Open-Door Day VR Application

Final Report - Students as Co-Creators Project UoW

Team:
Simonas Holcmann
Joseph Calabro
Matthew Hollick
Adam Tedder

Academic Assistance Provided by:
Markos Mentzelopoulos

Table of Contents

1. Summary

Open-Door Day Virtual Reality (ODD_VR) is a Virtual Reality (VR) application built by our co-creators team. The purpose outlined by the ODD_VR team was to create a prototype VR simulation that would allow students outside of London to visit the campus facilities remotely using a mobile VR headset. It was important that the VR application showcased the facilities available to students at the University of Westminster Cavendish Campus and specifically highlight to prospective computer science students the available access to VR technology. VR provided us with an unprecedented opportunity to make a realistic substitute that creatively and immersively allowed these users to experience the university. User requirements were gathered from students across the undergraduate courses of Games Engineering and Digital Media as both these courses leverage the use of VR facilities on campus extensively. Importance was placed on understanding what prospective students looked for in a University by gathering information at open days (open-door days) held at Cavendish Campus. This was accomplished through questionnaires and interviews asking individuals what they liked and what it is they would like to see from a universities during an open day experience. The project leveraged heavily on the data gathered in order to derive a set of best case Use Cases that would satisfy the majority of users as opposed to an isolated demographic.

2. Goals

The ultimate goal of this project is to create an environment that allowed prospective students to experience a realistic representation of VR, Augmented Reality (AR XR) and Motion Capture facilities at the University of Westminster (henceforth referred to as the "UoW"). This applications' primary audience are prospective students who live outside the Greater London area. By utilising VR online the project could attract students to the UoW without the need to invest in long distance travel.

Digital Media and Games Computing courses offered by the School of Computer Science and Engineering were chosen as our focus courses. Selecting these two courses would allow us enough scope to verify the scalability of such an application to other courses and schools at the UoW. Showcasing the UoW's VR technologies in a VR context offers a unique experience not currently available at other institutions. In such an offering the project needs to answer the question "Does this type of VR experience entice prospective students" and "Would more UoW VR campus experiences be of value to the university?" to highlight its potential long term value.

Primary Goals

- Create a VR experience showcasing VR Technologies available at Cavendish Campus.
- Create a VR experience that would allow stakeholders to experience the value of immersive experiences in attracting prospective students.

- Determine if a VR experience could be made compact enough to be viewed online without additional technology.
- Showcase Computer Games and Digital Media courses and how they utilise VR technologies on Cavendish Campus.
- Determine the technical viability of scaling the project to a set of campus VR experiences.
- Improve the accessibility of course open days to students outside the greater London area.

Outside of the primary goals, we wanted to create something that promoted the creativity of current students. Integrating current and previous student work not only increases the feeling of immersion in VR but could further entice users to explore more than the obvious content. What content is of value to the projects' stakeholders? Understanding the "prospective student" through various data gathering techniques identifies a locus of needs that can allow the project to provide content that highlights where these needs are reciprocated. It should give users answers to questions about the courses they are interested. Engaging academics, including their depth of knowledge whilst promoting their professionalism could be key in providing these answers.

Secondary Goals

- Gather a locus of needs for prospective students
- Provide student focused answers to questions about the courses
- Promote the professionalism of academic staff
- Showcase the work of students to improve feeling of immersion

The project should address some technical challenges within VR. In order to do this the project identified a list Technical Goals. VR equipment can be very expensive and the project should address this through the novel identification of alternatives. It should be accessible to a wide range of devices to ensure accessibility and be transferable over long distances.

Technical Goals

- Provide a VR experience without the need for expensive VR headsets
- Ensure that the project can be accessed online.
- Ensure the project is accessible to users of, PC, Mac, Android and Apple devices.

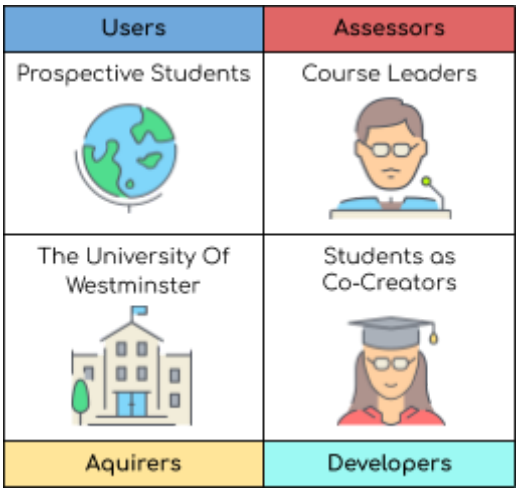
3. Methods and Testing

Stakeholders and their roles

The stakeholders of the ODD_VR project can be categorised into four categories. Prospective Students can be identified as users as they will be the primary audience utilising the VR application in deployment and ae the only identifiable stakeholder who exist outside of the organisation context of the UoW. The university is ultimately responsible for the governance and control of the project including whether to put the project into production. The students

as co-creators team will develop the initial project and this will be influenced by course leaders and the Uow who have a vested interest in the content that describes their courses and facilities.

