The Quarantined PAX East Booth of 2020

An Interactive Qualifying Project

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Abstract

The objective of this IQP was to represent and promote WPI's Interactive Media and Game Development program at multiple game conventions, as well as assist the IMGD program with local showcases. This marks the first year the PAX IQP moved from managing the PAX and BFIG booths to also assisting with Alphafest and Showfest. Our goals to promote WPI IMGD and student talent were an overall success.

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Executive Summary

We attended two conventions this year - Boston Festival of Indie Games (BFIG) in September 2019 and the Penny Arcade Expo East (PAX) in February 2020 - as well as assisted in the WPI event Alphafest in November 2019. BFIG is a smaller game convention hosted in the Boston Area which focuses on promoting smaller game developers, both digital and tabletop, and was an excellent practice run for PAX. PAX East is one of the largest gaming conventions on the East Coast, and is held annually in Boston, Massachusetts. It is attended by people of all ages, and includes exhibitors ranging from AAA studios to local independent game developers to game-related merchandise salespeople to universities. WPI has been one among these universities since 2013 promoting the Interactive Media and Development program as well as its talented students in addition to attracting prospective students, collaborators/investors, and even visiting alumni. This year's team worked in close collaboration with the WPI Marketing department to ensure a successful and professional booth, as well as to effectively advertise the WPI IMGD department and brand. The IQP team assisted with the manual labor of setting up Alphafest, and planned to do the same for Showfest in the spring - however that was cancelled due to the COVID-19 pandemic. This year marks the first time the PAX IQP team has expanded from presenting at gaming conventions to helping at WPI-centric events as well.

Acknowledgments

Thanks to Professor Dean O'Donnell and Kate Olguin, our wonderful advisors for this project - we literally would have gotten nothing done if it wasn't for you two.

Another huge thanks to all of our game developers/volunteers, who not only brought excellent games to show off our IMGD students but also brought incredible spirit and enthusiasm for the PAX booth and promoting WPI.

A thanks to our lovely booth enforcer Armando, who was there whenever we needed him through thick and thin - and if he wasn't with us, he was always just a text away.

Thanks to the IMGD Lab admin Varun Bhat, whose quick and cheerful cooperation in providing us with any and all tech equipment we needed allowed for a successful BFIG and PAX.

And finally, a huge thanks to Allison Darling, Ashley Dill, and Dianne Vanacore from the WPI Marketing department - without the help of these awesome women we would have floundered at every turn of organizing the PAX booth, and we're super grateful and lucky we got to work with them.

Introduction

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1. About WPI IMGD

WPI's IMGD (Interactive Media and Game Development) program has been expanded so much since its founding in 2005. When the program was introduced, students could pursue a Bachelor of Science degree that focused on the programming side of game development. Since then, the program has expanded to include a Bachelor of Arts program with multiple concentrations that allow students to focus on Visual Art, Technical Art, Design, or Writing. The IMGD department is always growing, and further evolving to allow students to follow their own path into a career in games.

2. About PAX East

The Penny Arcade Expo was created in 2004 by the writers of the Penny Arcade webcomic. It was first held in Seattle, Washington, but over time it has expanded to include four separate shows within the US, and another in Melbourne Australia. PAX East is held in Boston in the early Spring. It yields a larger attendance every year. PAX hosts speakers and panels about all things related to video games and the games industry. It also hosts an exposition hall with hundreds of booths every year with exhibitors ranging from indie game studios and industry giants, to retailers selling dice, keyboards, and anything else that gamers might want.

3. Challenges of an Early PAX

PAX East is usually held in either late March or early April. This year, PAX was held in late February. This meant that the entire process of preparing and designing a PAX booth had to happen faster this year. Materials had to be gathered earlier, games had to be reviewed earlier, and volunteers needed to be found and trained earlier.

Since our team had never managed a PAX booth before, we weren't bothered by this timing difference. It affected the pace of the IQP somewhat, and it also affected volunteers who had gone to PAX before. Some volunteers were surprised by the early PAX, and thus the early game submission deadline, and this might have influenced the games that were submitted and chosen.

4. Challenges of early Coronavirus outbreak

COVID-19 is a respiratory disease caused by the novel coronavirus outbreak, which emerged in China in late 2019. Due to its highly contagious nature, it didn't take long for coronavirus to begin infecting other countries as well. The first case of coronavirus in the US was confirmed on January 21, a bit over a month before PAX was set to happen. As February began, new cases were discovered in different parts of the United States every day.

On February 19th, Sony announced that they would withdraw from PAX due to the outbreak. Following this announcement, some other game developers announced that they too wouldn't be attending PAX this year. Despite these fears, many exhibitors continued as planned and attended PAX, albeit with more hand sanitizer than years previous. PAX announced enhanced health procedures to be followed this year including more frequent cleaning of facilities.

This outbreak presented challenges in gathering volunteers for the event, as many people were faced with deciding whether or not to attend given the outbreak. It also meant that students had to be more vigilant about cleaning keyboards, mice, VR headsets, and other equipment that the PAX masses would be touching.

Literature Review

We read the papers previous IQP teams wrote, drawing on their experience and advice to inform our own preparations and expectations for PAX. We also used their papers to help us write our own—primarily in terms of structure and topic.

1. PAX IQP 2017

We were immediately struck by how long the 2017 paper was—122 pages, to be exact—and were impressed by the level of detail and depth provided. They recorded every step with care, often with photographs or rendered images to further illustrate their point or help the reader visualize their actions. This was especially useful when it came time for us to design our own booth layout; their pictures of the booth, both theoretical and actual, made it easier for us to conceptualize the space at PAX.

The 2017 team made special note of their relationship with the Marketing department, which the PAX IQP is still benefiting from, years later; Marketing helped them create the booth backdrop, and also saved them money that would have otherwise gone to fruitless advertising. This positive history with Marketing made our job easier when it came time to request promotional materials and assistance, and we hope we have kept 2017's legacy—and the PAX IQP's good standing—intact. We did *not*, however, continue the tradition of maintaining a Twitter presence—a practice originating in 2016—nor did we run a trivia-based giveaway, as it seemed WPI-based quiz questions were less compelling to people unfamiliar with the school.

Fig. 1
2017's final booth layout

2. PAX IQP 2018

The 2018 team continued the previous year's practice of keeping in contact with both Marketing and IT—though they advised future groups to begin communications with Marketing early on, as there seemed to be a fair amount of confusion regarding funding and acquisition.

In addition to showcasing a healthy variety of games at PAX, the 2018 team also organized an art demonstration, inspiring us to consider a similar display. Both the 2017 and 2018 teams explained how their approach to the PAX booth differed from the 2016 IQP; rather than promote the general WPI brand, as Marketing preferred, both teams were more inclined to advertise the IMGD major specifically. And like 2017, the 2018 group used the IMGD Twitter account to post trivia questions, but found that PAX-goers were either not interested or incentivized enough—or both—to answer and retrieve a prize.

While the 2018 booth seemed to run well overall, they did mention a significant misstep in their budgeting process; they used the budget to cover their hotel expenses, but wound up having to pay for other costs—such as shipping and exhibitor services—out of pocket. They advised that future groups avoid using the budget to such ends.

Fig. 2
2018's final booth layout

3. PAX IQP 2019

Of all the papers from previous years, we found ourselves referring to 2019's the most—primarily because it was the most recent, and thus would feature updated information, but also because the insights it provided were well-organized and immensely valuable to our booth. We benefited greatly from the design principles they outlined for their booth layout, utilizing the most successful elements of their booth to create our own. Their various iterations of button and T-shirt designs were similarly helpful, as they

reminded us of how horribly demonic our goat mascot can appear. We were impressed by the section in which they recounted interviews with independent developers—and while we did not formally organize or plan for such things, we were inspired by 2019's example to write about notable interactions *we* had while on the PAX floor. Overall, the 2019 paper was an invaluable resource—especially since we could direct any questions about the paper to one of its contributors, Kate Olguin, who also served as the IQP SA.

Fig. 3
2019's final booth layout

Prep-Time

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1. Help From The Elders

We never would have even known where to start—much less what to do—had we not had the help of several important individuals. These people provided much-needed guidance and structure to the IQP, or else helped us acquire the information and resources we needed in order to successfully prepare for PAX East 2020.

Professor Dean O'Donnell was the advisor for our IQP. He has been the Supreme Leader of overseeing the PAX IQP since 2015, and has had much experience with both the project and PAX itself. We first began meeting with him in A-Term, before the IQP officially started, and he helped us prepare for the Boston Festival of Indie Games (BFIG), a precursor to—and sort of test run for—PAX. Throughout the rest of the year, we met with him every week to discuss the next steps in our preparation process and plan our assignments, ensuring that we were always productive and steadily progressing towards our next goal or milestone. He detailed what to expect from PAX and the booth, and recounted what past groups had done in similar situations—either as cautionary tales or helpful suggestions. Though we heeded his valuable advice, he allowed us a certain degree of autonomy, encouraging us to make our own choices and find our own solutions. This taught us important problem-solving and decision-making skills, while still providing us with the comfort of a safety net; he was always available to answer questions and provide help as needed. His support continued even throughout PAX itself. On set-up day, he was available to bring or buy equipment or items we had forgotten, and he was a boisterous—and bolstering—presence in the booth during the public event.

In addition to Professor O'Donnell, our IQP also received support from his student assistant. This differed from previous years, as they didn't have previous IQP members on the team. Kate Olguin, class of '20, had been on the PAX 2019 IQP team, and joined us for our weekly meetings to impart her own kernels of wisdom. Having actually worked in the booth and experienced BFIG and PAX firsthand, she was able to provide invaluable insight throughout the entire year, shaping our expectations and preparations. She always seemed to know the answers to our questions—and if she didn't have the answer, she usually knew someone who did. She, too, was available during PAX itself, both as a volunteer and advisor.

Though not a part of the IQP, Ashley Dill and Allison Darling were immeasurably helpful to the success of our booth. Ashley was the administrative assistant to Professor deWinter for the beginning of the year while Allison was off on maternity. During her time here, she handled many administrative tasks to prepare us for BFIG—getting passes, booking the booth, etc. When Allison returned, she took over and handled many of the tasks to prepare us for PAX—such as securing exhibitor passes and booth space for the project, communicating important information to our team, and coordinating the acquisition of any additional equipment or resources. Both Ms. Darling and Ms. Dill provided invaluable support that our team would have struggled without.

We were grateful for Professor Farley Chery and Ralph Sutter's help during PAX itself; both agreed to volunteer at the booth, and proved to be indispensable members of our showcase. They encouraged passersby to play our games, answered any questions about WPI and the IMGD questions, and in general lent an air of legitimacy to the whole operation. Professor Farley Chery was also responsible for organizing the WPI booth at Made in Mass, a PAX afterparty that celebrates local games and studios as well as advertises them to other industry professionals, during which he was able to present student-made games that were not shown at PAX itself.

2. Boston Festival of Indie Games

The Boston Festival of Indie Games (BFIG) is a showcase that happens yearly in early September. We used this event to practice for PAX. BFIG is a smaller event, both in attendees and in venue, so it is a great event to practice booth setup and management at. BFIG is early in the IQP so we had to move fast, and our first step was finding the games that we would show. We chose *Chroma Dash*, a platformer where you can shoot platforms with different colors for different effects, and *Friend Sighting*, a physics-based item collection game which we also took to PAX. This year's game pool was smaller than normal, but these two games were still quite good.

Fig. 4
Chroma Dash

Fig. 5
Friend Sighting

The BFIG booth was much simpler than our PAX one, both in set up and design. We brought pamphlets that we received from marketing to advertise the IMGD program, and set up the two computers with the games that we were showing along with what was needed to play them to complete the booth.

Our team benefitted from getting a chance to run a booth before PAX. We were all inexperienced with booth etiquette and we practiced that skill at BFIG. Our team also learned that one of the PAX IQP members should be at the booth at all times to make sure that things are going smoothly. Generally, BFIG is a great event to test booth planning and running skills at.

