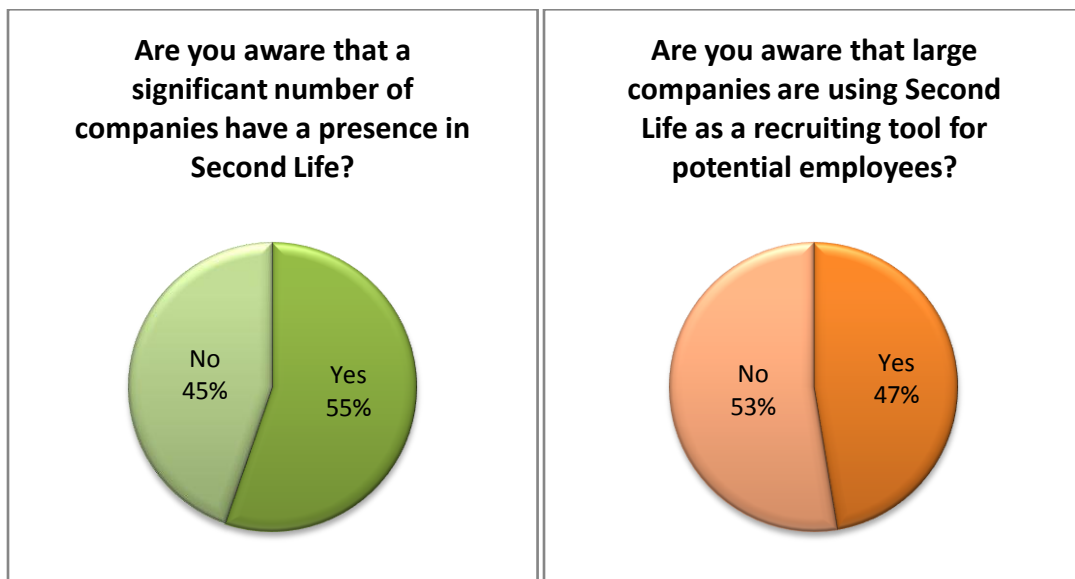
Figure 19 – User awareness responses from all survey participants



This lack of awareness about the companies' presence and recruiting efforts in Second Life can be attributed to the low familiarity of many users with Second Life in general. Therefore, it is safe to assume that if a person has not heard of Second Life and virtual worlds in general, then they will not know that companies are present and recruiting in the virtual world. Therefore, we decided to eliminate the respondents who

have indicated they do not know what Second Life is and compare the results. As we can see in Figure 21, the number of people aware about the recruiting efforts of companies is significantly higher: 55% of the respondents familiar with Second Life know that many companies have a presence in Second Life, while 47% are aware that companies are using Second Life as a potential recruiting tool for employees. Even though these numbers are higher, more than half of the respondents who indicated that they are familiar with Second Life do not know that companies are present or recruiting in the virtual world. This indicates that companies and Linden Labs need to strive to not only increase the exposure of the Second Life, but also advertise job recruiting as means to attract new members.

Figure 20 - User awareness responses from those survey participants familiar with Second Life

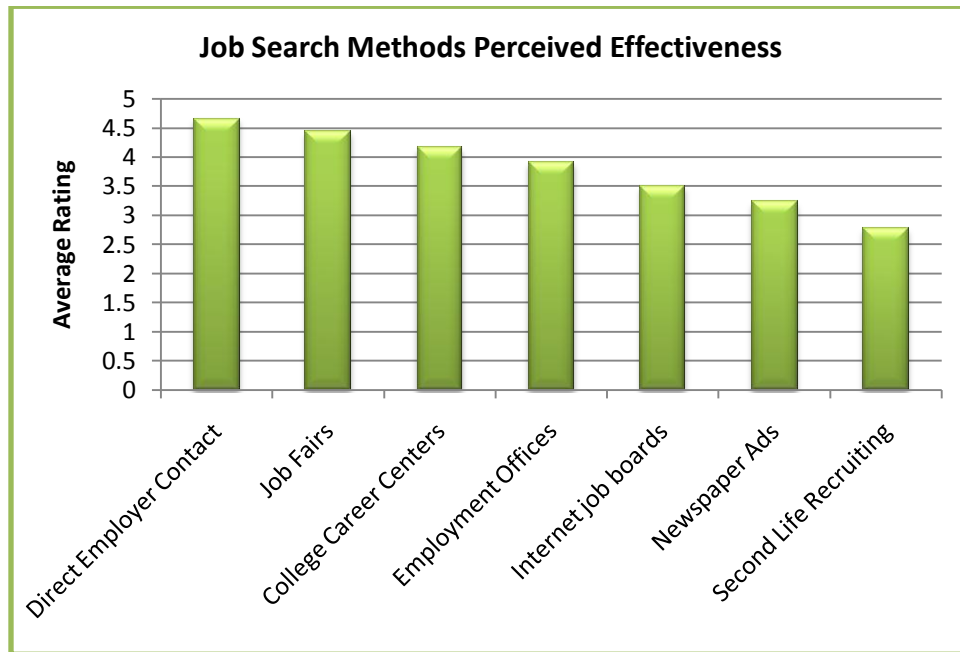


10.2 Second Life Recruiting vs. Other Job Search Methods

The initial response of the participants to Second Life recruiting compared to other job search techniques indicates that people do not consider the virtual world as a viable job search technique by itself. When asked to rank various job search techniques on scale from 1 to 7, where 1 stands for least efficient and 7 for most efficient, Second Life recruiting ranks last with a rating of 2.77. The results are similar regardless of whether we include or exclude the individuals not familiar with Second Life in the

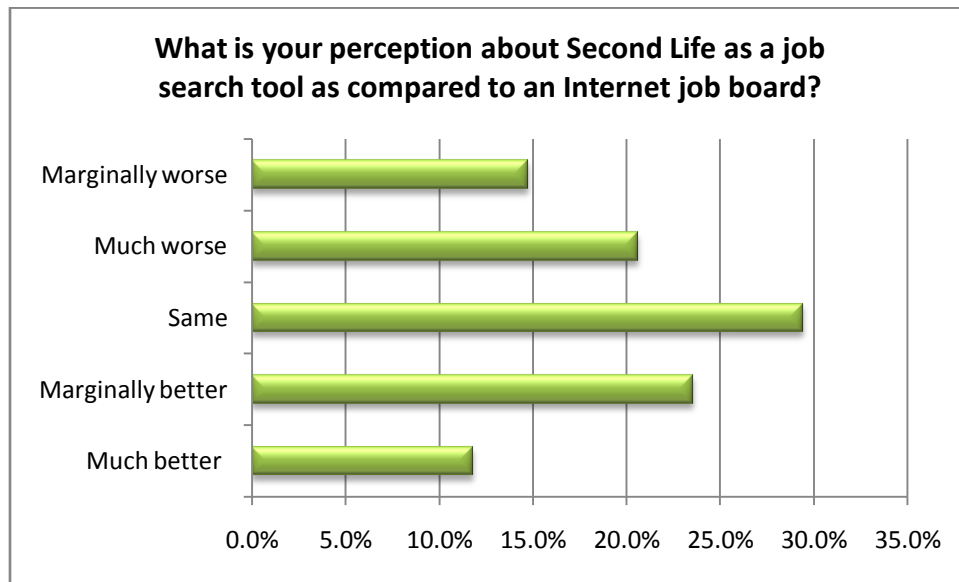
analysis. This is an indication that Second Life recruiting is not regarded as the most efficient job search technique. This might be because individuals believe that it is time consuming to build an avatar and guide it to a company's headquarters in order to meet current employees or attend events and perhaps have a job interview.