The diagram above shows the stakeholders and how they are perceived within the scope of this project under s stakeholder class (Rozanski and Woods, 2011). It tries to convey the salient relationship between (the users and the developers) versus (the acquirers and the assessors).



Identifying User Requirements

It was important to identify the stakeholders in this project as it directly affects the questions (Lightbown, 2015) "Who are ODD_VR's primary users?" and once identified "How do we determine their needs?". All of the stakeholders will use the application yet each had a different set of goals that they required from the project. In order to determine the required features the project goals set out by each stakeholder needed to be identified. Once identified it could then be aligned with the goals of the project to outline the essential features of the whole VR application.

Prospective Students

Observations were conducted during student open days by the project team. They focused on individuals interested in Games Computing and Digital Media course. In addition, a questionnaire was sent to a small group of enrolled students asking what information they would have liked to know during open days. (See Appendix D) The results can be summarised as the following needs

- The ability to view equipment offered by the university
- Discover what they might learn during the course.
- Discover what additional costs are associated with their course of interest.
- Discover what resources are available to support their learning. This included academic tools and social resources such as student union, personal tutors etc
- What programming languages they will use
- What employment opportunities will be available to them through the study of this course
- What opportunities were available that could make them stand out from other graduates

Course Leaders

Collaboration with the academic course leaders allowed the project team to quickly identify their key goals of the VR Application.

- Convey the aims of the course

- Give a brief overview of what can be expected at each year of study
- Tools available to students that will help achieve each learning outcome
- Showcase technologies they will be exposed to
- Convey how all of these will make them more employable after graduation

The University

The UoW would have a role in ensuring the project is accessible and maintained after initial development. The project was given the instruction to determine the requirements from the course leaders and prospective students as per the initial proposal. However the following key goals were detailed in the proposal brief.

- Ensure the project is aligned with the student code of conduct
- Ensure that it meets a high standard of professionalism expected of a university research project.
- Ensure that it considers all the stakeholders

Students as Co-creators

The goals the co-creators team wanted from the project are more personal than those identified in section 1. It describes more the creative and technical goals they wanted to achieve in the project.

- Develop creative and playful assets to spark curiosity.
- Align creativity to University Branding, Mascots, Sports Teams, Student Union and Societies.
- Ensure that VR utilised is accessible to a wide number of students at minimal cost.
- Provide virtual assets that accurately describes real equipment.
- Ensure that a wide variety of information is provided not just academic course information but also information on Sports Teams, the Student Union, Societies and commentary from Students.

Defining a list of features

The initial consultation of stakeholders allowed the project to define the user requirements. These user requirements are available in Appendix D. This allowed us to define a list of features that best support the user requirements.

1) Virtual Representation of the Fifth Floor of the copland Building.
2) Assets that define VR Headsets, Gaming consoles, Mac Computers, PC's, and other equipment
3) Digital Guide to help nudge the user to view interactive Content
4) Interactive ray casting points providing the following additional content;
    a) 360 Footage of the actual labs;
    b) Video content of Students and Lecturers;
    c) Information and links;

Prototyping

The method used to produce the application is a stripped down form of agile development known as prototyping. Prototyping was identified as most

effective method as it allowed us to develop the initial prototype from the features and then continually redevelop it through iteration based on feedback from the stakeholders.

User Testing

Each prototype was extensively tested by the team before a version was shown to the course leaders. The objective was to assess how accurate the virtual environment was at reflecting the features outlined. This was an extensive process of development, testing and discussion that was repeated until we had a beta version. This leveraged on White-Box (Farcic and Garcia, 2015) testing where the knowledge of academics and student co-creators was used to test certain conditions or optimise functionality of the code.

The beta version was tested with students utilising the Black Box (Farcic and Garcia, 2015) method. It is used to test how a user interacts with the application without them having an awareness of the internal workings of the application. Providing feedback on the function of features separated from the bias of the co-creators development team.

Testing with students who have knowledge of the course versus those without further allowed us to go beyond bias. The test utilised both an informal process of interview where we noted the experience of the users and a short questionnaire see Appendix E. The outcome was set of results that allowed us to determine the areas for future development. It also highlights features that were successful that can be used to model new features.