Fig. 6
The BFIG booth layout. From left to right: Davina Dawson (IQP), Diana Kumykova (IQP), Issa Shulman (IQP), Charlie Baldwin (Penumbra), Charlie Kittler (Penumbra), Mari Endo (Sunburst), Kaamil Lokhwandala (Penumbra), Matt Johannesen (Penumbra)

3. Alphafest

This year our team helped to set up for both Alphafest, the IMGD department's student showcase. While the setup required was minimal, it gave our team a bit of preliminary experience with designing with regards to area and placing games according to their needs. An arguably better side effect of helping with Alphafest is that it allowed us a chance to see a lot of games that were being developed, meaning that when the time came to get games for PAX we could reach out to teams and games we thought had a lot of potential.

Fig. 7
The crowds at Alphafest

4. Accommodations

There were some unforeseen challenges that came with preparing for PAX. The first was with regards to the hotel. We originally had tried booking an AirBnB on the advice of last year's team. Due to

a misstep and late booking, we were unable to find one that could accommodate us, so we had to find a hotel instead. The only one available was the Fairmont Copley Plaza, costing us $858.19 for a stay of four nights. We also were not aware of parking and had to put the car in a parking garage over the course of the event, costing us another $100.

Transportation is a key factor in planning that should not be overlooked. Using our vehicle to transport everything, we believed we had enough space. When we loaded it up, however, we were not able to fit any team members in the back, forcing two of us to take an alternate method of transportation to get to the convention center.

Transport to and from the hotel to the convention center is another part of planning we overlooked at the beginning. We did not make plans the night before the first day of PAX, and as a result had to walk through the rain for most of the journey to the convention center. We advise you to look at the MBTA routes and find the closest one to your hotel that will get you closest to the convention center. A fun tip that we learned to save time and money is that if you take the commuter rail and sit in the top area, odds are you'll be able to get to the convention center before they come to take your ticket, meaning you can ride for free.

5. Marketing

One of the main reasons that WPI has a booth at PAX East is to promote the IMGD program, as well as WPI as a whole. As such, a good relationship with Marketing is important to have. We reached out to Marketing about acquiring the banner and some marketing materials early on, and they put us in touch with Dianne Vanacore, who was amazing to work with. Through her, we managed to get 200 brochures for the graduate student program, as well as the banner. There were no undergraduate brochures available, but we also picked up 200 brochures for the IMGD summer programs: Launch and Frontiers.

We did a test set-up for the banner a couple weeks before PAX, with Dianne leading us through the necessary steps to set it up. We did it in Riley Commons, but would suggest doing it in Alden Memorial or the Odeum if at all possible. We would also suggest everyone be at the test set-up and everyone participate in it, so that everyone knows how to do it.

While setting up, we noticed that several of the connectors were broken. Some were missing teeth, some were popped out of their holes, and some had their heads completely snapped off. We told Dianne, and she ordered some new connectors, which we took with us to PAX in an effort to replace them while setting up the booth. Unfortunately, we connectors were incredibly hard to remove, and seemed to require a special tool. We let Dianne know and would suggest that next year's team work with her to try and replace them if possible.

Marketing also has the stands for the two televisions kept in Dean's office. We did not realize this and did not set up a meeting with Dianne in order to test setting those up as well. We highly recommend you do so as soon as possible, preferably when you do the banner set-up, as those two are connected. We did not, and this is what took us the most time during set-up at PAX.

6. Steamer Trunk

The steamer trunk is where leftover PAX materials are stored between years. The trunk was kept in the digital arts lab, making it slightly difficult to find; once we did find it, we had to struggle to open it, due to a damaged locking mechanism. Additionally, we were not able to access it consistently because another IQP required the room often. It contains a plethora of items, with some being more useful than others. When we received it, the trunk contained wires and cables, such as power strips, extension cords, and HDMI cords. It also contained tablecloths, mouse pads, disinfecting wipes, headphones, and a full pack of bottled water from last year. Taking inventory as soon as we could was quite helpful, as it allowed

us to plan the items we needed to get for PAX in advance. A full itemized list of the steamer trunk contents at this time can be found in the appendix.

7. Budget

We were given $8000 total by the IMGD department for our budget this year - $5650 of which went immediately to paying for our PAX booth and passes. So, the IQP team planned off of a budget of $2350 for t-shirts, buttons, etc. Our ultimate goal for the budget was to aim for prices similar to or less than those for the 2019 team, but we agreed that priority for items for volunteers and the booth was quality over price point. After agreeing on the five color WPI IMGD t-shirt design and sizing spread described in section 5.h, we allocated the $586.95 needed for t-shirts. Similarly, once the button designs, sizes, and amounts were finalized, $526.81 was allocated for those. Allison Darling, IMGD Secretary by day and wizard by night, was immensely helpful in handling the purchase of the booth and passes for us, as well as handling expense reports for all of the above. The rest of our budget, approximately $1200, went towards paying for supplies for volunteers and the booth. This consisted mainly of the table and chair rentals, snacks and water for volunteers, a lot of candy to lure in booth-goers, and extra cleaning products to keep the booth sanitized. By the end of PAX weekend we had quite a bit of funds leftover, around $1000, so we used the remaining to pay for the BCEC parking and our hotel - this amounted to $40 for the former, and around $860 for the latter. It should be noted that despite booking this hotel later than planned, it was of exceptional quality and we still managed to stay within the price range of the previous year's team, which we were very relieved by. We ended PAX with a little less than $200 left in the budget for future use. The full breakdown of the budget can be seen below:

Budget	$8000
Cover Costs + Badges	$5650
Shirts	$586.95
Buttons	$526.81
Dinner	$50
Renting Tables/Chairs	$73.63
PAX Parking	$40
Groceries + Snacks	$33.72
Hotel	$858.19
Remaining Balance	$180.70

8. Shirts and Buttons

Every year at PAX, the WPI booth gives out free swag, such as shirts and buttons. This helps to draw people into the booth, because everyone likes free things, and gives them souvenirs to keep us in their mind. When creating and selecting the designs for the buttons and shirts, we went through an iterative process that was focused on being visually appealing, as well as representative of our program as a whole.

Previous PAX teams had left warnings for us about designs, specifically regarding goats. In years past, when a goat has been used as imagery on buttons or shirts, the image has often been seen as demonic and have had an off-putting effect on booth attendees. We kept this fact in mind while creating designs.

We came up with two potential shirt designs, as shown below. One was a retro-themed design, inspired by *Tetris* and a previous team's design inspired by *Space Invaders*. The other tried to incorporate our mascot while still being representative of the major. Ultimately, we decided to go with the *Tetris*-inspired design, due to its more interesting visual appeal, colorfulness, and the previously mentioned demonic goat association.

Fig. 8

The two base designs for the shirts

We decided it would be better to get dark-colored shirts, as we would be wearing them a lot at PAX and the colors would stand out more, so the artist on our team adapted the design to reflect that. We also decided to lean more into the *Tetris* inspiration, adding a border around the letters, a next tile indicator, and the year disguised as the score.
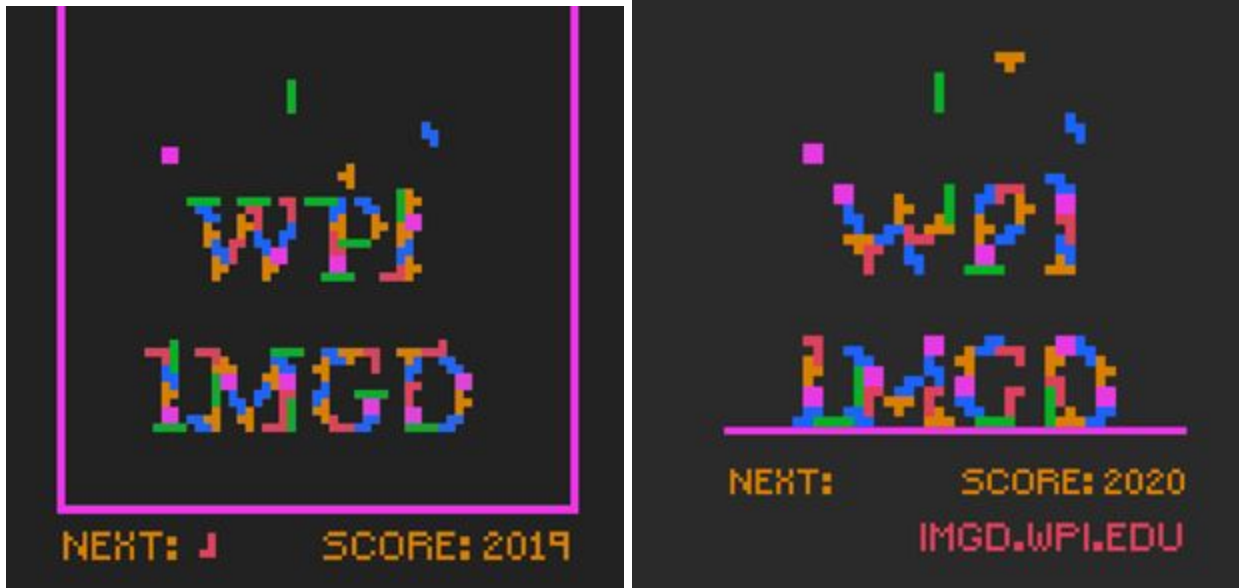
Fig. 9

Two potential shirt designs

Finally we chose our design and went onto planning for printing. One element that we had to decide on was size distribution. Previous years had mentioned not having enough shirts, so we decided to increase the number of shirts that we bought. Last year the team ordered 50 shirts, but with around 15 shirts going to volunteers, the amount of shirts given to PAX attendees felt small. Because of this, we ordered 70 shirts instead. We were also given feedback that the largest shirts ran out almost immediately at previous PAX events, so we were urged to follow a shirt distribution centered around large and extra large being the most common shirt sizes.

After consulting the internet, we chose to order 5 small shirts, 13 medium shirts, 20 large shirts, 20 XL shirts, 7 XXL shirts, and 5 XXXL shirts, for a total of 70 shirts. However, this distribution didn't seem to fit well at PAX. We had 9XL, 5XXL, and 2XXXL shirts left over, and ran out of medium and small shirts too quickly. This shift in size could have been due to less people attending PAX this year, due to its earlier time and coronavirus concerns.

We compared prices for shirts, keeping in mind that the 5-color design would increase the price of shirts from last year. Other factors that can increase cost include text on the back or sides of the shirt, as well as a shirt color. Black shirts on average cost about 43 cents more per shirt than gray. The best price we managed to find came from Ooshirts, who charged us $601.95, with each shirt costing $8.60.