Figure 21 – Second Life recruiting vs. other job search methods from all survey participants



A direct comparison between Internet job boards such as Monster.com or Careerbuilder.com and Second Life shows that almost a third of the respondents believe that there is no significance difference between the two job search tools. The responses are very evenly distributed: another third of the participants believe Second Life is either marginally or much better than Internet job boards, while the last third of the respondents consider Second Life inferior to job boards. This indicates that Second Life has the potential to grow in the future and become the premier job search tool on the Internet.

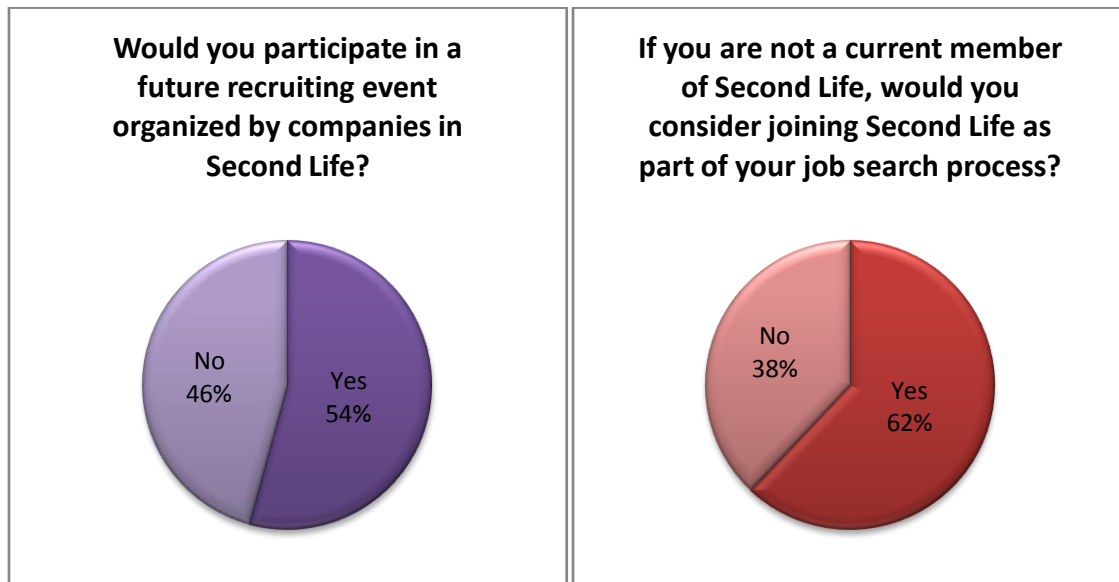
Figure 22 – Respondents’ perception of Second Life recruiting compared to an Internet job board



10.3 User Acceptance

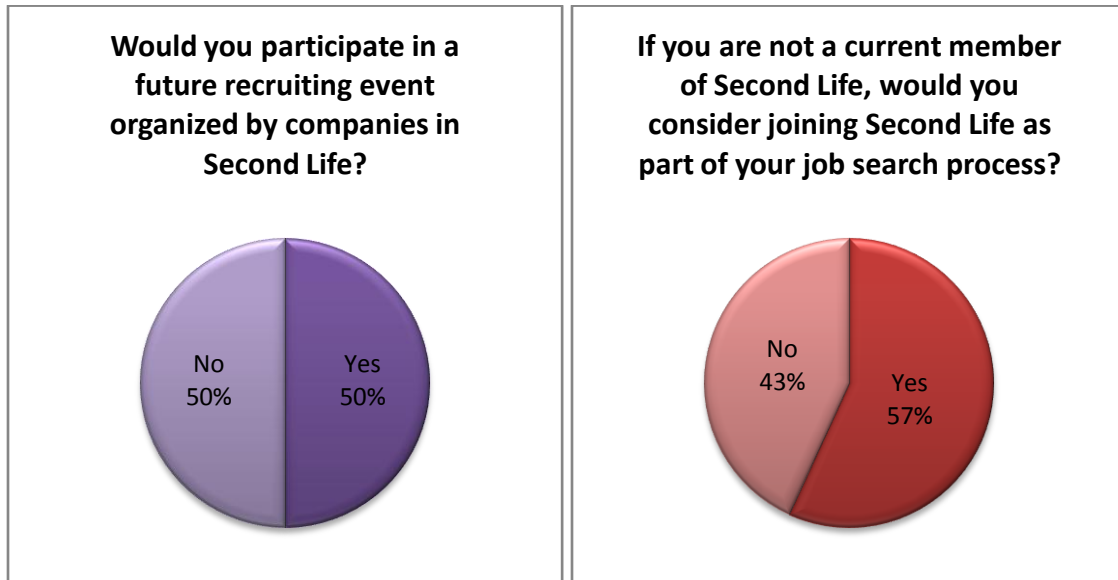
Many survey questions probed the respondents’ willingness to try Second Life as a job search tool, since user eagerness to try virtual worlds as an environment where they can search for a job is crucial for its success. At first sight, the results seem to be encouraging for companies’ recruiting in the virtual world: 54% of the respondents indicated that they would participate in a future recruiting event organized by companies in Second Life. Additionally, 62% of the survey participants would consider joining Second Life as part of their job search process if they were actively looking for a job. These numbers are even higher for those people that are currently looking for a job: 61.8% would participate in such a recruiting event, while as much as 67.3% would join Second Life solely due to the incentive of finding a job.