Asset Development

Models where created throughout the development of the project to ensure the accurate portrayal of university equipment Unity was loaded with a floor plan for the fifth floor of the Copland building. Photos and videos were then taken to provide reference material from which to draw up the assets in the 3D modeling space that Unity provides.

PCs, desks, monitors, chairs etc. were then created and given textures to be used as props. Once the majority of environmental assets were complete, they were placed into the Unity scene. Since a lot of these models would have multiple instances throughout the application, it was essential to insure they were fully optimised. Each model had to be refined by reducing the number of vertices this is an optimisation technique known as Level of Detail (LOD) . Removing vertices affects how the user perceives detail in VR and requires sensitivity so that a user can still understand the visual information.

This is further complicated by the total number of assets in the project. A balance between the total number of assets and the LOD required to accurate portray the university was challenging to reach. Yet it was a necessary compromise in order to reduce computational load that reduces the performance and the smooth rendering of models. Including the project feature of 360 pictures/videos of the facilities ensures prospective students were still able to get an accurate visualisation of the facilities without VR assets.

Technical Limitations

Since this application was designed for web and mobile platforms, there are certain hardware limitations that had to be taken into consideration. These limitations, such as slower data processing, scarce computational power and lower versions of the graphics libraries, forced the team to sacrifice the quality of the assets for better performance within the application.

One planned feature, the 360 videos, had to be omitted from the project due to the sheer size of the files. However, this was the only major technical challenge the team faced. The use of tools provided by the Unity engine, such as LOD optimisation for models, custom, low-cost shaders, texture mip mapping and baked lighting help to resolve those challenges. the project has resulted in the development of smooth rendering prototype that runs on mobile devices. Unfortunately due to the cost involved with the deployment to iOS devices only Android was extensively tested.

Method of Communication

The project was communicated with others through a public blog available at http://uowopendoorvr.edublogs.org/ Online links to the questionnaires were provided to specific individuals https://forms.gle/1SqEqfYWMbw7GfsB7 student needs, and ODD_VR User Feedback Survey

An online link to the project was made available via the following link https://hiimzimmy.itch.io/open-door-day-vr-alpha-version

4. Results

Based on our findings through research and development, we were able to conclude that the inclusion of an interactive open day application would be beneficial to the university and prospective students. Such an application provides an alternative media rich in visual content providing extended information than what is available currently. User feedback provided some evidence to suggest that this gave students a greater level of understanding of the university or specific course. It allows for interaction with the UoW, student work and staff in a way that isn't necessarily possible through a traditional open day experience.

5. Discussion

The prototype application we were able to create is only the first step in what could be a new method of interaction between university and students. The application presents a more modern approach to how a student can interact with the university and its facilities. Our prototype; however, is limited to the content that describe Games Computing and Digital media courses.

Limitations of the project are many but are inherent in a few key areas one being the assets and how the restrict computation display. The Google Cardboard VR equipment and how it limits the availability of computational power. This in some cases was extended to the limitations of developing for broad range of mobile device all with a subset of computation ability that further limits rendering capability and the availability of storage for an extended set of assets within the VR project.

Despite the limitation the project was able to accurately recreate university facilities. Overlay necessary information in a unique way that does start to identify some of the needs of prospective students. Lightbown (2015) describes the identification of user needs as difficult because often the users are often quick to want all features suggested or unable to formally vocalise a unique feature until a novel method of implementation has been described. Perhaps ODD_VR represents such a novel technique that identified unique user requirements that can lead to the development of a better future solution.

The research feedback has already indicated that students outside of the course would appreciate such an application. A potential starting point for future development of a university wide application. Where the methods of interaction used can be applied or developed for other courses around the university. Although this certainly would require more funding, resources and development time. The UoW as the key stakeholder should seek to assess the viability of such an offering through more extensive research.

6. Conclusion

Through this project we have learnt that development of a virtual university environment is something that would be of interest to prospective students. It provides a new and unique method for learning about the university, which is beneficial to prospective students unable to make it to open-door days. It also provides an environment for current students to show off the work they've been producing through their chosen course. The development of such an application would prove beneficial to the university as it would be great for advertising and getting new students. Since this is something yet to be fully explored by other universities it would also allow the university to stand out from others.

If this were to be expanded on in the future, it would be advised to do greater research on what it is (prospective) students want to see from the university. This will help shape the design of the application and will help guide future development.

7. Reflection

ODD_VR project suffered from differing workflows between student co-creators, academics and test users. Initially there was a constant communication between all team members which allowed the team to plan and organise the project. Unfortunately the pressure of academic activities coupled with financial obligations lead to a deterioration in communication and project management. Overall this provides the project teams with experience in agile development constraints but does limit the outcome of the project. The final prototype has a reduced set of features due to this limitation.