Fig. 10

The final shirt design, both as a file and on a shirt

Next we moved onto button designs. We considered using the goat that had been drawn as a shirt design, thinking it may appear less demonic on a smaller scale, but then our artist drew another goat. She approached the appearance of the new goat with the goal of emphasizing cuteness, and the design was immediately popular.
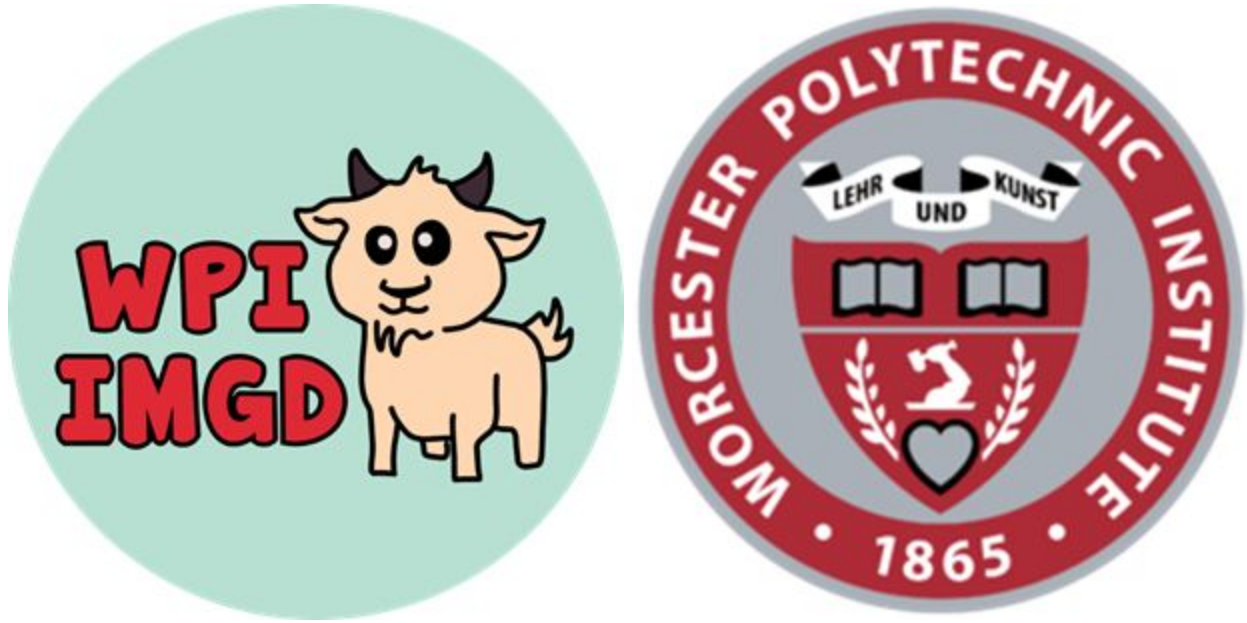
Fig. 11

The two button designs

These designs were immediately accepted and sent to print. We printed 1000 buttons of each

design, for a total of 2000. These were 1 ½ inch buttons, which seemed to be the perfect size, as previous

years had mentioned that 1 inch buttons were a tad too small. It should be noted that this amount of

buttons seemed to be more than we needed - we ended up with a fair amount of leftovers. While the goat

design seemed like it would be more popular, that wasn't the case. While we had 42 goat buttons left, we

had 24 buttons left with the design of the seal.

Fig. 12

The two button designs

9. Booth Design

Good PAX booth designs exist in the juncture between practicality and visual appeal. While we wanted to ensure that every selected game had ample room on each table, we also wanted the layout of our booth to invite PAX-goers into the interior space. It was important that passersby had easy access to every game, VR or otherwise. Our first step was to examine past booth designs before formulating our own. In the end, we relied most heavily upon the 2019 IQP's advice and experience—particularly their design principles, which we emulated in our own way:

- Sideways tables—tables perpendicular to the backdrop—are most optimal.

    - It is easier for PAX attendees to see the games at sideways tables when they are walking by. The view of games at parallel tables is more likely to be blocked by their players, volunteers, or other attendees waiting their turn.

- VR needs space. For everyone's sake.

    - VR games usually involve a lot of flailing around—and even if none of ours did, VR games still require a set amount of operating space. The VR setup might also need towers, taking up even more room, so we had to design with that in mind.

- Equal Access Swag-care

    - This is an important design principle and a very appealing political platform. We wanted people to take our sweet, sweet WPI merchandise, but we also didn't want too many drive-by browsers snatching up all the buttons and snacks in passing. Our SA advised that the swag *should* be accessible without forcing attendees to wade deeper into the booth, but that swag placement should also invite even the most incurious of drifters to glance at our games.

- Open concept! Open concept!

    - The booth couldn't be too closed off or too cramped; come PAX, it would be populated with chairs, volunteers, attendees, and players, and the design would have to accommodate this eventuality. We wanted plenty of open space for people to play and watch the games, while also allowing room for our volunteers to oversee the proceedings.

Having reviewed past designs, we decided to iterate on the more successful versions and create paper mockups:
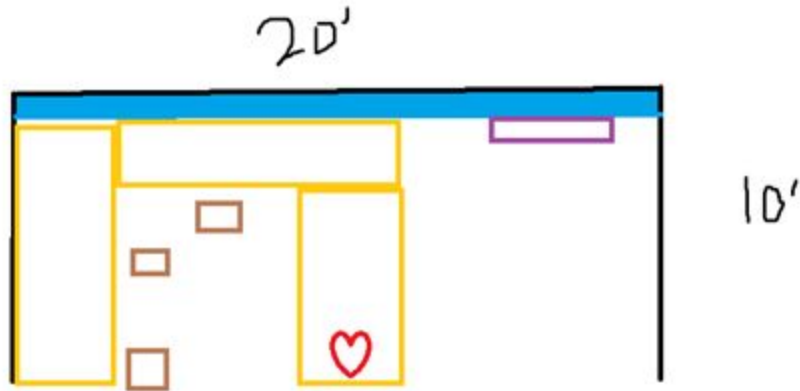

Fig. 13

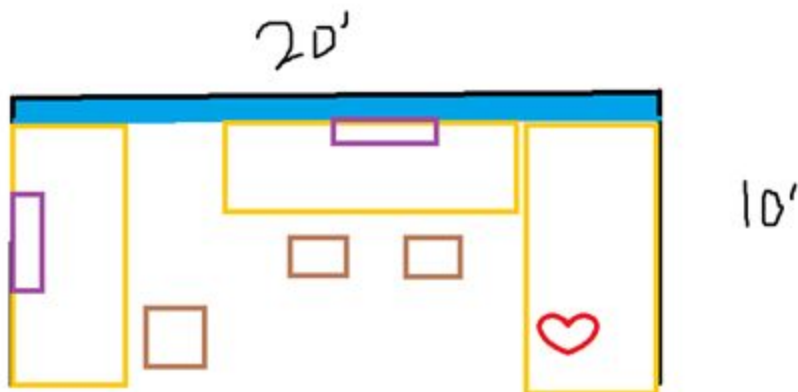The third design for a VR-compatible booth

Fig. 14

The first design for a non-VR booth

We designed setups with and without space for VR games. In the end, one of the accepted submissions was a VR game and we elected to use a version of Fig. X, but we would have been prepared had none of the games been VR-oriented.

The mockups were admittedly loose sketches of booth design ideas; they were made in MS Paint and were not drawn to scale. Ideally, we might have remade these designs more accurately in a program like PowerPoint or SketchUp. However, it seemed more expedient to simply experiment with them in person. Knowing the tables were in yellow, the chairs in brown, the TV monitors in purple, the backdrop in blue, and the merchandise in red, we headed to the basement of Riley Hall to test our designs.

Fig. 15

Testing the Fig. 14 design in Riley Hall

We settled on having two eight-foot tables perpendicular to the backdrop and one six-foot table parallel; in order to make this layout VR-compatible, we would either shift the furthest table closer to the others, or make more room in the interior. In the absence of VR, we planned to have two games on the left-hand table, two games at the back, and one on the right alongside the merchandise. Overall, we were not overly worried about the exact details of the booth design. Even though we planned, practiced, and MS Painted, we were also willing to take any new adjustments in stride and adapt or improvise as necessary.

10. Tech Equipment Acquisition

With all of the games selected and the booth layout designed, there was still one major hurdle we had to jump for PAX: getting the equipment necessary to run everything. Fortunately, we were able to work with Varun Bhat, an absolutely wonderful human being who took care of all the tech acquisition. We reached out to him both for BFIG and for PAX, asking him for computers. He responded very quickly, asking what requirements we needed and when we needed them by. He also supplied the HTC Vive we used for *Shotoku's Defense* and guided the team through the proper setup and use of the device, as well as made sure that all of the computers we borrowed were able to run off of the WPI network, an important feature since we did not have an internet connection at PAX.

Below is a list of the items Varun gave us:

- 3 "game-oriented" PCs with power cables
    - Contains an i7 processor running at 4 GHz and 16 gigs of RAM
- 1 VR-Oriented PC with power cable
    - Contains a Xeon E5 processor running at 3.10 GHz and 8 gigs of RAM
- 4 monitors
    - DVI cables
- 4 HDMI cables
- 1 HTC Vive kit
    - Contains the Vive Headset, link box, 2 base stations, 2 controllers, and all necessary cables
- 4 sets of external keyboards and mice

Games & Teams

1. Selecting Games

We opened submissions to IMGD student-made games before Christmas break, encouraging anything from MQPs and graduate projects to game jam games and personal projects. We sent emails addressed to the IMGD-Major alias, sent word out through the various IMGD club Discord channels, and Professor O'Donnell reminded other MQP advisors to submit their own projects. We made certain to warn everyone that PAX was happening earlier this year, and sent out both reminder and warning emails as the submission deadline drew closer. In spite of these measures, in the end we only received eight submissions—even fewer than last year's PAX Booth, which garnered ten. Later, we learned that one team submitted their MQP to us, but somehow, we never received their email. We worried that emails from other groups might've gone missing as well, but it seemed too late and too confusing to send out yet another call for submissions. Unfortunately, these issues with Outlook would plague our IQP for the rest of the term, and have yet to be satisfactorily resolved (see **Challenges We Faced**).

Despite the rather low number of submissions, we still had a good spread of games to choose from. We received two VR games, several MQPs, game jam games, and personal projects. Unfortunately, we could only choose three—at most, four—so we had to agree upon qualities which would showcase well at *PAX*, specifically. We decided that the game premise would have to be easily explainable, the controls and mechanics easily graspable, the UIs easily understood—both for the attendees and the volunteers who would have to "sell" these games to the attendees. It would also be easier for volunteers to pitch the game if its high concept was unique, funny, or just unusual enough to pique a passerby's interest. The gameplay would have to be engaging for its players, and preferably exciting to watch as

well. Exceptional visual presentation was another factor we took into consideration. While the ideal game would encompass every category, such expectations are unrealistic, so we decided our selections *altogether* should more or less meet the criteria.

We wound up selecting four games from the nine (eight, plus the game we initially lost to Outlook). The first game, *Afterlight Caves*, was a procedurally-generated, dungeon-crawling, top-down, twin-stick shooter in which the player has five minutes to navigate a destructible maze trying to get the highest score by collecting power-ups and defeating enemies. This game began as a class assignment, but the team chose to continue developing it after the course had ended. There were many reasons this game was attractive to us: Firstly, the time limit ensured that attendees could finish the game quickly and would not have the chance to grow bored. Secondly, the game's visual presentation was polished and eye-catching, and its gameplay was both exciting to watch and experience. Thirdly, the high score system made it easy for us to run a swag giveaway challenge, while also encouraging repeat players to try and beat their own progress. Fourthly, the game's backstory was a good example of WPI students' personal drive, passion, and discipline.

Fig. 16
Afterlight Caves

The second game, *The Call of Karen*, had players assuming the role of a 1950s housewife trapped in a loveless marriage and struggling to fend off the influences of Cthulhu from her perfect household. The premise of the game alone was enough to make it a serious contender. In fact, during PAX, multiple attendees came up to the booth solely because they saw the game's name in the PAX pamphlet and had to know what it was about. This game was an ongoing MQP and was a good showcase of the sort of projects seniors can create. While the gameplay was not as immediately *exciting* as the twin-stick shooter's, this actually became an asset on its own; many attendees appreciated that the game did not rely on violence, combat, and quick reflexes, and found the simulation aspect both relaxing and engaging in its own right. Furthermore, the game benefited from its sense of humor and its audio and visual presentation.

Fig. 17
Call Of Karen

The third selection, *Friend Sighting*, was a physics-based comedy game in which players had to navigate a university for cryptids without raising their student debt by crashing into any of the furniture—once again, a strong and easily communicable high concept. Another personal project, it bore a distinct and endearing visual style, but its main draw was its gameplay. In the vein of *Octodad: Dadliest*

Catch and *I Am Bread*, this game required players to manually control their character's wing flaps, resulting in purposefully clumsy and chaotic movement that typically propelled the character straight through stacked chairs and into exorbitant debt. We saw an opportunity for a swag giveaway contest in the student debt mechanic, and planned to offer prizes to attendees who completed the game with the lowest score. This game further benefited from its multiple levels; players would not soon be bored by going through the same scenario over and over again, but also would have an easy stopping point upon completing a level.