Figure 23 – User acceptance responses for all survey participants



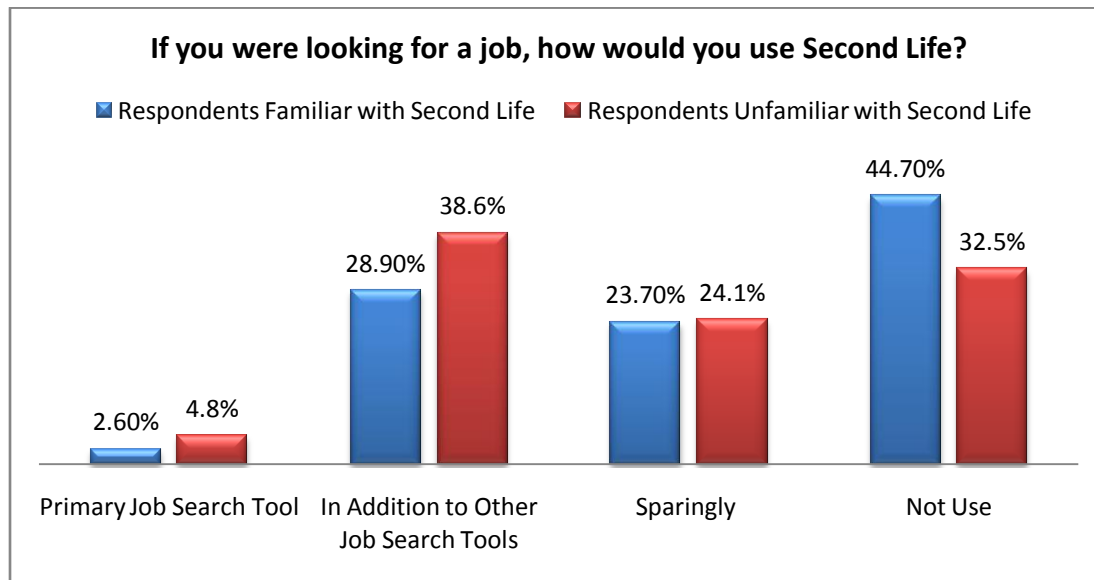
Even though these figures seem to indicate that Second Life has the potential of attracting and retaining new members based on the recruiting activities of companies present in the virtual worlds, a closer look at the data indicates that users who are familiar with Second Life are not as willing to use the virtual world as a job search environment as those respondents who are not familiar with Second Life. More specifically, only 50% of the survey participants familiar with Second Life would participate in a future virtual recruiting event of a company, as compared to 58% of the respondents unfamiliar with Second Life. Additionally, only 57% of the survey participants familiar with Second Life would join the virtual world as part of their job search process, as compared to 67% of the respondents unfamiliar with Second Life. These numbers indicate that there is a lot of excitement for individuals who find out about Second Life and they are very willing to include it in their job search. However, individuals who are either members or know details about Second Life are not enthusiastic about the prospect of the virtual world being an environment for job searching and they are not as willing to join Second Life or attend a recruiting event in the future.

Figure 24 - User acceptance responses for all the survey participants familiar with Second Life



Another interesting research question is how individuals would use Second Life as part of their job search process. Almost 40% of the respondents would use it in addition to other job search tools, around 25% would use it sparingly while a bit more than 30% would not use it at all. Similar to the previous questions, the answers of the individuals familiar with Second Life differ from these totals: as we can see in Figure 26, almost 45% of the respondents familiar with Second Life would not use it as part of their job search process, while only 28.9% would use it in addition to other job search tools. Again, this shows that people familiar with Second Life are more skeptical about its potential in the job recruiting area than people unfamiliar with the virtual world.

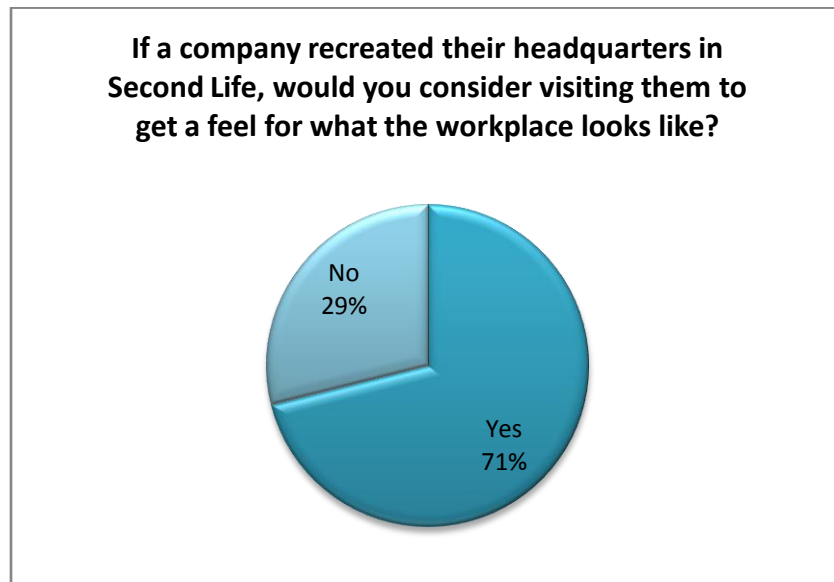
Figure 25 – Respondents’ usage of Second Life as a job search tool



10.4 Company Events Perception

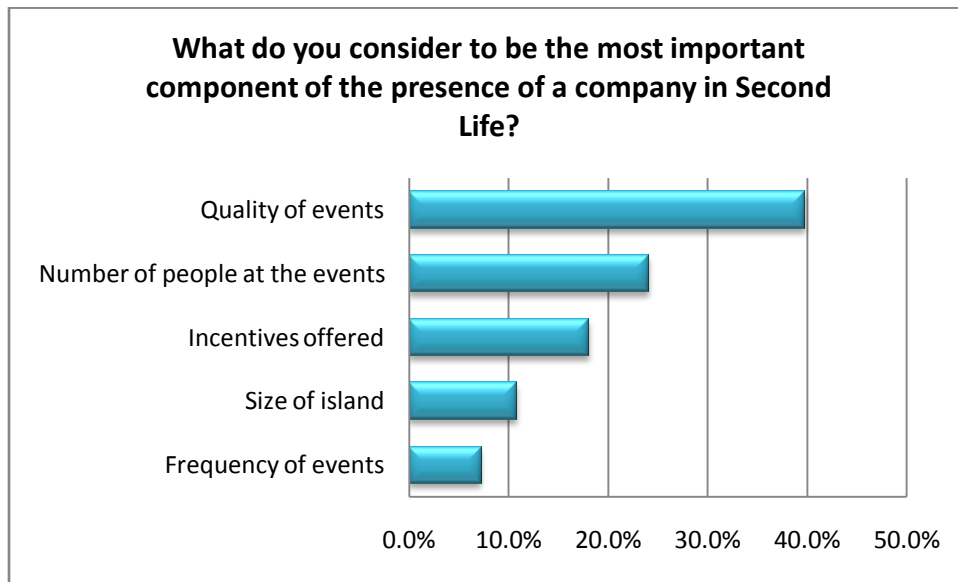
A number of questions in our survey look at individuals’ perception of the presence of companies Second Life. Companies present in the virtual world do not usually model their virtual headquarters to mirror their real-life offices or stores. This might be because they might want take advantage of Second Life’s scripting capabilities to build bigger, more interactive and more exciting headquarters. Additionally, designing and implementing a virtual replica of a real-world model would require significant more resources than being creative and giving the virtual presence a different look. However, the survey questioned individuals if they would consider visiting the headquarters of company if it recreated their real-life headquarters, more than two thirds of the respondents answered that they would. This can be an indicator that companies should assign more resources in order for the design of their resources to mirror real-life, because this would mean that a higher number of people might visit their headquarters, which would translate in higher brand exposure and ultimately a better return on the investment the company has made in having a presence in the virtual world.