Upon reflection further research could be conducted into the use of VR during open days. This could focus on whether it extends the offering for open days whilst making open days accessible online to students abroad. Alternative solutions need to be reviewed for the headset to overcome the LOD/Optimisation issues faced in the project utilising. Experienced immersion is limited by the LOD possible due to the technical limitation of financial

constraints imposed on this project by the teams' attempt to improve accessibility present a quandary. This would benefit highly from a detailed study on the long term viability relating to the direction of further development. Both in the development language and the VR equipment chosen.

While it is necessary to do further research on the topic, the project supports the idea of creating virtual university environments as a valid method of exposure to university offerings. If this application were to be expanded, then more information should be gathered from students. The project only ask questions relating to courses through focusing on Digital Media and Computer Gaming this excludes students from other courses. Different courses provide different requirements from assets as students expect to see different things and different buildings related to their course. It would be essential to find out what each of these students expect out of each course to help guide the design and development of an expanded tour.

List of References

Farcic, V. and García, A. (2015). *Test-driven java development : invoke TDD principles for end-to-end application development with Java*. Birmingham: Packt Publishing.

Lightbown, D. (2015). Designing The User Experience Of Game Development Tools. London: CRC Press.

Mockplus (2019). How to Design an Effective User Experience Questionnaire. *Mockplus.com.* Available from https://www.mockplus.com/blog/post/user-experience-questionnaire [Accessed 21 July 2019].

Rozanski, N. and Woods, E. (2011). *Software Systems Architecture Working with Stakeholders Using Viewpoints and Perspectives*, 2nd ed. London: Addison-Wesley.

Stone, D. et al. (2005). User Interface Design & Evaluation. London: Morgan Kaufmann Publishers.

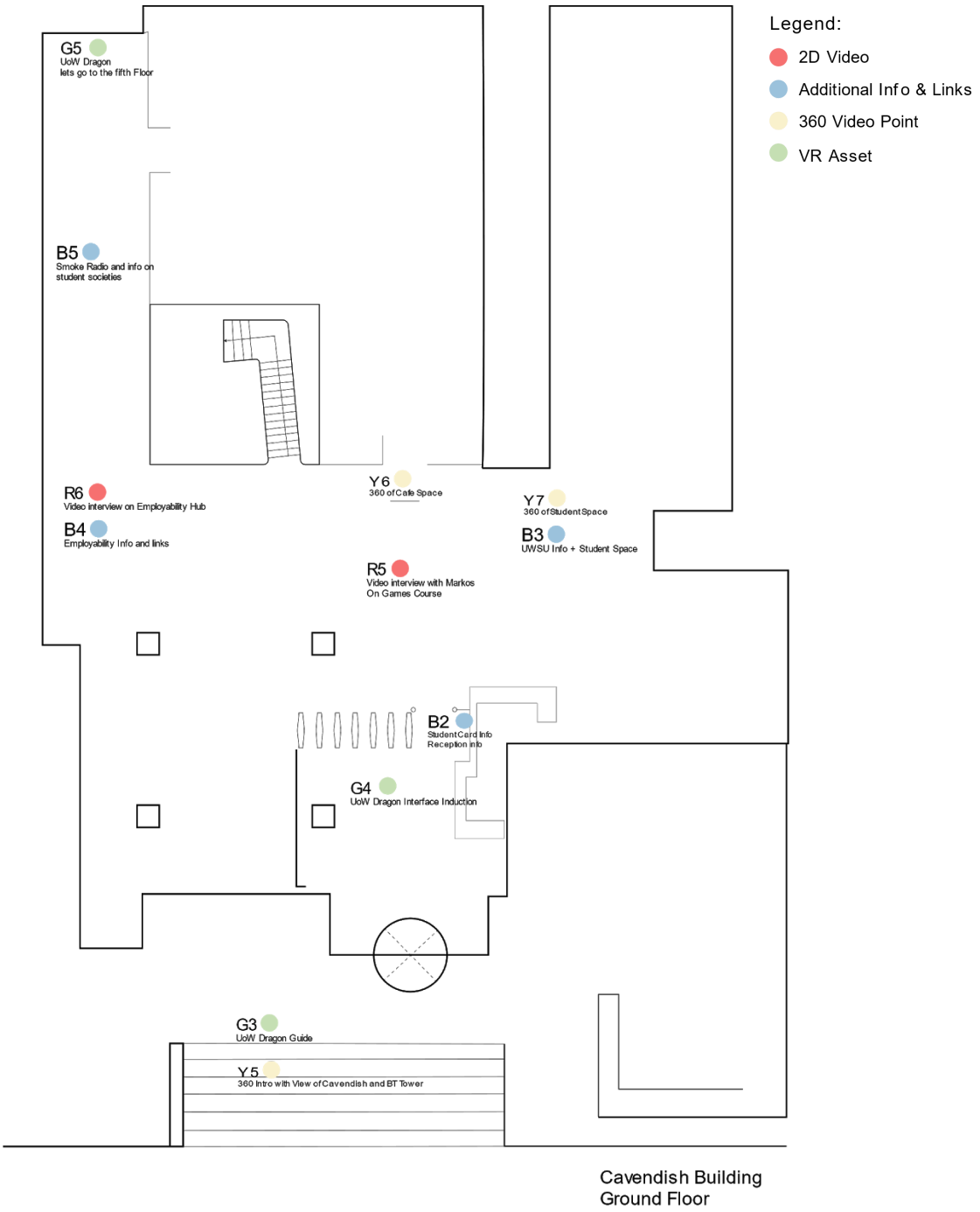
Schrepp, M. (2019). User Experience Questionnaire Handbook. *ueq-online.* Available from https://www.ueq-online.org/Material/Handbook.pdf [Accessed 12 April 2019].