Fig. 18
Friend Sighting

The fourth and final selection, *Shotoku's Defense*, was a VR game which saw players using earth-based powers—Earthbending, essentially—to defend a Japanese temple from waves of brutes and archers. This game was a product of the Japan MQP, and a good way for our booth to showcase WPI's international project centers. We were excited to be able to demonstrate a VR game—especially one as thrilling as this—as they typically attract more attendees than non-VR titles, if only because of the format.

Furthermore, the ability to chuck boulders, raise stalagmites, create quicksand, and push walls in VR is both visually impressive and physically exhilarating.

Fig. 19
Shotoku's Defense

Our only misgiving was our lack of graduate project submissions. We wanted to show a piece that demonstrated other facets of our IMGD program, beyond the more typical, tech-oriented projects attendees would expect from an engineering school. We considered doing a live art demonstration; one of the school's many talented artists would do a series of quick drawings, sculptures, or otherwise, showing off their own talent and inviting questions about WPI's more art-oriented offerings. This idea was fraught with complications. First of all, where would this artist be stationed within the booth? We already had four games, one of which was VR; the booth space would be too cramped if we wanted people playing games *and* gawking at an art demo. Secondly, how many artist volunteers would we need? Only one, who would simply have to take breaks in between long stretches of drawing, or multiple, to cover shifts all day? Thirdly, how would we determine which artist(s) we wished to showcase? What would the selection process be? After all, not every person has the same artistic process; some work swiftly and handle the pressure of a crowd well, while others prefer to labor over the smallest of details for hours—and in

private. In the end, an art demonstration did not seem like the best solution. Luckily, Professor O'Donnell recalled that some of our graduate students showcased their project at the recent AlphaFest—a handcrafted pop-up puzzle book titled *Athena at Night*, replete with beautiful artistry and technical aptitude. We reached out to the team and they agreed to bring their project to PAX. This was extremely fortunate, as we could satisfy both our desire to display a different side of the IMGD program and our need for a graduate project.

Fig. 20
Athena at Night

Overall, despite the shortage of submissions and the disappearing emails debacle, we found ourselves prepared to bring a respectable showcase of projects to PAX East 2020. In hindsight, however, we could have better communicated our final decisions to the teams involved, as not everyone felt the selection process was as transparent as it could have been, and we did not notify the rejected groups as promptly as we should have. The group whose initial email went missing felt especially shunted aside; even though we gave their submission fair and equal consideration alongside the others, our sparse,

belated communication gave them the impression that we disregarded their game altogether. While part of the situation was definitely out of our control, we could have better handled what we *did* have power over.

a. Handling Rejected Games and Made In MA

Made in MA (MaM), a meeting of Boston-based game developers hosted by MassDigi, took place the Thursday of PAX weekend this year, and as it happened some of the games rejected from the PAX lineup were shown at the WPI booth at MaM - *Gone Phishing*, *The Reckoning*, and *Warped Reality*. All three games did very well at MaM, especially Warped Reality, a VR game which utilized the Leap Motion controller for novel gameplay interactions - apparently they garnered a lot of interest from industry professionals. These games' successes led us to ponder whether or not we should judge games not only on how well they would show at PAX, but also by whether or not they'd show better at events like MaM. For the most part, games at PAX are chosen for how eye-catching not only their art, but also their gameplay are, and how well they can show off students' game design skills while also drawing a crowd - things that the more general audience of PAX can appreciate easily. Games shown at MaM, however, have an audience made up of game industry professionals who know in detail the effort and skill that go into games, so they seem to show better if they have particularly interesting/unusual game mechanics, utilize new hardware and/or software, or show outstanding graphics - things that game developers tend to have a deeper understanding and appreciation of. It would be interesting in the future for the IQP team to take into consideration what aspects of WPI IMGD students they would like to show off where when selecting games, or perhaps work together with Professor Chery in deciding which games go to which event to best show off all aspects of IMGD students' strengths and prowess.

2. Selecting Volunteers

After sending emails out to the accepted teams, our next task was to find sufficient volunteers to oversee the booth alongside the IQP members. We wanted at least three non-faculty people at the booth at all times, and one IQP member always had to be present. We tallied up the team members willing to volunteer and found ourselves with twelve—more than enough, given that we had a limited number of PAX passes. We should note that this year's PAX coincided with C-Term's pre-final break week, so it is possible people were more available than usual because of the Reading and Academic Advising days. We also sent out an email to IMGD faculty asking for volunteers; Professor Chery and Professor Sutter responded and agreed to help. With our games chosen and our volunteers selected, we were ready to begin organizing a schedule for PAX.

Getting Ready for the Big Day

1. Volunteer Orientation

As soon as we confirmed all the games coming to PAX, with the exception of the graduate project, we started planning for volunteer orientation. We had set aside a date about two weeks before PAX to hold the orientation and booked a room which was well stocked with computers so all the teams would be able to demo their projects on them if they wished. One thing to consider in the future, however, is to book a room with a large amount of free space if you have a VR game - our VR team only just had enough space to set up in a Kaven Hall computer lab. We sent out an orientation information email about a week before the orientation night which included a link to a Google Form, where we collected information such as the team, phone number, and preferred times NOT to be scheduled for working the booth for each person. The email also included a reminder for the build due date - the Monday before PAX weekend.

Using the volunteers' preferred free time information we were able to create a draft PAX schedule, which we went over during the actual orientation night and finalized with all the volunteers present. In addition to the Google Form and draft schedule, we also created a Volunteer FAQ sheet and sent that out with the orientation email as well. Questions on the FAQ sheet included:

- **When is our final build due?**
- **Where and when is PAX?**
- **How do I get there?**
- **What do I wear?**
- **What do I say & What do I do?**

- **What do I do with business cards?**

- **When should I show up/leave for my shift?**

- **What do I do before/after my shift?**

- **When will I get my pass?**

- **Where can I get food?**

We handed out physical copies of the FAQ sheet to all the volunteers, and also went over all the questions to make sure all the volunteers knew exactly what they needed to do and when. PAX shirts were also handed out to all volunteers. Finally, we had each team do a mini-presentation on their game where they went over important information about their game - **who made it, why, how, what's it about, how do you play it?** All this information was compiled into a general games information sheet which we emailed out to all volunteers along with the updated schedule and the volunteer FAQ sheet - all three items were available as physical copies at the PAX booth as well.

2. Volunteer Scheduling

Our main goals for the schedule were as follows:

- **Make sure people from different teams are scheduled on the same shift**

- **Don't schedule volunteers two shifts in a row (unless otherwise requested)**

- **Don't schedule volunteers for more than two shifts a day (unless otherwise requested)**

- **Don't schedule volunteers during their requested free time periods**

- **Keep each shift to two hours maximum**

Therefore, as mentioned previously, we sent out a Google Form before orientation to all volunteers to ask for their preferred times NOT to be on shift, so we could accomodate people wanting to go to panels and/or who had other plans, their team, so that we could better organize shifts to spread volunteers of the same team out, and their phone numbers, so we could easily contact people if they didn't

know where and/or when to go for their shift (this was super helpful!). The reason for wanting people of the same team to work different shifts was to make sure that there would always be at least two game developers present at the booth who could confidently talk about their own games - we tried to make sure all the volunteers had a good general knowledge of all the games, but nothing beats a creator's own know-how of their content.

We compiled all this collected information into a draft schedule presented at the volunteer orientation night, where most of the final shift swapping between volunteers took place. The finalized schedule was sent out along with the volunteer and game FAQ sheets after orientation night for volunteers to take another look at it if needed. There were a few requests to cover more shifts between the orientation night and the week of PAX - in these cases, we asked the volunteer who wished to have their shift covered to handle finding someone to replace them, and if they found someone, we updated the schedule and emailed it out again. During PAX there were some cases where team members wished to switch shifts - this was allowed as long as the PAX team members were notified beforehand. Fortunately, we had no issues with people missing shifts or showing up late despite quite a number of shift changes.

	IQP Person	Volunteer	Volunteer	Professor
Thursday				
8:30-10	All IQP Crew needed for set up.			
10-12	Davina	Varun Bhat	Cole Granof	Farley Chery
12-2	Issa	Varun Bhat	Jordan Cattelona	
2-4	Davina	Lisa Liao	Joseph Petitti	
4-6	Diana	Matthew Puentes	Jordan Cattelona	
Friday				
9-10	Davina			
10-12	Diana	Lisa Liao	Matthew Puentes	Ralph Sutter
12-2	Issa	William Lucca	Cole Granof	
2-4	Davina	Kate Olguin	Varun Bhat	
4-6	Tyler	Jordan Cattelona	Matthew Puentes	
Saturday				
9-10	Diana			
10-12	Issa	William Lucca	Joseph Petitti	Farley Chery
12-2	Tyler	Lisa Liao	Thomas Tawadros	
2-4	Davina	Kate Olguin	Karen Royer	
4-6	Tyler	Thomas Tawadros	Jose Li Quiel	
Sunday				
9-10	Tyler			
10-12	Diana	Mikel Matticoli	Tom Tawadros	
12-2	Issa	William Lucca	Joseph Petitti	
2-4	Tyler	Mikel Matticoli	Cole Granof	
4-6	All IQP Crew needed for take down.			

Fig. 21
Final volunteer schedule for PAX East 2020

3. Testing Game Builds and Equipment

Final builds were due the Monday before PAX to give us a couple of days to test everything - this
was a bit later than previous years, but we felt it was fair to extend the deadline given how early PAX
was. As with the years before, all the games had to be able to run without internet access as well as off of

the WPI network - we notified Varun, our IMGD lab contact, over a month in advance of these limitations to make sure he set up the computers we needed correctly. We also let Varun know immediately after we had confirmed *Shotoku's Defense* that we would require a VR capable computer and headset. The only major issue we ran into was when testing *Afterlight Caves*: because the game was a web-based Javascript application, and therefore required the internet to access the url, we needed to create a custom local build for it so we could transport and run the build offline. Thankfully we were able to compile a local executable that functioned fine (credit to Mikel Matticoli for helping us with this). *Shotoku's Defense* was tested the Monday before PAX on the HTC Vive headset we were planning to take with us, and after some initial difficulties setting up the lighthouses, the game ran quite smoothly. All other games were tested on the PCs we brought to PAX the Tuesday before. Executables for every game was downloaded onto one of our team member's personal external hard drives to make sure we always had them with us, as well as downloaded on every computer we brought to PAX.

4. Acquiring the Rest of the Equipment

The week before PAX was sort of a mad dash to collect all of our equipment ontime and fit it into our transport vehicle - a team member's family minivan. While this car was sufficient to move all of the computers, tables, boxes, and various other gadgets to the convention center, it was a very tight squeeze, and only two members of the team were able to travel to Boston in the van - the other two needed to take public transport. For future years, we recommend either renting a van or full-sized truck weeks ahead to avoid paying too much, or bribing friends and/or family to borrow their big cars.

Once we had the mini-van, we started with picking up the table and chairs rented from Toomey's Rent-All Center the Tuesday before PAX - there was a small hiccup where we thought we wouldn't be able to fit the eight-ft tables into the van to the renter's specifications, but through some finagling we managed to get everything in. Ultimately, though we rented two eight-ft tables, one six-ft table, and three

folding chairs, we only needed the eight-footers and one chair, because PAX supplies a six-ft table and two chairs for each booth.

After collecting the tables and chairs, we went on to collect the booth backdrop, banner, steamer chest materials, and computers the same day. The marketing materials - Frontiers/Launch/graduate brochures - were also collected from Dianne, our lovely marketing contact, on Tuesday. The backdrop and banner had been picked up from marketing a few weeks before when we tested building them, and were stored in the CC until they were collected.