Figure 26 – Responses to a company’s virtual headquarters



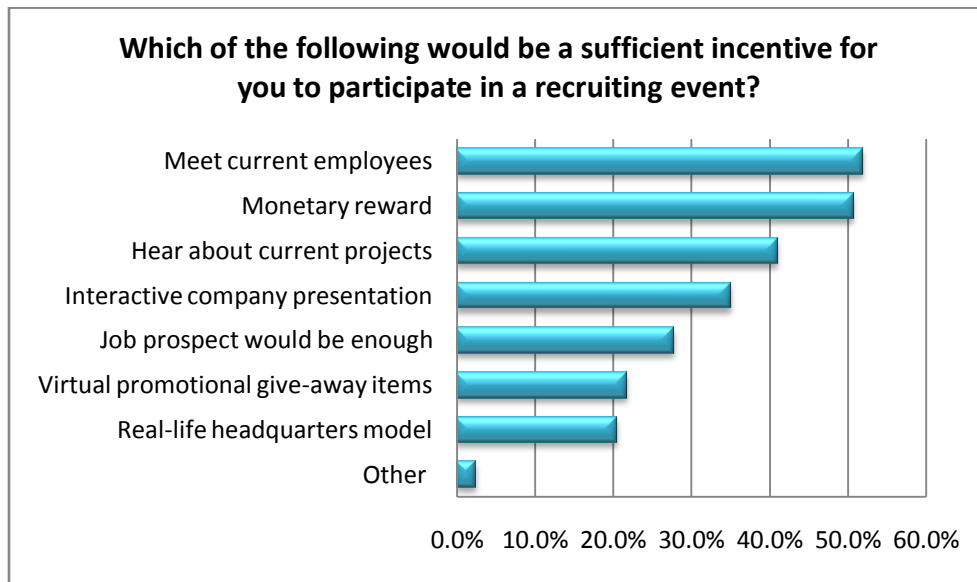
Individuals also believe that the quality of events is by far the most important component of the presence in Second Life, as indicated by almost 40% of the respondents to the survey. The quality of events is tightly related to how many other people are attending the events in virtual worlds, therefore it is not surprising that the number of people present at the company events was selected as most important by around 25% of the respondents. The incentives offered, the size of the company’s island or the frequency of events are considered less important.

Figure 27 – Respondents’ perception regarding the most important component of a company’s presence



Similar results can be seen when the participants are asked to choose sufficient incentives for them to participate in a company recruiting event. More than 50% of the respondents indicated that meeting current employees would be a sufficient incentive for them to participate. This goes hand in hand with the previous conclusion that individuals value networking opportunities in the virtual world. Surprisingly, the job prospect alone ranked among the last in the incentives listed, with only around 28% of the respondents indicating they would attend a recruiting event based solely on the possibility of getting a job. Although this percentage is higher among job seekers, other incentives such as hearing about current projects and discussing them with current employees are more important to individuals. This indicates that people do not necessarily view Second Life as a place where they can be hired, but rather as an informational place where they can get insights about the company, current projects or employee life quality.

Figure 28 – Survey participants’ opinion on sufficient incentives to attend a recruiting event



10.5 User Behavior

An interesting topic of research is understanding users’ behavior when they have the opportunity of attending a virtual interview in Second Life. In real world, most of the persons attending an interview dress and act professionally to show the employer that they are reliable and qualified. Virtual worlds allow a greater extent of creativity on the users’ side for the avatar design - most people wear virtual outfits which would be inappropriate for any real life interviews. The survey shows that around 83% of the respondents would redesign their avatar to achieve a professional business look for a recruiting event or an interview. This shows that a recruiting event or interview with a company in Second Life would be taken seriously by the participants and they would dress and act in an appropriate manner.

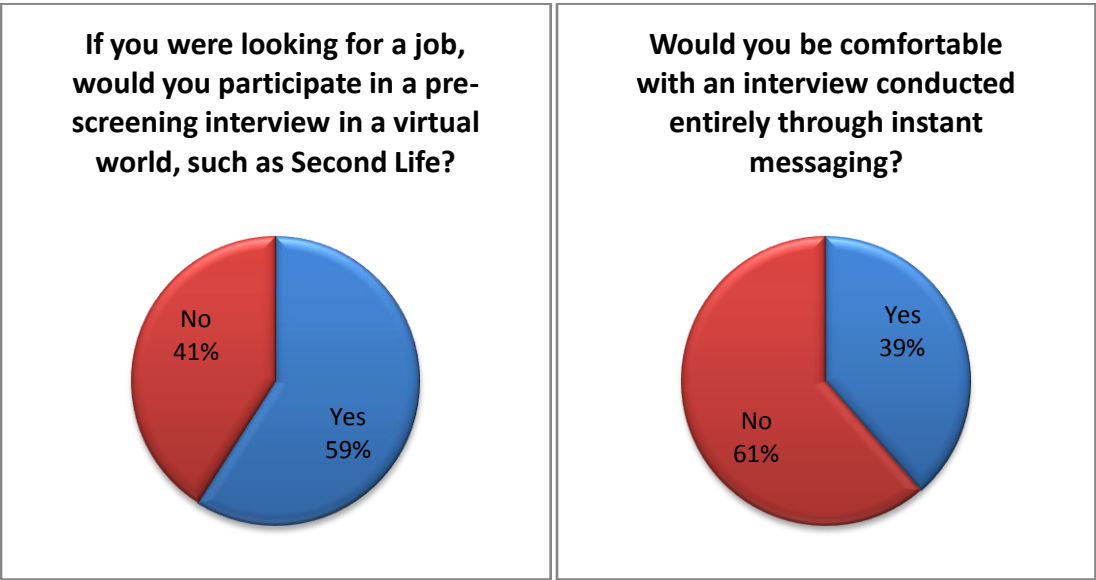
Figure 29 – User behavior responses



10.6 Virtual Interviews & Job Fairs

The final area of analysis will concentrate on individuals' level of comfort with virtual interviews and career fairs. In order for companies to use the virtual world as a viable pre-screening tool where they make decisions about which candidates should be called for further rounds of real-life interviews, they need to choose an appropriate medium for conducting the virtual interview. 59% of the users indicated that they would participate in a pre-screening interview in a virtual world. However, 61% of the respondents would not be comfortable with an interview conducted entirely through instant messaging. This shows that instant messaging is not the best choice for companies to conduct a virtual interview, so an alternate way should be found. Since Second Life has recently introduced voice communication, a possible option would be to use audio for the interview. However, this method would closely resemble phone screenings and the benefits of the virtual world such as avatar interaction would be diminished.

Figure 30 – Respondents' level of comfort with virtual interviews



11 Conclusions and Recommendations

Looking at the results and data analysis section, we can conclude that Second Life has potential for growth in the area of job recruiting. However, in order for the potential to be realized, job-seekers who are not actively using a virtual world must be made aware of the connection Second Life creates between employers and potential new hires.

User awareness is a crucial issue for companies present in Second Life. If their recruiting events are to be successful, companies must ensure that their efforts receive more exposure to both members and non-members of Second Life. As a recommendation, companies with a presence in Second Life should consider redirecting applicants on their website to the virtual world. Here, applicants could receive additional information about the company, participate in interactive activities, talk to current employees and potentially go through a preliminary round of interviews. Additionally, Linden Labs has an interest to increase the exposure of job recruiting in their virtual world as well, since the survey results indicate a majority of non-members would be willing to join Second Life and make it an integral part of their job search process. This could create a surge in the membership rate of Second Life.