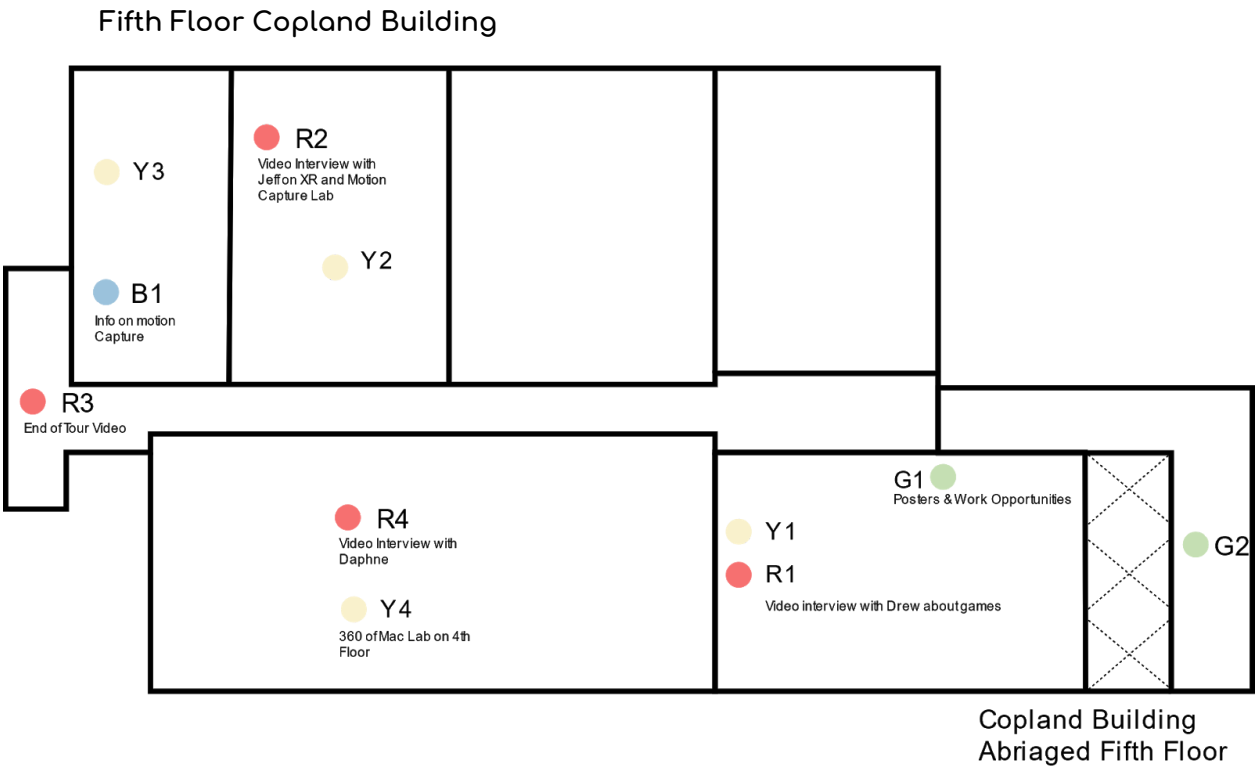
UEQ (2019). User Experience Questionnaire. *ueq-online.* Available from https://www.ueq-online.org/ [Accessed 12 April 2019].