PAX PAX PAX

1. Setup and Booth Build

We arrived at the convention center in two groups - two IQP members in the minivan with the supplies, and the other two members by public transport 30 minutes later - at around 12pm the day before PAX was to begin. When the minivan team arrived at the Boston Convention and Exhibition Center (BCEC), we pulled around the back of the convention center in order to find the volunteer parking - once there, we were directed to a small gray trailer on the lot where we received our loading dock pass. This pass is extremely important - without it your team won't be able to pull right up to the BCEC and unload easily. The actual unloading process was fairly simple, if not time-consuming, since for the first 30 minutes or so only two team members were available to help bring things in. However, once the other two team members arrived unloading moved a lot quicker. In addition, we received help from the generous booth team of Broken Archer, who offered us the use of their dolly/hand truck to move the rest of our things - we highly recommend a future team look into purchasing one for all future PAX IQPs. Finally, since we discovered that PAX provides two folding chairs and one six-foot table for each booth upon arrival, we decided to bring back our own rented six-foot table and chairs to the minivan for storage.

When we had all of our equipment at the booth and had parked the car, it was time to begin assembly. In order to build the backdrop, the entirety of our booth space had to be cleared out so we could lie the backdrop on its side and assemble it on the floor. Once the backdrop was built and standing up, we began moving the tables in place and forming our booth layout. Originally we were going to go with the booth design as described by Figure 15, but after reevaluating the amount of space we had we decided to do a sort of hybrid of our goal layout with that of the 2019 PAX booth's, with a separate nook for the VR

game to exist, and the rest of the games encompassed in a U-shaped area on the side. This layout was very effective at not only making sure players on VR had plenty of space to wave their arms about, but also at encouraging people to crowd around in the U-shaped area to observe players on other games and partake in conversation.

Fig. 22
PAX booth cleared out in preparation for backdrop setup; the PAX provided six-foot table is shown on the far right.
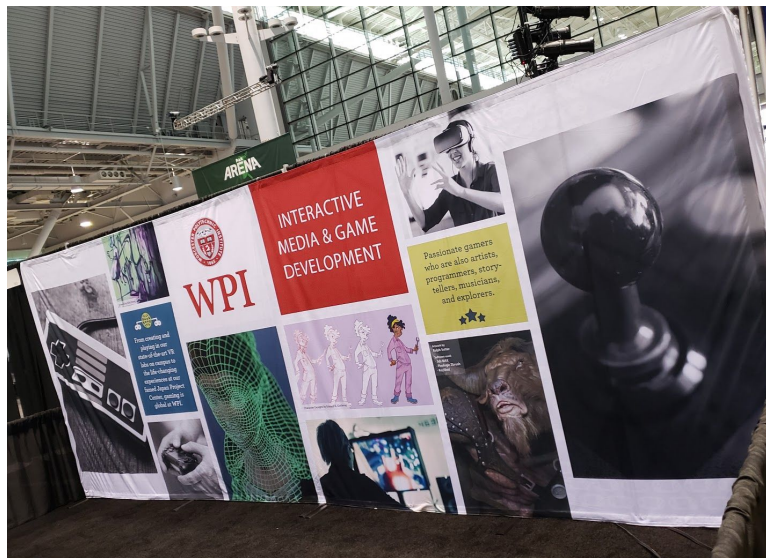

Fig. 23
WPI backdrop and banner after being set up, before the booth was built.

Fig. 24
Booth in the process of setting up computers, laying out candy, and preparing VR play area.

With the tables set up, the only other obstacles left were setting up the computers, laying out brochures, swag, and candy, cleaning every station and making sure they all had a personal bottle of hand sanitizer, and testing all the game builds once more. This all went splendidly except for the VR game setup, which took up the majority of our time because of issues with the TV stand displaying the game, as well as issues with the Vive headset being used - both of which are discussed in more detail below. We finished by turning all the monitors off but keeping the computers themselves running. The machines would be left on and all accessories were left plugged in for the entirety of PAX, ensuring we only had to turn the monitor on for a demo to be ready. This lessened the chances of a computer randomly updating or a demo malfunctioning on startup, while also saving us valuable time.

Fig. 25
Fully setup booth with the VR game in a separate area on the far left, while the 3 PC games and the graduate pop-up book were stationed in a U of tables on the right.
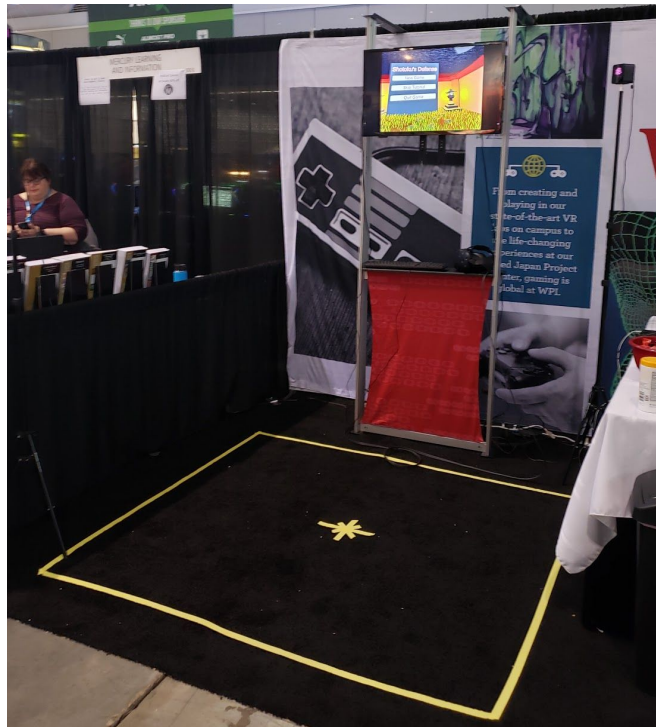

Fig. 26
VR play area marked clearly with masking tape - the TV was mounted high enough so that passerbys could stop and watch what the current player was doing.

a. Issues With TV Stand

While most of the booth setup went pretty smoothly, we did run into one huge issue: the TV stand, which was the main reason it took us more than three hours to finish building the booth. The TV stand is incredibly tricky to build, as it doesn't really have any helpful instructions included in the packaging besides some poorly labeled diagrams. In addition, the stand is relatively flimsy until it is connected to the backdrop supporting frame, and even then hanging the TV itself on the stand was worryingly precarious. Some resources and advice we found helpful:

- https://www.apgexhibits.com/HopUp-Dimension-Accessory-Kit-03-p/hop-acckit-03.html : This is the link to the product page for the banner backdrop kit, which includes a basic description of what you should find in the kit as well as a setup help video at the bottom of the page
- https://www.youtube.com/watch?v=pvG0mSwKiEY&feature=youtu.be : This is a direct link to the backdrop setup tutorial
- Have duct tape on hand, and use it to secure the TV to its stand; otherwise the TV is likely to fall at even small bumps, and people waving around VR wands don't do "small bumps"
- We couldn't find any diagrams for how to connect the TV to the TV support rails included in the kit, so that setup was made up on the fly; however future groups end up doing it, we recommend having many different screwdriver heads handy, as well as sturdy pliers to aid in any tinkering

If we had gotten the TV stand earlier and practiced setting up like we did the banner backdrop this problem most likely would've been avoided - we recommend next year that the IQP team asks marketing to not only guide them through setting up the backdrop, but the TVs as well if they can before PAX.
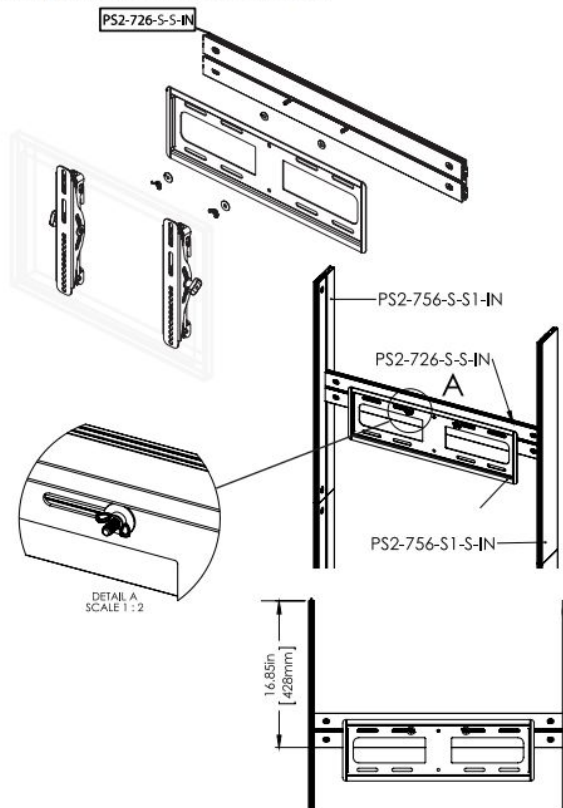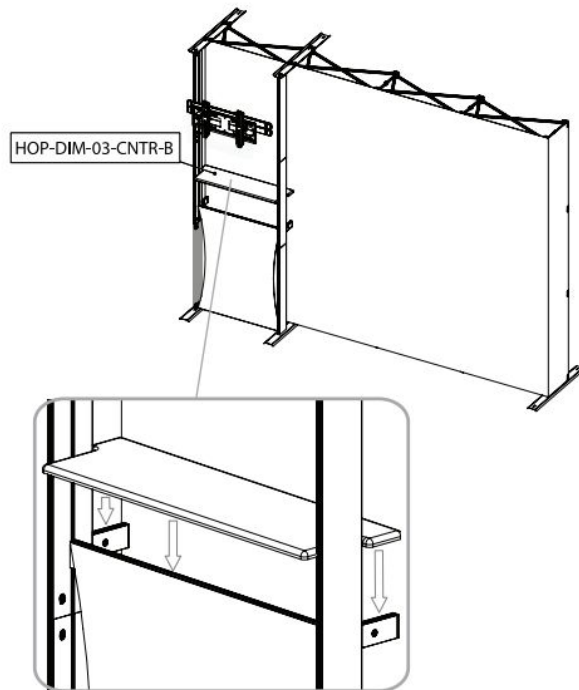
Fig. 27
Instruction manual diagram of TV stand setup

b. VR Headset Woes

Our final hurdle after getting the TV stand up was setting up the play area for the HTC Vive we

had brought for *Shotoku's Defense*, and testing the game - here we ran into another small problem which

quickly snowballed. The issue was that we had mixed up some cables and forgot that the headset, PC

tower, and TV all had to be hooked up through two separate cables, one of which required an HDMI-DVI

adapter which we thankfully had on hand. However, it took us quite some time and outside sources to

figure out this was the issue, so in the future we advise that any team using a VR headset take a lot of

photos to document **exactly** how each wire is connected to where if they are not familiar with a specific

kind of VR headset - while we had taken some photos, they were clearly insufficient in providing minute details about how the Vive is setup. Once the display issue was solved, *Shotoku's Defense* ran smoothly and we were all set to go. We left the BCEC around 8pm.

2. Managing Volunteers At PAX

Passes were given out to all the volunteers the morning of their first shift, as described during the orientation meeting - this process went pretty smoothly, with most volunteers arriving early enough that the IQP team member who had to stand outside to deliver passes often got to have a shortened shift.

We had little to no issues with volunteers overall this year, thankfully - they all arrived for their shifts, or had notified the booth team of suitable replacements beforehand, so we were never short staffed. In fact, we had one extra volunteer - Varun Bhat, a member of the graduate project *Athena at Night* who had been added to the roster late, but was essential to have at PAX due to the uniqueness of his team's project. We handled the presence of an extra volunteer by having volunteers who only planned on attending certain days and not others hand off their passes to the booth team when they were done using them - this allowed us to reuse passes to make sure all of our volunteers were allowed at the booth. While we would not recommend doing this in the future, as it can be kind of risky, it was pretty effective for dealing with one more volunteer on the fly; if there had been more though, we don't think it would've worked out.