When compared to other job searching tools, Second Life is not considered a viable job search technique by itself. Most of the people indicated that they would use it in addition to other methods, but very few would make it their primary job search tool. This result was expected, since job recruiting in Second Life is still in its infancy and therefore it would not be wise for any job seeker to rely solely on it for finding a job. However, Second Life was ranked last by the survey participants when compared to other job search methods, such as real-life job fairs and college career centers. A reason for this low rating might be the fact that individuals believe that the effort required to register for a Second Life account and design an avatar is time consuming and thus other job search methods are perceived as more efficient.

Currently, individuals do not do not believe that there is much difference between Second Life and Internet job boards. However, as the previous analysis has shown, they consider that Internet job boards are quicker and easier to use, therefore job boards are

still the preferred choice of searching for a job on the Internet. However, raising awareness about Second Life's advantages can potentially make it the premier Internet job search tool in the future.

An interesting finding is the difference in user acceptance of Second Life as a job search tool between individuals familiar with the virtual world and the ones less familiar with it. The survey results showed that individuals who are not familiar with Second Life are much more willing to include the virtual world environment in their job search process. However, the persons familiar with Second Life are less inclined to participate in a virtual recruiting event in the future or include the virtual world in their search. This result can be explained by the fact that users who are familiar with Second Life consider the virtual world a relaxed environment where they can socialize with their friends, attend parties and date. This is the reason for their skepticism about its potential as a job search tool. Therefore, the challenge for companies present in Second Life and for Linden Labs is to not only raise the awareness of non-members about their recruiting efforts, but also to convince users that Second Life is indeed a good and efficient environment for job searching.

The survey responses show that companies should try to design and implement a virtual replica of their real-life offices or stores in Second Life. This is because more than two thirds of the respondents indicated they would consider visiting the headquarters of company if it recreated their real-life headquarters. Also, companies should concentrate on improving the quality of their recruiting events by having interactive events that bring people together and allow them to network, since the survey responses indicate that the quality of events and the number of people attending are considered the most important factors by individuals in their decision to attend. Lastly, the companies should adapt their recruiting efforts in order to match the users' desire to find out information about the about the company, current projects or employee life quality. The events should be interactive and informational to the participants.

The survey shows that individuals are not currently comfortable with an interview conducted entirely through instant messaging. Therefore, companies need to find an alternate medium to conduct interviews in Second Life. One possibility could be using

microphones and audio in order to verbally communicate with the job candidate. However, this method would take away from the benefits of having an interview in a virtual world, such as avatar interaction.

A limitation of the survey is the fact that it has a low response from rate actual Second Life users. Less than 10% of the respondents indicated that they have an avatar in Second Life. Additionally, the predominant age group of the survey participants is 18-28 year olds. By looking at our demographics information on age distribution in Second Life, we notice that this age group accounts for only around 20% of Second Life's population.. Therefore, the results of the survey might not be representative of the virtual world's entire population. Time constraints were another limitation of the survey because of the short project lifespan – this prevented us from gathering more responses from a more diverse sample in terms of age group.

As a conclusion, Second Life's start as a job recruiting environment shows promise of further growth. However, companies cannot take potential job seekers for granted. They need to work on raising user awareness about their presence and recruiting efforts in Second Life, they have to adapt their recruiting events to fit the users' needs and wants and they need to find an efficient virtual interviewing technique which makes both parties comfortable and also enables a good evaluation of the qualifications of a candidate. This is the only way in which companies can increase their return on investment in their Second Life presence and ensure that a wide pool of job candidates is attracted to them in the virtual world.

12 APPENDIX 1 – Glossary of Terms

- **Avatar** = a resident’s graphical visual representation in Second Life.
- **Linden Dollars** = the virtual economic currency in Second Life
- **Linden Labs** = the creators of Second Life
- **MUVE** = Multi-User Virtual Environment. Includes virtual worlds, characterized by the fact that “there is no goal and little pre-defined structure provided by the creator of the game” (Cutter, 6)
- **ORPE** = Online-Playing Environment, which is “characterized by a preestablished buildout of the environment” (Cutter, 6).
- **Resident** = a user in Second Life
- **Second Life** = a privately-owned, partly subscription-based 3-D Virtual world, made publicly available in 2003 by San Francisco-based Linden Labs. The Second Life world resides in a large array of servers that are owned and maintained by Linden Labs. The Second Life client program provides its users tools to view and modify the SL world and participate in its economy.
- **Virtual World** = a computer-based simulated environment intended for its users to inhabit and interact via avatars.

13 APPENDIX 2 – Complete Survey Questions & Responses

1. What is your gender?		
Answer Options	Response Percent	Response Count
Male	64.9%	61
Female	35.1%	33
<i>answered question</i>		94
<i>skipped question</i>		0

2. What age bracket are you in?		
Answer Options	Response Percent	Response Count
13-17	2.1%	2
18-28	90.4%	85
29-40	2.1%	2
41-50	4.3%	4
51-61	0.0%	0
62 or older	1.1%	1
<i>answered question</i>		94
<i>skipped question</i>		0

Answer Options	1 (Not Familiar)	2	3	4	5 (Very Familiar)
3. How familiar are you with Second Life?	41	22	14	4	3

4. Do you have an avatar in Second Life?		
Answer Options	Response Percent	Response Count
Yes	7.4%	7
No	92.6%	87
<i>answered question</i>		94
<i>skipped question</i>		

5. If you have an avatar in Second Life, what type of account do you possess?		
Answer Options	Response Percent	Response Count
Free	100.0%	8
Premium	0.0%	0
<i>answered question</i>		8
<i>skipped question</i>		86

6. If you have an avatar in Second Life, how long have you had your account for?		
Answer Options	Response Percent	Response Count
Less than 1 month	0.0%	0
1-2 months	14.3%	1
3-6 months	28.6%	2
7-12 months	28.6%	2
More than 1 year	28.6%	2
<i>answered question</i>		7
<i>skipped question</i>		87

7. If you have an avatar in Second Life, when is the last time you logged into Second Life?		
Answer Options	Response Percent	Response Count
Today	0.0%	0
Yesterday	14.3%	1
Two days ago	14.3%	1
Last week	42.9%	3
Last month	0.0%	0
Don't know	28.6%	2
Other (please specify)	0.0%	0
<i>answered question</i>		7
<i>skipped question</i>		87

8. If you have an avatar in Second Life, how much time do you approximately spend in Second Life per week?		
Answer Options	Response Percent	Response Count
Less than 1 hour	28.6%	2
1-6 hours	42.9%	3
7-12 hours	28.6%	2
13-24 hours	0.0%	0
More than 24 hours	0.0%	0
<i>answered question</i>		7
<i>skipped question</i>		87

9. If you have an avatar in Second Life, where do you typically access Second Life? (pick all answers that apply)		
Answer Options	Response Percent	Response Count
At home	100.0%	7
During work	0.0%	0
At an internet cafe	0.0%	0
At school	14.3%	1
Other (please specify)	0.0%	0
<i>answered question</i>		7
<i>skipped question</i>		87