Appendix A: Level Design

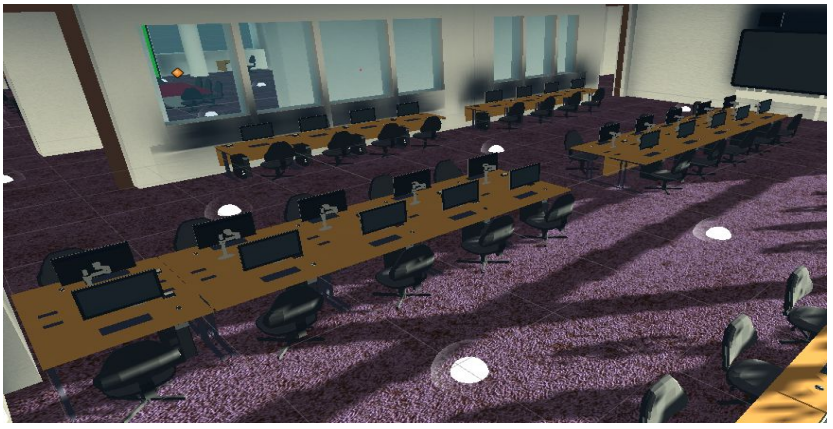
The level design maps with legends represents the preliminary amalgamation of all team members conceptual understanding (based off team project meetings) of content and assets that should be included in the VR Experience.

Ground Floor





Cation 1: Image of the fifth floor from within the VR experience



Caption 2: Image of another room on the fifth floor from within the VR experience

Appendix B: Assets and their Development Criteria

UI Elements
There are 5 predominant UI elements in the VR space.

1. Video Elements
2. Information Elements
3. 360 View elements
4. Teleportation elements
5. Interactive Ray casted elements

The first 3 are represented by hovering spherical elements that radiate a field effect to highlight an element of interest. They hover at eye and move vertically or in relation to an associated character asset.

Videos are associated to specific individuals who feature in them. They have a video UI element tethered to a floating ghost.

360 View elements are static and float vertically up and down without the association to character or VR asset.

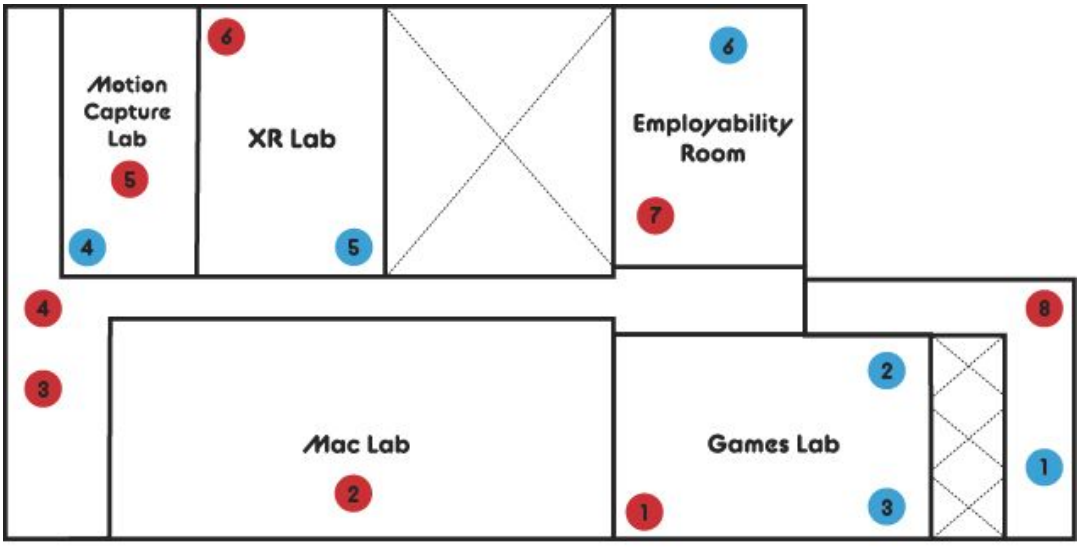
Info UI elements can be either free standing or associated to the dragon character element.

Teleportation elements are floor bound and teleport the VR user to the location indicated by its relative position.

Interaction
All elements are activated through ray casting and as such some VR assets provide additional interaction through focused ray casting. As secondary elements these do not display the following interactivity associated with the primary 3.