When it came to making sure volunteers showed up to their shift on time, we found it was effective to just send a notification text to them approximately five minutes before their shift were to start if they weren't already at the booth. Luckily we had an awesome set of volunteers this year, so no one was late or missed a shift.

As for making sure volunteers followed booth etiquette, our group was also quite excellent at this as well - we only had to remind some volunteers not to play their own games every so often so

PAX-goers could have access to them. For the most part volunteers hovered around their own game and explained them to attendees at the beginning, but as PAX wore on most of our volunteers became comfortable enough to give a decent sales-pitch for every game. We did run into a small issue where some team members expressed they felt like they **had** to hover around their game and felt constricted - in this case we made sure to ask those members to switch places around the booth often if they wanted to.

3. Managing VR

a. Volunteers

This year, we decided to show off the wonderful VR game *Shotoku's Defense* at the PAX booth, and it was very popular and well-liked. There were new challenges presented by the VR format though, and future PAX teams should consider these challenges when considering showing a VR game.

Firstly, we endeavored to prepare volunteers so they would know how all of the games at PAX work, but that becomes more challenging with VR games, as there are less chances for each volunteer to playtest the game in their own time if they don't have the correct equipment. This results in volunteers who don't understand or know VR controls, and/or are not well equipped to deal with unexpected issues such as having to re-setup the towers in a pinch. Because of this lack of planning and training, the team that made *Shotoku's Defense* spent more time manning their own station because few others felt comfortable enough to take over their jobs at the end of their shifts.

The volunteer watching the VR players must also make sure not to look away or stop paying attention to the person playing the game. Inexperienced VR players could jab television screens or other technology, or even hit volunteers or other PAX attendees if not watched. Because of this, if a PAX team member is watching the VR person, that person can't help in any way with other booth maintenance.

We recommend that later groups schedule certain volunteers as VR volunteers ahead of time. That way, it is never unclear who is supposed to be watching the VR players.

b. Safety and Cleanliness

This 2020 PAX was made more interesting by the coronavirus outbreak that was slowly creeping into the United States at the time. Because of this, while VR equipment should always be wiped down after every person uses it, we made sure to be especially diligent in cleaning the Vive headset and wands, wiping them down a few times between players and also directing those players to hand sanitizer should they want it. We had multiple containers of cleaning wipes for use in sanitizing the VR controllers, as well as paper towels on hand in case there was a quick turnover of players and the cleaning solution didn't dry fast enough. This cleaning routine is recommended for future PAX events, as it made the booth generally cleaner, and it seemed that the effort was appreciated.

In addition to wiping down the VR station, all other gaming setups were wiped down as often as possible, aiming for a quick clean between each player. We made sure that the mice, keyboards, and controllers used at each PC station were kept clean in an effort to reduce the spread of germs, as well as to keep the stations nice and neat. While this precaution was generally seen as a "coronavirus-dependent" measure, we recommend future PAX groups maintain this policy of cleaning setups often, since you never know where someone's hands have been. Keeping the coronavirus in mind however, it is the opinion of the team that public VR will be non-viable until the coronavirus situation is completely resolved.

Volunteers should also be warned to watch out for the safety of themselves and attendees while watching the VR section. This year, our VR game had a lot of throwing and hitting, and as a result of this, multiple volunteers were nearly hurt by attendees, and attendees also posed a risk to booth equipment such as the monitor that showed the VR game.

These aspects of PAX safety should be considered by future PAX booth teams.

4. Booth Etiquette

While running the PAX booth it is important to be an active volunteer. While it may be tempting to be quiet and wait for attendees to come to us, we have to be aware of our attitudes while manning the booth. Attendees will feel more comfortable talking to booth personnel who smile and come across as ready to talk about games.

Volunteers should smile, and may attempt to draw in people to play the games. But if you call people out, prepare to get a lot of "Nos" from attendees who know what they want. However, it is important to not view these rejections as a failure, it is simply a part of running a booth. Being open, accommodating, and inviting, both literally and just via attitude. Further, it is helpful to know a quick pitch of each game being shown, so that you can give these to interested attendees. It also helps to stand facing away from the booth and towards the crowd. Generally, be friendly and invite people to play games or just for conversation - and remember not to feel rejected if they don't want to talk or play at that moment.

5. Enforcer Presence

Each PAX booth was assigned an Enforcer for the duration of the event. Dressed clearly in red and white, these men and women were available to help at all times, and could be found patrolling the floor or keeping overwatch nearby. We were encouraged to contact our Enforcer about PAX or booth-related issues, be it finding an extra controller or nabbing bottles of water for our volunteers. Our Enforcer, Armando introduced himself to us on set-up day, giving us his phone number and updating us on any important information we might have missed. He continued to check in with us throughout PAX, stopping by at least once a day to ensure our booth was running smoothly and we were doing well. We

utilized his services several times, and he always did his utmost to assist us - bringing us tools when we needed them, making sure we knew where food and water for exhibitors was, informing us about the coronavirus cleaning procedures, and much more. Armando answered our semi-desperate questions almost any time of day or night, and for that we are extremely grateful. There was a certain comfort in knowing he—or another Enforcer—was always there to aid us.

6. Giveaways & Competitions

There are many ways to entice passersby into your booth, but few methods are so ancient and effective as The Giveaway. A game demo is ephemeral, a mere minute of memory, but merchandise is forever. The very sight of swag taps into some primitive part of our brains, triggering an instinct to hoard all those shirts and pins and lanyards for the coming winter...probably. In any case, giveaways are a common PAX booth tactic, and we decided it could not hurt to organize one ourselves. We looked at past IQPs to see how they distributed their prizes, while also considering our own approach.

We noticed that past groups—namely 2017 and 2018—had posted WPI trivia questions on Twitter and awarded T-shirts to people who answered correctly. We were not certain if people attending a gaming convention would be interested in specific—and sometimes obscure—facts about a college, and the 2018 noted that their trivia contest did not attract a large number of participants. Furthermore, the people who did participate tended to be current or former students, and thus outside of our target audience. In the end, we decided to forgo both trivia and Twitter.

We considered setting up a spin-the-wheel giveaway, in which PAX-goers would win whatever prize the wheel awarded. However, this would require us to both have enough prizes to populate a wheel, and also purchase or make a wheel of our own—and find room for the wheel in our booth. Seeing as we only had two kinds of buttons, assorted candies, and one T-shirt design, the spin-the-wheel concept grew less and less feasible. By the time PAX came around, we had all but dropped the idea.

In the end, we wound up tying T-shirt giveaways to the games *Afterlight Caves* and *Friend Sighting*, as both had a high score system that could be easily tracked. We decided that players who achieved a high score for the day would be awarded a T-shirt, while buttons and candy would be freely available to anyone. A solid plan, but its execution left something to be desired. As it happened, we hadn't devised a good system of actually recording the high scores—and while *Afterlight Caves* had a built-in leaderboard, it required an Internet connection and thus could not be used during PAX itself. We wound up drawing our own leaderboards on the backs of the volunteer schedules we printed out, using a marker we had on hand. The giveaways were not actively advertised, either, and many players were surprised by the sudden T-shirt offer upon completing a game. Though we managed to give nearly all the shirts away—save for those in large sizes that no one could fit—we believe we could have captured more passersby's interest with the promise of prizes, and we could have organized the giveaway better.

7. Notable Interactions

Over the course of PAX we met a lot of people, from exhibitors to visiting indie game developers to alumni and more - here are a few of the people we met who were especially kind, helpful, and engaging to us during our first year presenting at PAX.

First off were our booth neighbors to the right - an educational text and retro-game merchandise booth, who's team was very welcoming and accommodating to any and all questions we had of them about PAX. At the end of the weekend they even let our team come over and take whatever textbooks caught our eyes for free! Needless to say the temptation of education texts less than $300 was too good to pass up, and we all got a few new books thanks to our booth-buddies.

On our other side were the folks of Vector Unit, who were promoting their newest IP *Beach Buggy Racing 2*. This booth team went above and beyond making us rookies feel comfortable, as whoever was working the booth on any given day often made the effort to greet us, ask how we were doing and if

we needed any help, and encouraged us to stay energetic and have fun throughout the entirety of PAX

weekend. Community Manager Deb Chantson and CTO Ralf Knoesel were especially amiable. Chantson

was eternally cheerful, even while commiserating over booth duty, and Knoesel visited the booth with

industry wisdom gleaned from his own experience.

Fig. 28
From left to right: Vector Unit's Ian Phipps (Designer), Matt Small (CEO/Creative Director), Deb
Chantson (Community Manager)

Fig. 29
From left to right: Vector Unit co-founders Matt Small and Ralf Knoesel (CTO)

Our neighbors across the aisle were from SFB Games, a UK game development company

founded by the Vian brothers promoting their recently released game *Tangle Tower*. All of their booth

team was friendly and willing to chat, and Adam especially - the creative director - was a wealth of

convention know-how and career advice. He also provided excellent stories about the game development

industry that kept our booth team entertained for hours, including a fascinating inside look into what it's

like to make it as an indie game developer, and an even more interesting look into what it's like inside

Nintendo headquarters (there was something about a golden Mario statue?).

Fig. 30
From left to right: Art Director Maddy Vian and Technical Director Tom Vian. Not pictured (behind the camera) is Creative Director Adam Vian

Throughout PAX we were also visited by a large assortment of people, but the conversations that stuck out to us were those with Epic educational representatives, and WPI alumni.

Early on during PAX weekend we were visited by the global evangelist for Epic's games Luis Cataldi, as well as local evangelist and Unreal Engine Student Programs Manager Consultant Seven Seigal and Epic's internal technical artist and writer Tom Shannon. This meeting was facilitated by Professor Chery, who knew the Epic representatives personally. We gained a lot from Epic's visit, including knowledge about a new Unreal online tutorial series which aimed to make it easier to integrate Unreal into game development curriculums, and even promised to pay students who held group tutorial sessions. In addition to this, we received extremely useful advice, specifically from Tom Shannon, on how to utilize Unreal blueprints in combination with C++ properly and efficiently, which was incredibly helpful for those at the booth who were either currently working in Unreal, or looking to in the future. Shannon and the other Epic representatives also gave great advice for how to organize Unreal projects,

and just game projects in general, so that all parties involved can always understand exactly what they need to do and how - keep the code clean so artists can look over it and understand what they might need to build/wire up, and keep art transparent so programmers are never behind on what's being worked on.

Other than exhibitors and company representatives and students, we were visited by a surprising number of alumni consistently over the entirety of PAX weekend. Every day it seemed like dozens of previous students stopped by our booth to say hello to Professor O'Donnell, Professor Chery or Professor Sutter, or just to stare at our backdrop and then shout "Class of X!" before walking away. It was rather heartening to see so many people who had already left WPI still felt connected enough to the community that they wished to see how the school, and us by extension, were doing. Often these alumni visits were the liveliest and most crowded parts of a given day.

Clean-Up

As PAX drew to a close, we prepared to take down the booth. The final shift was supposed to consist of the four IQP members so that as soon as PAX ended, we were able to begin taking down the booth right away. One of our team members unfortunately had to leave PAX before the shift, so a volunteer stepped up to take their place (big thank you to Mikel Matticoli once again for his help). As soon as the announcement was made that PAX was closed, a wave of cheers went through the Events Center. It was finally over. Just one more hurdle to jump.

Overall, the breakdown took significantly less time than the setup, and it was fairly organized. We knew which parts were going to be the worst to deal with, so we planned around those. First to come down was the TV stand, while all the tables were cleared, tape was removed, and cords unplugged. The tables then needed to be folded up and set aside so we could tackle the backdrop. Once that was packed up, all we needed to do was put things in the steamer trunk and other containers.