10. If you have an avatar in Second Life, have you spent any money (Linden Dollars) in Second Life for personal use?		
Answer Options	Response Percent	Response Count
Yes, I've spent \$0 - \$10	28.6%	2
Yes, I've spent \$10 - \$50	14.3%	1
Yes, I've spent \$50 - \$100	0.0%	0
Yes, I've spent over \$100	0.0%	0
No, I haven't spent any	57.1%	4
<i>answered question</i>		7
<i>skipped question</i>		87

11. If you have an avatar in Second Life, have you spent any money (Linden Dollars) in Second Life on behalf of a business?		
Answer Options	Response Percent	Response Count
Yes, I've spent \$0 - \$10	0.0%	0
Yes, I've spent \$10 - \$50	0.0%	0
Yes, I've spent \$50 - \$100	0.0%	0
Yes, I've spent over \$100	0.0%	0
No, I haven't spent any	100.0%	7
<i>answered question</i>		7
<i>skipped question</i>		87

12. If you have an avatar in Second Life, have you earned any money (Linden Dollars) in Second Life for a personal business (one you own)?		
Answer Options	Response Percent	Response Count
Yes, I've earned \$0 - \$10	0.0%	0
Yes, I've earned \$10 - \$50	0.0%	0
Yes, I've earned \$50 - \$100	0.0%	0
Yes, I've earned over \$100	0.0%	0
No, I haven't earned any	100.0%	7
<i>answered question</i>		7
<i>skipped question</i>		87

13. If you have an avatar in Second Life, have you earned any money (Linden Dollars) in Second Life as an employee of a company (other than one you own)?		
Answer Options	Response Percent	Response Count
Yes, I've earned \$0 - \$10	0.0%	0
Yes, I've earned \$10 - \$50	0.0%	0
Yes, I've earned \$50 - \$100	0.0%	0
Yes, I've earned over \$100	14.3%	1
No, I haven't earned any	85.7%	6
<i>answered question</i>		7
<i>skipped question</i>		87

14. If you have an avatar in Second Life, why do you spend time in Second Life? (pick all answers that apply)		
Answer Options	Response Percent	Response Count
To escape real life which I am not satisfied with	0.0%	0
To be someone else and create my own cool avatar	33.3%	2
Because it is a creative outlet for me	0.0%	0
To play and interact with other online community members	16.7%	1
To enable me to fulfill the fantasies I can't fulfill in real life	16.7%	1
To buy virtual estate/property	0.0%	0
To buy/evaluate products that help me in my real life	0.0%	0
To get freebees	0.0%	0
To make new friends at home and all over the world	0.0%	0
To search for information that helps me in my real life	16.7%	1
To date	50.0%	3
To find support groups	0.0%	0
To find a job	0.0%	0
To participate in recruitment events	0.0%	0
To make money	0.0%	0
It's part of my job	0.0%	0
Don't know	16.7%	1
Other (please specify)	33.3%	2
<i>answered question</i>		6
<i>skipped question</i>		88
Number	Other (please specify)	
1	I'm a furry :3 YIFF YIFF	
2	To see what all of the hype around it is about	

15. If you have an avatar in Second Life, do you have a different level of morals in Second Life compared to real life?		
Answer Options	Response Percent	Response Count
Yes, definitely	71.4%	5
About the same	0.0%	0
No	28.6%	2
Don't know	0.0%	0
<i>answered question</i>		7
<i>skipped question</i>		87

16. If you have an avatar in Second Life, what do you present differently about yourself? (pick all answers that apply)		
Answer Options	Response Percent	Response Count
Different gender	14.3%	1
Different skin color	0.0%	0
Different age – younger	0.0%	0
Different age – older	14.3%	1
Different nationality	28.6%	2
Better looking body image and physical appearance (slimmer, taller, etc.)	71.4%	5
Different political orientation	0.0%	0
Don't know	28.6%	2
Other (please specify)	14.3%	1
<i>answered question</i>		7
<i>skipped question</i>		87
Number	Other (please specify)	
1	Different species	

17. If you have an avatar in Second Life, did you ever cancel a Second Life account because it didn't live up to the hype?		
Answer Options	Response Percent	Response Count
Yes	0.0%	0
No	100.0%	7
Don't know	0.0%	0
<i>answered question</i>		7
<i>skipped question</i>		87

18. Are you currently working in Second Life as part of a work assignment?		
Answer Options	Response Percent	Response Count
Yes	0.0%	0
No	100.0%	12
<i>answered question</i>		12
<i>skipped question</i>		82

19. If you have worked or are working in Second Life, what is the nature of your work and how many hours do you spend in Second Life a day?	
Answer Options	Response Count
	0
<i>answered question</i>	0
<i>skipped question</i>	94

20. Are you a member of any other virtual world?		
Answer Options	Response Percent	Response Count
Yes	8.5%	8
No, go to question 24	91.5%	86
<i>answered question</i>		94
<i>skipped question</i>		0

21. If yes, what other virtual worlds?	
Answer Options	Response Count
	6
<i>answered question</i>	6
<i>skipped question</i>	88
Number	Response Text
1	facebooko
2	facebook
3	Final Fantansy XI
4	Flyff
5	Yahoo
6	World of Warcraft

22. If you are a member of another virtual world, how long have you had a presence in any of the other virtual worlds?		
Answer Options	Response Percent	Response Count
Less than 1 month	0.0%	0
1-2 months	0.0%	0
3-6 months	0.0%	0
7-12 months	0.0%	0
More than 1 year	100.0%	6
<i>answered question</i>		6
<i>skipped question</i>		88

23. If you are a member of another virtual world, how much time do you approximately spend in other virtual worlds weekly?		
Answer Options	Response Percent	Response Count
Less than 1 hour	33.3%	2
1-6 hours	16.7%	1
6-12 hours	0.0%	0
12- 24 hours	16.7%	1
More than 24 hours	33.3%	2
<i>answered question</i>		6
<i>skipped question</i>		88

24. Are you aware that a significant number of companies have a presence in Second Life?		
Answer Options	Response Percent	Response Count
Yes	34.9%	29
No	65.1%	54
<i>answered question</i>		83
<i>skipped question</i>		11

25. Are you aware that large companies (such as Intel, IBM or EMC) are using Second Life as a recruiting tool for potential employees?		
Answer Options	Response Percent	Response Count
Yes	27.4%	20
No	72.6%	53
<i>answered question</i>		73
<i>skipped question</i>		21

26. Are you currently looking for a job or would you be interested in switching a job should the right opportunity arise?		
Answer Options	Response Percent	Response Count
Yes	65.1%	54
No	34.9%	29
<i>answered question</i>		83
<i>skipped question</i>		11