1. 3 Second focused ray cast expands the spherical element
2. From there the element animates a 2 second expansion to a 16:9 focused window
3. The background VR space is visible but blurred behind the 16:9 element.
4. Shifting focus away (to the edges and back to VR space) activates a time delayed exit of 2 seconds

Appendix C: Final Level Design Asset Layout



Copland Building Abriaged 5th Floor

Colour Key

- Information Panels & Links
- Video Interviews

Blue Points

1. Information panel about the controls of the game, how to save links, navigate, etc.
2. Information about our made games, posters, work opportunities.
3. A massive variety of consoles and gadgets to work with.
4. Info about motion capture labs.
5. Info about XR lab and its funding, bookings, etc.
6. Employability info and links ----- Clubs & Societies.

Red Points

1. Interview with Drew / LI
2. Interview with Anna
3. Interview with Daphne (about Multimedia course)
4. Interview with Markos (games course)
5. Talk with Giulia about motion capture
6. Talk with Jeff
7. Employability with Abigail
8. Exiting speech by head of school.

Appendix D: Questionnaire 1: Understanding Student Needs at Open Days

Purpose

The purpose of this questionnaire was to understand whether what the project had outlined as things students need on open days were correct and not biased in some way.

Target Audience

- Prospective Students (During the June open day)
- Current Student (Communicated through course representatives)

Structuring the Questionnaire

Sources Stone (2005) suggested the use of a differential questionnaire in gathering needs. A differential scale uses points to grade subjective feeling the use of a 5 point scale was chosen after discussion with academics. It was determined sufficient to show significant results whilst allowing users subjective control as outlined by Mockplus (2017).

The order of the questions is important as defined by Mockplus (2017) moving from generic to specific. The questions were organised into six categories that moved from perception of open days and their value to questions focused on VR that would inform critical design decisions. These categories and their statements for differential evaluation are shown in the table below.

Questionnaire Categories & Questions for: **Understanding Student Needs at Open Days**
Demographic Aimed at identifying whether age, gender, course of interest, relationship to the university show significant trends within the other sections.
1. What is your relationship to the university (Current or prospective Student) 2. What is your gender? 3. Please select your age range 4. Course of interest (Digital Media, Games Computing)
Attending Open Days Evaluates perception to students that open days are valuable and accessible
Scale (Strongly Disagree [1]-[5] Strongly Agree) and questions randomised 1. I think open days are mostly boring 2. I like the idea of attending an open day but I cannot afford to travel to London 3. I think open days are important as they give you direct access to the university.

4. I would attend an open day if it had some fun activities listed in the programme
5. I do not have time to attend an open day
6. I could attend an open day if there were more of them during the year.

Open Day Activities
Evaluates whether the suggested standard activity is of interest or value

Scale (Strongly Disagree [1]-[5] Strongly Agree) and questions randomised

1. I would like to meet course leaders and lecturers within my course of interest.
2. I would like to meet students enrolled in my course of interest.
3. I would like to know if extracurricular activities improve my employment prospects after graduation
4. I would like to meet members of the student union or university societies.
5. I would like to know more about the course outline and expectations
6. It is important for me to see the equipment provided by the university for my course of interest
7. I would like to know what software the university gives me access to on campus.
8. I would like to know about employment opportunities available after I graduate
9. I am interested in open day activities not related to my course of interest.
10. I would like to explore my course of interest through a fun activity

Fun Open Day Activities
Evaluates whether the suggested open day activity is fun, novel or interesting.

Scale (Strongly Disagree [1]-[5] Strongly Agree) and questions randomised

1. I would like to spend some time testing student games produced on my course of interest.
2. I think a VR induction session would be an exciting activity if it was related to my course of interest
3. I think seeing a presentation of previous student work would excite my interest in the course.

4. I would like to code something at the open day using a coding language taught on my course of interest.
5. I think interacting with interesting characters that students have developed, excites my interest in the course because I would like to see how my passion for comics, games and animation will be stimulated.
6. I would like the university to offer a city tour as I have never been to London

Access to VR
This section looks at alternative VR perception and whether VR experiences are wanted as an alternative to open days

Scale (Strongly Disagree [1]-[5] Strongly Agree) and questions randomised

1. I know that digital Media and Games Computing course have access to VR technology, and this is of significant interest to me.
2. I have never used VR before, and it scares me
3. I am very experienced in VR and would like to access as many VR activities during the open day as possible.
4. I would use a VR experience instead of attending an open day if it was accessible online.