While we did that, Diana went out to bring the car to the loading dock so we could load everything. The rest of us began moving things to the loading dock in anticipation of loading it. Unfortunately, due to the time and the fact that the car could only seat two people, Mikel and Tyler had to leave to catch the last bus to Worcester. That left Issa and Diana with the task of moving the rest of the booth to the loading dock and loading it into the vehicle. During this time, Broken Archer once again swooped in to save the day, lending their dolly/hand truck to help finish the moving. Over the course of the next few days, we managed to return the tech equipment to Varun, the TVs to Dean, the tables back to Toomey's, and the spare marketing materials, banner, and TV stands to Dianne.

Conclusion

1. Post Mortem

a. Metrics of Success

In order to properly convey the success of this year's PAX booth, we decided on a few metrics to help with that. They are as follows:

1. The amount of WPI promotional materials taken

2. The amount of swag taken

3. The number of compliments from attendees on both the booth and the games

4. The emptiness of the booth

In regards to these metrics, along with our team's observations over the course of PAX, we believe that this year's booth was a great success. We had approximately 400 pieces of marketing material, advertising WPI's IMGD graduate program as well as Launch and Frontiers. When we returned the remaining materials to marketing, we had a moderate amount left. These leftover materials were mostly for the graduate program, which makes sense as most PAX attendees are not interested in a graduate degree at the moment. In regards to the amount of swag taken, we have a much more accurate measure of that. We ordered 70 shirts with our Tetris-themed design and we ended PAX with 16 left, mostly due to an incorrect distribution in sizes. We also ordered 2000 of our buttons, 1000 with the goat and 1000 with the WPI seal. As of the end of PAX, we had only 66 remaining.

Metrics 3 and 4 go hand in hand. This year's booth was designed with openness in mind, allowing our volunteers and team members space to stand somewhat inside the booth and bring people in. With VR set off to the side, we needed someone to specifically attract attention for the game, as somewhat of a sign

it was open to be played. The reception of all the games was astounding, being enjoyed by all despite being quite different. Very rarely was the booth empty, with at least one PAX attendee playing the games at all times. Looking at the amount of material and swag that was taken, along with the overall reception of the games, we feel it is safe to say this year's PAX booth was a clear success.

Fig. 31
PAX-goers crowd around *Afterlight Caves, Friend Sighting* and *The Call Of Karen.*

Fig. 32
Professor O'Donnell poses with a fully stocked booth of both players and volunteers.

b. What Went Right

When looking back on events, our instinct is often to focus on the negative. However, we should also look at the positive, so that what goes right can be applied to future situations. The advice of past PAX IQPs was crucial to the success of this one, and we implemented it as well as we could. We combined it with careful planning and a lot of hard work to pull off the booth. Our major successes can be put into three categories: planning, communication, and day-of.

When it came to planning, our greatest asset was Kate Olguin. Having someone previously on the IQP as an SA helped us massively and had us hitting the ground running. We immediately began creating potential booth layouts, planning designs for buttons and shirts, and looking into pricing for said buttons and shirts. By looking into these ahead of time, we were able to get the best price, layout, and designs we

could, and get them quickly. We also reached out to marketing as soon as we could regarding the banner and got comfortable setting it up in order to make the booth setup easier. We also worked with the volunteers to ensure everything would go as smoothly as possible, planning the volunteer orientation such that every volunteer would be well informed on every game being presented, as well as well informed on the PAX volunteer schedule weeks ahead of the event.

Without good communication, this IQP would have been ten times harder to pull off. We made sure to keep all team members in the loop, cc'ing all team members on important emails, and consulting with each other before going ahead on important decisions. We communicated quickly and effectively with Dianne, our Marketing contact, and with Varun, the lab admin who helped us put together all of the tech that we needed. We also reached out to potential volunteers in a timely manner, putting together our list in a relatively quick manner.

During PAX, almost everything went as smooth as it could. We arrived at the convention center in two batches, unloaded everything pretty quickly and set it up with only a few major issues. Once the event itself started, it was smooth sailing. Volunteers were on time and showed up for their shifts, booth etiquette was followed, no emergencies were had, and all the games were praised. *Afterlight Caves* brought more competitive attendees, with some people playing multiple rounds to try and get higher scores. *Friend Sighting* drew people in with its cute art style and wacky physics-based gameplay. *The Call of Karen* was better for the attendees who wanted a bit more of a relaxed experience, but the weirdness that slowly built up made it enjoyable. *Shotoku's Defense* was one of the most popular games, as VR tends to be, with everyone who played it giving it high praise. In fact, the team of *Shotoku's Defense* were even interviewed by local game writers who focused exclusively on VR experiences, which was a welcome and unexpected delight. These games received such good reception that we felt confident in our decision to select them.

Fig. 33
From left to right: Vr game writers, *Shotoku's Defense* artist Lisa Liao, *Shotoku's Defense* programmer William Lucca, in the process of being interviewed for their superb VR game.

c. Challenges We Faced

While the booth may have run smoothly in the end, the journey to PAX was fraught with sudden setbacks and self-inflicted issues. The earliest problem was one of our own making; even though we knew hotel and Airbnb rooms would be fast-selling, we waited a bit too long to rent one of our own. While we did eventually find a—surprisingly nice—hotel, we could have saved ourselves a fair bit of money, stress, and time if we had acted earlier and found a place closer to the convention center.

The second issue was decidedly out of our control; for reasons still unknown to us, Microsoft Outlook randomly malfunctioned at extremely inopportune times, causing emails to disappear without warning—or, worse yet, never reach us at all. We were first made aware of this problem when Professor O'Donnell forwarded an email about an MQP submission—an email we never received, even though it had clearly been sent. We feared that emails from other game teams might have gone missing as well,

which would explain our low submission rate this year. Later on, several emails from Professor Chery successfully reached our inbox, but vanished into thin air hours later, resulting in a few communication mishaps. Though we had several hypotheses regarding the issue—perhaps someone in our group was accidentally deleting these emails, maybe Outlook was malfunctioning, maybe the group alias itself was bugged—we never did figure out what happened. If such things reoccur in the future, the IQP group should seriously consider contacting ITS.

We met our third major obstacle when we tried to pick up the tables and chairs we rented from a local provider. Diana brought along her father's minivan which, according to our measurements, had enough room to accommodate even the eight-foot table—if we laid it on its side between the two middle seats. However, the supplier would only lend us the eight-foot table if it could lie *flat* on the floor of the minivan. The rental center mentioned they had rental trucks and vans of their own, but none of these vehicles could house an eight-foot table, either. We considered contacting a dedicated car rental service, but we were uncertain if we could secure a truck on such short notice—much less if this was the most cost-effective solution. Replacing the eight-foot table with another six-foot one was also a possible solution, though such a change would affect our booth layout. In the end, however, the best answer was the simplest one: Diana remembered that we could completely remove the middle seats from her father's van, opening up enough space for all tables. The eight-foot board fit the trunk *exactly*, and we were able to ship it safely to PAX. Though no drastic measures were needed, it was good to know we could handle unexpected issues and improvise as necessary.

Fig. 34
Murat Kumykov's minivan, exterior

Fig. 35
Murat Kumykov's minivan, interior, middle seats in place

As PAX drew nearer and stress levels ran higher, we were bamboozled once again. Or rather, we bamboozled *ourselves*. Allison had sent us a number of emails with important PAX information—mostly related to our booth number and set-up schedule, along with FAQs and driving directions. We read through the PAX packets, but did not pay as much attention to the set-up dates as we should have; every previous IQP team had constructed their booth the day before PAX opened, so we assumed we would follow a similar schedule. On the contrary, we were slated to set up *two* days before PAX started—a fact we only realized the night before. After conferring with Kate, we hastened to call and email Skip Haile, the Director of Operations, to ask if we could push our time slot back a day. Though our phone call received no response—understandable, as we were calling after hours—Skip Haile promptly answered our email, much to our grateful surprise. Haile confirmed that we could easily set our booth up on a different day. Another disaster, diverted. We resolved to read every email, label, and street sign thrice-over in the future.

Alas, our trials and tribulations were far from over. Upon arriving at the convention center around noon, we set about erecting the booth and assembling its disparate elements. While the process was mostly painless, the TV stand that came with the backdrop decided to fight back. The manual it came with was only marginally helpful, the parts were not labelled, and the pieces used in the tutorial videos did not always match our own. Diana and Tyler labored at the stand with fierce tenacity, and ultimately jury-rigged the TV to the backdrop through a combination of duct tape and ingenuity. Yet as soon as the TV was taken care of, another issue reared its interfering head: The VR station was not working properly. Through thorough investigation and correspondence with Mikel, we managed to resolve the issue (see **VR Headset Woes** for details).

The final, major PAX-related problem crept up on us unexpectedly, but was once again of our own making. As it happened, even though we only had thirteen passes for volunteers, we wound up accepting fourteen—which meant we had to do some last-minute pass-swapping in order to accommodate

everyone. While the kerfuffle itself was easily resolved, we would rather it not have happened at all, and recommend that future groups always keep a close eye on their pass supply. In general, many of the issues only occurred because of some amount of negligence on our part, and no doubt could have been avoided—or at least mitigated—through better preparation or closer attention to detail.

2. Advice

1. Book the hotel or Airbnb as early as possible— "early" as in "when-PAX's-dates-are-announced early." In fact, prepare *everything* or prepare *for* everything in advance. But especially hotel registration. The longer you wait, the more money it will cost, and the further from the convention center it will be.

2. Practice all there is to practice. This includes—but is not limited to—setting up and taking down the booth backdrop, talking about the games, and facing large crowds and attracting people. We would also advise making special note of the TV monitors that accompany the backdrop; we struggled with setting them up, and in the end were only able to put up one TV instead of the two we had anticipated.

3. Double-check all there is to double-check—and then double-check it again. Not only equipment, but information and communications as well.

4. Make certain all cords—power and otherwise—and paraphernalia are present and functional for their respective monitors, computers, or VR headsets.

5. Toolkits are invaluable.

6. Keep a checklist of all tools, materials, and equipment items you are bringing.

7. DUCT TAPE. BRING.

8. Future IQPs should ask all prospective teams to provide a gameplay video *with a **voiceover*** explaining the game premise and mechanics, as well as any interesting facts about the game or its

development process, if warranted. This year, some teams simply sent a soundless video, and it was sometimes difficult to understand the game and its objectives—or even what was happening—from these silent clips alone.

9. Future IQPs should ask all game submissions to include an exciting trailer. This trailer should be playing whenever the game is idling at PAX; we had a .mp4 constantly looping in the background, allowing us to quickly switch between the trailer and game window and vice versa. People seemed more drawn in by actual gameplay or moving images than static title screens.

10. Disseminate information and expectations for volunteers as early as possible so everyone is prepared. Make certain everyone feels comfortable speaking about *every* game, not just their own.

11. Befriend your Enforcers! Or at least, be familiar with their names and faces and get their digits. They are there to help, so utilize them accordingly.

12. We would encourage accepted teams to bring business cards for themselves or their game. Many people—particularly other developers—would ask for business cards if they took an interest in a game, but only two people brought any cards this year.

13. Accepted teams may wish to have websites and QR codes for their websites. If the game is out or will be out soon, PAX booth members should advertise this!

14. A utility dolly is indispensable for transporting heavy things, especially if the booth is not close to the loading bay. PAX itself charges a hefty sum if you wish to rent one of theirs. However, we noticed that many other booths brought their own dollies or carts to move their equipment. Future IQPs may see this as a worthy investment.

15. We found that candy ran out quite quickly, so we suggest future groups buy a surplus. Even if PAX-goers don't always take candy, the volunteers certainly will.

16. We were advised to order more XL, 2XL, and 3XL-size shirts this year. In reality, the Smalls, Mediums, and Larges ran out quickly, and few people fit the 2XL and 3XL sizes. Future teams

may order at their discretion, but we would suggest more Mediums and Larges and not nearly so many 3XLs.

17. Accept that not everything will turn out perfectly. Last minute issues will manifest, unforeseen circumstances will arise; such is the way of things. In the end, it is not about trying to avoid *every* problem, but rather doing your best to prepare—so that when problems *do* occur, you will have a cool head and a backup plan to deal with it.