27. Please rank each of the following job search methods in terms of your perceived effectiveness:								
Answer Options	1 (Not Effective)	2	3	4	5	6	7 (Very Effective)	Rating Average
Job Fairs	9	6	9	14	15	18	11	4.44
Direct Employer Contact through their website	7	10	10	6	15	14	21	4.66
Private Employment Offices	9	9	14	23	7	12	7	3.91
Internet job boards	10	10	23	19	12	4	4	3.5
College Career Centers	8	5	12	18	25	11	4	4.16
Classified ads in newspapers or journals	16	16	17	13	8	6	5	3.23
Second Life Recruiting	25	14	12	14	3	1	6	2.77

28. Select the Internet job boards have you used for job hunting:		
Answer Options	Response Percent	Response Count
Monster.com	47.0%	39
CareerBuilder.com	27.7%	23
Yahoo HotJobs	13.3%	11
Dice.com	6.0%	5
AskTheHeadHunter.com	1.2%	1
None	38.6%	32
Other (please specify)	13.3%	11
<i>answered question</i>		83
<i>skipped question</i>		11
Number	Other (please specify)	
1	None	
2	None	
3	WPI Career Development	
4	No	
5	NO	
6	A biotech specific job website	
7	Stop the fersecution	
8	WPI Career Development	
9	Career Development Center	
10	Employer's websites	
11	Indeed.Com	

29. Would you participate in a future recruiting event organized by companies in Second Life?		
Answer Options	Response Percent	Response Count
Yes	54.2%	45
No	45.8%	38
<i>answered question</i>		83
<i>skipped question</i>		11

30. Which of the following would be a sufficient incentive for you to participate in a recruiting event? (pick all answers that apply)		
Answer Options	Response Percent	Response Count
Monetary Reward	50.6%	42
Interactive Company Presentation	34.9%	29
Real-Life Headquarters Model	20.5%	17
Virtual Promotional Give-Away Items	21.7%	18
Meet current employees	51.8%	43
Hear about current projects	41.0%	34
No incentive, job prospect would be enough	27.7%	23
Other (please specify)	2.4%	2
<i>answered question</i>		83
<i>skipped question</i>		11

31. If a company recreated their headquarters in Second Life, would you consider visiting them in Second Life to get a feel for what the workplace looks like?		
Answer Options	Response Percent	Response Count
Yes	71.1%	59
No	28.9%	24
<i>answered question</i>		83
<i>skipped question</i>		11

32. If you are not a current member of Second Life, would you consider joining Second Life as part of your job search process?		
Answer Options	Response Percent	Response Count
Yes	62.0%	49
No	38.0%	30
<i>answered question</i>		79
<i>skipped question</i>		15

33. If you were looking for a job, which statement would adequately describe your stance:		
Answer Options	Response Percent	Response Count
I would make Second Life my primary job-search tool	4.8%	4
I would use Second Life as an addition to other job searching tools, such as career fairs or job posting boards	38.6%	32
I would use Second Life sparingly in my job search process	24.1%	20
I would not view Second Life as a job searching tool	32.5%	27
<i>answered question</i>		83
<i>skipped question</i>		11

34. If you were looking for a job, would you participate in a pre-screening interview in a virtual world, such as Second Life?		
Answer Options	Response Percent	Response Count
Yes	59.0%	49
No	41.0%	34
<i>answered question</i>		83
<i>skipped question</i>		11

35. If you were attending a recruiting event in Second Life, would you make changes to your avatar to look more professional for the event?		
Answer Options	Response Percent	Response Count
Yes	83.1%	69
No	16.9%	14
<i>answered question</i>		83
<i>skipped question</i>		11

36. What do you consider to be the most important component of the presence of a company in Second Life?		
Answer Options	Response Percent	Response Count
Size of island	10.8%	9
Incentives offered	18.1%	15
Frequency of events	7.2%	6
Quality of events	39.8%	33
Number of people attending their events	24.1%	20
<i>answered question</i>		83
<i>skipped question</i>		11

37. Are you aware that there are real recruiting agencies holding job fairs and interviews for various companies in Second Life?		
Answer Options	Response Percent	Response Count
Yes	16.9%	14
No	83.1%	69
<i>answered question</i>		83
<i>skipped question</i>		11

38. Have you ever attended a job fair in Second Life?		
Answer Options	Response Percent	Response Count
Yes	6.9%	5
No	93.1%	67
<i>answered question</i>		72
<i>skipped question</i>		22

39. If you have attended a job fair in Second Life, what did you like or dislike most about it?	
Answer Options	Response Count
	3
<i>answered question</i>	3
<i>skipped question</i>	91
Number	Response Text
1	Not enough furr
2	The lack of reality in the prospective employer and me interaction
3	Many People, Client was Slow

40. Would you be comfortable with an interview conducted entirely through instant messaging?		
Answer Options	Response Percent	Response Count
Yes	38.6%	32
No	61.4%	51
<i>answered question</i>		83
<i>skipped question</i>		11

41. Which of the following statement best describes your stance on interviews:		
Answer Options	Response Percent	Response Count
I prefer face-to-face interviews	81.9%	68
I prefer phone interviews	3.6%	3
I prefer instant messaging interviews	8.4%	7
I have no preference	6.0%	5
<i>answered question</i>		83
<i>skipped question</i>		11

42. Which of the following statement best describes your stance on job fairs:		
Answer Options	Response Percent	Response Count
I believe that real-life job fairs allow job candidates to present their skills better than a virtual career fair would	81.9%	68
I believe that virtual job fairs are better for a candidate since it eliminates any potential inhibitions that might occur in real-life career fairs	7.2%	6
I believe there is no significant differences between virtual and real-world job fairs from the candidate's point of view	10.8%	9
<i>answered question</i>		83
<i>skipped question</i>		11

43. Did you visit the site of any company present in Second Life so far?		
Answer Options	Response Percent	Response Count
Yes	22.2%	6
No	77.8%	21
<i>answered question</i>		27
<i>skipped question</i>		67

44. Did you participate in any recruiting events organized by companies in Second Life?		
Answer Options	Response Percent	Response Count
Yes	14.8%	4
No	85.2%	23
<i>answered question</i>		27
<i>skipped question</i>		67

45. What is your perception about Second Life as a job search tool as compared to an Internet job board, (such as Monster.com or CareerBuilder.com)?		
Answer Options	Response Percent	Response Count
Much better	11.8%	4
Marginally better	23.5%	8
Same	29.4%	10
Much worse	20.6%	7
Marginally worse	14.7%	5
<i>answered question</i>		34
<i>skipped question</i>		60

46. Please respond to the following questions on a 1 (Strongly Disagree) to 7 (Strongly Agree) scale. If you are not a member of Second Life, skip this part and go to the next page.