Appendices

1. PAX Chest Contents (As of November 2019)

- 3 black tablecloths
- 1 red tablecloth
- 3 mousepads
- 4 WPI buttons, 1"
- 1 Mount Ida button
- 5 Final Fantasy 4 lanyards
- 3 small bottles of hand sanitizer
- 1 large bottle of hand sanitizer
- 1 lotion bottle
- 3 boxes tissues
- 1 pack napkins
- 1 roll paper towels
- 3 packs trash bags, kitchen size
- 6 pairs headphones
- 2 hex tools
- 5 clear paper display stands
- 1 air freshener
- 1 container of Clorox wipes
- 1 small trash can
- 6 power strips
- 6 extension cords, small
- 2 extension cords, large
- 1 USB to Type B cable
- 1 DVI cable
- 1 power cable
- 2 ethernet cables
- 6 HDMI cords
- 1 HDMI to VGA adapter
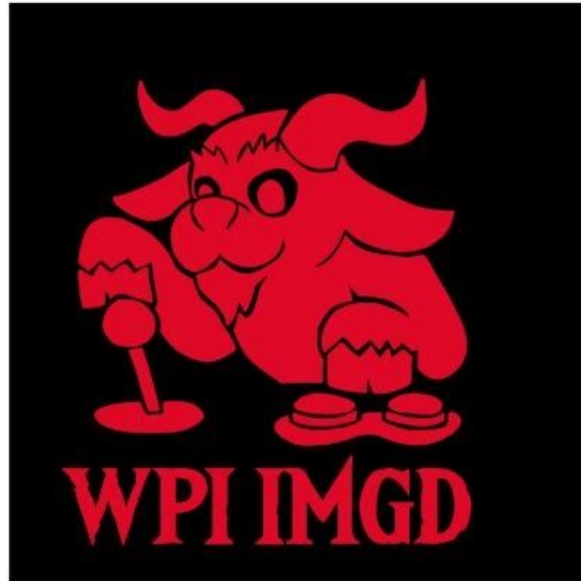- 1 HDMI to DisplayPort adapter

2. Shirt Designs

The 2017 WPI PAX East Booth Shirt Design

The 2018 WPI PAX East Booth Shirt Design

The 2019 WPI PAX East Booth Shirt Design

3. Button Designs

The 2018 WPI PAX East Booth Button Designs

The 2019 WPI PAX East Booth Button Design

4. Important Emails

Hey y'all,

The days are short, the nights are long, and the trees are bare. You know what that means: PAX East is coming!

This year PAX takes place **February 27th** to **March 1st**, and we need some really great **finished** games to show! So if you've got an awesome MQP, a Game Jam project that's really special, or just a pet project you're really proud of, please send the following info and your game to gr-wpi-booth-team@wpi.edu by **January 24th**:

-1 minute or less gameplay video
-Description of your game
-The list of people who worked on your game

For us to present your project at PAX, you MUST have at least 1 team member who is available to attend PAX between 8am to 6pm (not all hours) on each of the days listed above. Team members have to provide their own transportation to the **Boston Convention and Exhibition Center -** there is public transport available from Worcester to Boston if needed. We will provide 2-3 PAX passes for your team, depending on how many games are accepted; if more want to come, that's great! But they'll have to get their own passes.

For more information about PAX - parking, sponsors, etc - check the website:
https://east.paxsite.com/

This is a great opportunity to show off your latest passion project to developers from all over the country and (potentially) make an impression on companies!

Thanks!
Team PAX 2019

Our 2020 Call for Games email (we accidentally signed as the 2019 team)

Hey there!

Congratulations! Your game was chosen to be shown at our booth at PAX East. Please reply back ASAP and let us know if your team is still available to present at PAX - remember, at least 1-2 members must be available **each day** of PAX (February 27th to March 1st) for any amount of **2 hour shifts at the booth between 9am and 6pm.** We'll be sending out an email soon where members will be able to choose their shifts.

Booth Volunteer Orientation is **Thursday, February 13th from 5-7pm** - please make sure at least 1 member of your team is available to attend to make sure everyone knows what's going on day of PAX.

If you have any questions and/or concerns, feel free to shoot us an email at gr-wpi-booth-team@wpi.edu whenever!

Work hard on getting those games polished and pretty! Good luck!

Thanks,
PAX IQP Team

Our PAX 2020 acceptance email

Hello PAX People!

The Volunteer Orientation and Information Session is taking place **next Thursday, February 13th from 5-7pm in Kaven Hall 203**. During this orientation session we will be:

- Going over the draft schedule for PAX volunteer slots
- Demoing and familiarizing ourselves with each game being shown at the booth
- Going over any FAQ's
- Reviewing booth etiquette and what you will be doing as a volunteer

Each team must have a **playable build** available for next Thursday so we can also test it out. If the game's not finished, that's fine, we just want to be able to play everything so all the booth members and volunteers will be familiar with all the games being shown!

If each team member who wishes to volunteer for PAX could please fill out the attached form by **Wednesday, February 12th** at the latest with their preferred volunteer time slots, T-shirt size, and other necessary information we need that would be great, so we can have a draft schedule done by next week. Remember, time slots are **2 hours long each**, between **10am-6pm** from Thursday, February 27th to Sunday, March 1st. **Passes will be provided for volunteers**, so don't buy yourselves any unless we say we've run out!

Also attached is the Volunteer FAQ sheet - please take a look at it before next week's meeting so we can go over questions you may have about it.

Thank you!
PAX IQP Team

<div align="center">Our email to volunteers about the volunteer orientation</div>

Good afternoon,

I am part of the PAX IQP group and we are currently in the process of preparing for PAX East 2020, which takes place from February 27 - March 1, 2020. We've heard how much of a big help you've been in the past while working with previous IQP teams, so we're excited to start working on this year's booth with you. Our advisor has asked us to ask you about the following so we can get a better idea of how to get all we need for the booth with little hassle and lots of extra time:

- Promotional materials, such as pamphlets for summer programs, and the IMGD major and masters program, so we can promote WPI and the IMGD program at PAX
- The backdrop banner that has been used in years past for the PAX booth
    - We'd like to practice setting up the backdrop and taking it down so we can do this properly when PAX comes. We're able to pick it up for practice on January 20th or 27th
    - We'd like to pick the backdrop up before PAX on February 24th or 25th

Sincerely,
PAX IQP Team

<center>Our first email to the Marketing Department</center>

Good evening,

I am part of the PAX IQP group and we are currently in the process of preparing for PAX East 2020, which takes place from February 27 - March 1, 2020. We sent an email a few months ago inquiring about promotional materials available for the PAX booth to show, as well as about practicing setup for the PAX booth. As for the materials, we need 200 IMGD brochures and 200 summer program brochures for Launch, Frontiers, and any other relevant undergraduate and/or graduate programs.

On the topic of undergraduate programs, if you know of any other undergraduate and/or graduate IMGD programs that have promotional materials we can take with us to PAX, please let us know and we can inform you how many pamphlets we'd need. If not, please let us know who we should talk to about getting more information!

And finally, we have booked Riley Commons on February 3rd, from 5-6pm for practicing backdrop setup - is there anyone available during that time to help us with the backdrop? If not, is there a time that works better within the next week? Please let us know at your earliest convenience!

Thank you,
PAX IQP Team

<div align="center">Our second email to the Marketing Department</div>

Good afternoon,

I am part of the PAX IQP group and we are currently in the process of preparing for PAX East 2020, which takes place from February 27 - March 1, 2020. We heard you were in charge of the Frontiers program here at WPI, and we wanted to ask if you have any additional information and/or flyers that you'd like us to have for promotion? We're really excited to spread the word about what the IMGD department has to offer, so if there's any promotional materials you would like us to bring and show off, please let us know!
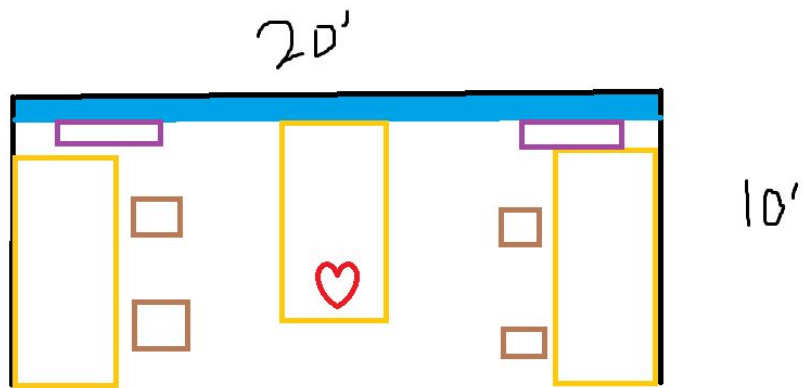
Thank you,
PAX IQP Team
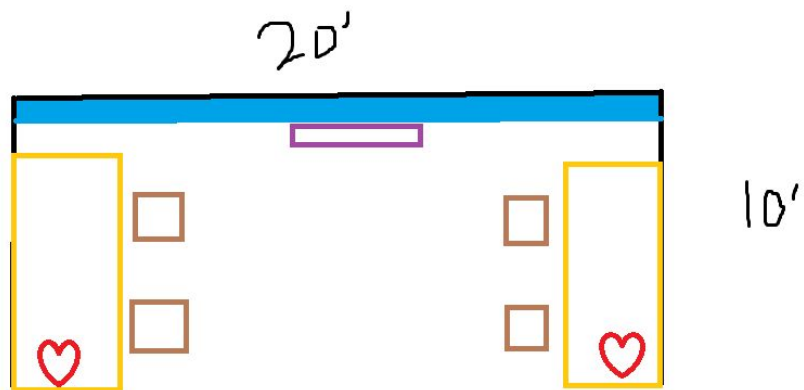
<center>Our email to Ryan Meadows</center>
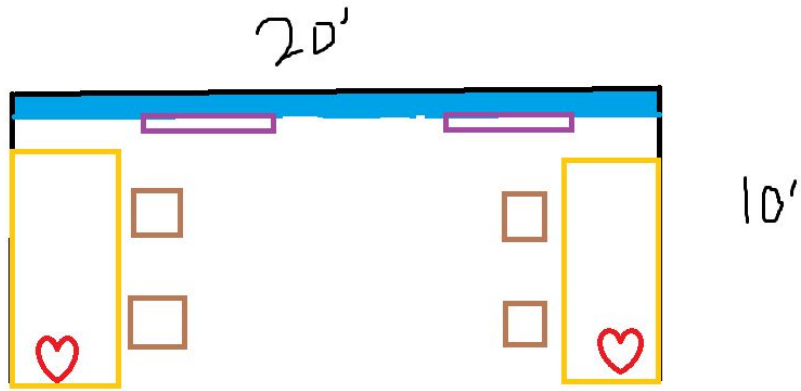
5. Booth Designs
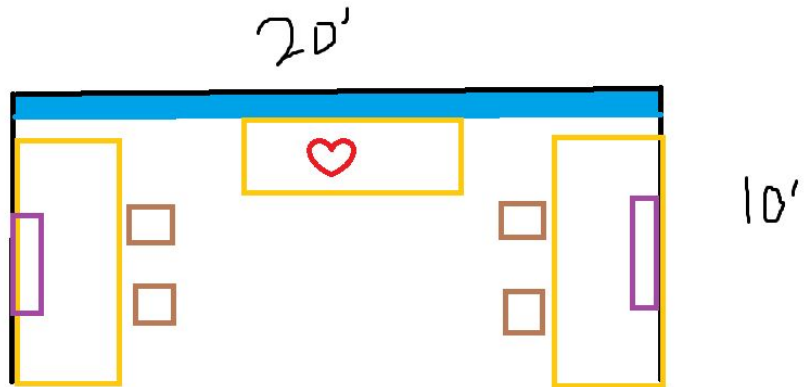
Second design for a non-VR booth

Third design for a non-VR booth

First design for a VR-compatible booth

Second design for a VR-compatible booth

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