Answer Options	1	2	3	4	5	6	7
Time appears to go by very quickly when I am in Second Life.	1	0	1	5	1	1	0
Sometimes I lose track of time when I am in Second Life.	0	2	1	4	1	1	0
Time flies when I am in Second Life.	1	1	1	4	1	0	0
Most times when I am in Second Life, I end up spending more time than I had planned.	0	1	1	3	2	0	2
I often spend more time in Second Life than I had intended.	0	0	1	3	4	1	1
While in Second Life, I am able to block out most other distractions.	0	0	2	4	2	2	0
While in Second Life, I am absorbed in what I am doing.	0	1	1	5	1	0	1
While in Second Life, I am immersed in the task I am performing.	0	1	2	3	2	1	0
When in Second Life, I get distracted by other attentions very easily.	0	0	4	2	2	0	1
While in Second Life, my attention does not get diverted very easily.	0	0	2	2	4	2	0
I have fun interacting with Second Life.	0	1	0	4	4	1	0
Using Second Life provides me with a lot of enjoyment.	1	1	0	4	2	2	0
I enjoy using Second Life.	1	1	1	4	1	2	0
Using Second Life bores me.	2	3	1	1	2	0	0
When in Second Life I feel in control.	1	2	0	3	2	0	2
I feel that I have no control over my interaction in Second Life.	1	2	1	3	1	2	0
Second Life allows me to control my computer interactions.	0	1	2	5	2	0	0
Using Second Life excites my curiosity.	1	2	0	3	2	1	1
Interacting in Second Life makes me curious.	1	0	0	5	2	2	0
Being in Second Life arouses my imagination.	0	0	2	3	1	1	2
Being in Second Life enables me to project myself into a particular role.	0	1	0	2	0	4	1
Being in Second Life enables me to project myself into a particular character.	1	0	1	1	3	2	0
Being in Second Life enables me to project myself into a particular task.	0	1	2	4	0	0	2
Being in Second Life enables me escape from the world of reality.	1	0	1	2	3	2	0
Being in Second Life enables me escape from problems and pressures.	2	0	1	2	3	0	0

Being in Second Life enables me escape from things unpleasant and worrisome.	1	2	0	3	2	1	0
When I am in Second Life, I feel "carried away" by the virtual world.	0	0	2	4	2	0	0
When I am in Second Life, I feel as if I am part of the Second Life world.	0	2	2	4	1	0	1
When I am in Second Life, I feel deeply about it.	2	0	1	4	1	2	0
Being in Second Life makes me stimulated.	0	2	1	2	3	2	0
Being in Second Life makes me excited.	0	1	3	3	3	0	0
Being in Second Life makes me inspired.	1	0	2	4	2	0	0
Assuming I had access to Second Life, I intended to go there.	1	0	3	3	2	0	0
Given that I had access to Second Life, I predict that I would go there.	1	0	2	4	3	1	0
I will go to Second Life frequently in the future.	1	0	2	3	3	0	2
My parents had it decided a long time ago what I should go into and I'm following their plans.	6	1	2	1	2	1	0
I haven't chosen the occupation I really want to get into, and I'm just working at whatever is available until something better comes along.	3	2	2	1	3	1	2
I'm still trying to decide how capable I am as a person and what work will be right for me.	2	1	4	3	3	2	0
I might have thought about a lot of different jobs, but there's never really been any question since my parents said what they wanted of me.	7	1	1	3	3	0	0
I'm not really interested in finding the right job, any job will do. I just seem to follow with what is available.	4	1	0	5	3	2	0
It took me a while to figure it out, but now I really know what I want for a career.	0	2	3	3	2	2	3
It took me a long time to decide but now I know for sure what direction to move in for a career.	0	2	2	5	2	1	3
I just can't decide what to do for an occupation. There are so many possibilities.	6	3	1	1	2	1	2

14 Bibliography

- Abraham, Chon; Johnson, Norman; Mac Loughlin, Paul; Steel, Douglas; Junglas, Iris. *Identity Formation, Learning Styles and Trust in Virtual Worlds*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- Benner, Katie. *I Got My Job Through Second Life*. Fortune Magazine, 01/23/2007. <
http://money.cnn.com/2007/01/22/magazines/fortune/secondlife_recruit.fortune/>
- Brandt, Michelle. *Video Games Activate Reward Regions of Brain in Men More Than Women, Stanford Study Finds*. Stanford School of Medicine Press Release, 02/04/2008.
<http://med.stanford.edu/news_releases/2008/february/videobrain.html>
- Brace, Ian. (2004), *Questionnaire Design: How to Plan, Structure and Write Survey Material for Effective Market Research*, 1st edition, Sterling, VA: Kogan Page Limited.
- Cajvaneanu, Doina. *Virtual Worlds: A Political Incubator*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- Carey, John. *Expressive Communication and Social Conventions in Virtual Worlds*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- Carroll, Elisabeth; Jestice, Rebecca; Kahai, Surinder. *Team Collaboration in Virtual Worlds*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- Cutter Consortium. *Multi-User Virtual Environments Survey Data*. Cutter Benchmark Review, Vol. 7, No.5, May 2007.
- Fletcher, Gordon; Greenhill, Anita; Campbell, John. *Sustainable Virtual World Ecosystems*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.

- Groves, Robert. (2004), *Survey Methodology*, 1st edition, Hoboken, NJ: Wiley InterScience.
- Hardin, Andrew; Scott, Christopher; Fuller, Mark. *Diffusion of Virtual Innovation*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- Hesse, Monica. An Unmanageable Circle of Friends: Social-Network Web Sites Inundate Us With Connections, and That Can Be Alienating. Washington Post, Page M10, 08/26/2007.
- Ives Blake; Piccoli, Gabriele; Lui, Tsz-Wai. *Marketing Strategies in Virtual Worlds*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- Ives, Blake; Adams, Dennis. *Multi-User Virtual Environments: Vaulting from Virtual to Valuable*. Cutter Benchmark Review, Vol. 7, No.5, May 2007.
- Joined-up Thinking; Social Networking Websites*. The Economist (US), Vol. 383, Issue 8523, p63-63, 4/7/2007, <<http://find.galegroup.com/itx/start.do?prodId=ITOF>>.
- Konsynski, Benn; Bray, David. Virtual Worlds: *Multi-Disciplinary Research Opportunities*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- Lang, Karl; Arakji, Reina. *The Virtual Cathedral and the Virtual Bazaar*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- Mousavidin, Elham; Lakshmi, Goel. *vCRM – Virtual Customer Relationship Management*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- Noam, Eli. *The Dismal Economics of Virtual Worlds*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- O’Driscoll, Tony. *Get a MUVE On: Applying 3D Internet Technology for Business Benefit*. Cutter Benchmark Review, Vol. 7, No.5, May 2007.

- Piccoli, Gabriele. *The Coming 3D Internet: Time to Experiment, but Early to Commit*. Cutter Benchmark Review, Vol. 7, No.5, May 2007.
- Punch, Keith. (2003), *Survey Research – The Basics*, 1st edition, London: SAGE Publications.
- Steel, Douglas; Junglas, Iris. *The Virtual Sandbox*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.
- Social Network*. Wikipedia. 28 Jan, 2008, <http://en.wikipedia.org/wiki/Social_network>.
- Social Network Service*. Wikipedia. 28 Jan, 2008, <http://en.wikipedia.org/wiki/Social_network_service>
- Sue, Valerie. (2007), *Conducting Online Surveys*, 1st edition, Thousand Oaks, CA: SAGE Publications.
- Wu, Jiming; Holsapple, Clyde. *User Acceptance of Virtual Worlds: The Hedonic Framework*. Database for Advances in Information Systems, Vol. 38, Issue 4, November 2007.