Suggestions
This section is designed to be open answer feedback positioned at the end of the questionnaire to catch any creative suggestions that the other questions may have sparked

Distribution

The Questionnaire was recreated on google forms for the purpose of so that it could distributed. Link (https://forms.gle/GKPXo3GEJVLLWZnS8)

Results

Appendix D: User Requirements

Functional Requirements		
No	Requirement	Use Case(s)
1	All users must be able to view, run the application on Android using a GoogleCardboard attachment	• Run application with Google Cardboard extension
2	All users shall be able to enter their email address for the purpose of receiving in experience links via email after they have completed the tour.	• Register email address
3	All users must be able to navigate through the VR space with ray casting and jump points	• Move through VR space
4	All users must be able to ray cast on Video points	• Access course information • Meet course leaders and lectures • Meet current students • Understand employability
5	All users must be able to ray cast on additional link points and navigate the in the VR menu	• Save interesting links for referral outside of the VR experience
6	All users must be able to ray cast on 360 Videos	• View missing visual information through 360 capture
7	All users must be able to clearly view functional assets such as computers, lights, in VR characters and textures.	• View equipment available in the labs
8	All users must be able to exit the VR space • Receive email with useful links	• Exit application • Receive email of useful links
Non-Functional Requirements		
	Must do • The application must be accessible through google cardboard • The application should use university branding, design and consider the visibility of 2D content	

	• The application should gather email addresses and email additional links at the end of the tour. • The application must render all graphics smoothly • The application should include enough assets to represent a real likeness to equipment • The application should create a realistic representation on the labs in order to improve the experience of immersion • The application must be immersive through the effective use of video, 360 video and rendered assets or more information points • Convey information on DM & Games course • Give users the opportunity to see course leaders, be inspired by staff, listen to students Must not do • The application must not be too large to be stored on a mobile device • The application must not confuse the user through ineffective content or navigation

Appendix E: Questionnaire 2: ODD_VR User Feedback Survey

Purpose

The purpose of this questionnaire was to gather feedback from anyone who tested the application. It gathers specific categories of data including

It would focus on gathering an emotional bias focused under 3 user experience paradigms as outlined by Schrepp (2019) in the User Experience Handbook.

Target Audience

- All individuals who tested the application

Structuring the Questionnaire

These categories focus on the attractiveness of the VR environment, the pragmatic elements such as "information and conveyance" and lastly on the hedonic quality of how stimulating or novel the VR experience feels. After researching questionnaire techniques this seemed the most sensible as it allows for scientific method to exclude conflicting or random responses Schrepp (2019) given by participants.

Questionnaire Categories & Questions for: **ODD_VR User Feedback Survey**
Demographic Aimed at identifying whether age, gender, course of interest, relationship to the university show significant trends within the other sections.
1. What is your relationship to the university (Current or prospective Student) 2. What is your gender? 3. Please select your age range
Attractiveness Evaluates the visual qualities of the VR experience.
Scale ([1]-[5] with various emotions) and questions randomised 1. I found my time in the VR experience (unlikeable, Pleasing) 2. I feel the VR environment was (attractive, unattractive) 3. I found the overall VR experience (annoying, enjoyable) 4. I found my time in the VR experience (unpleasent, pleasant 5. I found the characters in the VR experience (friendly, unfriendly)
Pragmatic Quality Evaluates whether the VR environment effectively conveyed information available about the university and the courses of Digital Media & Games Computing.

Scale ([1]-[5] with various emotions) and questions randomised

1. I found that the VR experience rendered details including information, videos, characters and assets (slow, fast)
2. I found the VR spaces (cluttered, organised)
3. The information conveyed in videos and links was (impractical, practical)
4. The information conveyed in videos and links was (Not understandable, understandable)
5. The movement and interaction within the VR space was (Difficult to Learn, Easy to Learn)
6. Overall I found the VR experience (complicated, easy)
7. I felt this VR experience as an alternative to open days for Digital Media and Games Computing courses (meets expectations, does not meet expectations)

Hedonic Quality
Evaluates evaluating whether the VR experience is enjoyable to use.

Scale ([1]-[5] with various emotions) and questions randomised

1. I found the VR experience (boring, exciting)
2. I found the VR experience videos and information links (interesting, not interesting)
3. I found the VR characters and objects in the space (creative, dull)
4. I found the overall VR experience was (usual, leading edge)

VR Equipment
This section looks at the experience of the user with the VR equipment.

Scale (Strongly Disagree [1]-[5] Strongly Agree) and questions randomised

1. I used google cardboard for this VR experience
    a. on my own device
    b. on a device provided by the ODD VR Project Team
    c. another type of VR device such as Vive or Oculus.
    d. other please specify
2. I found it easy to use on Google cardboard
3. The use of google cardboard made the VR experience for accessible to me
4. The use of ray casting to navigate and interact through the space was intuitive
5. I found the headset comfortable to use throughout the VR experience

Additional Feedback
This section is designed to be open answer feedback positioned at the end of the questionnaire to catch any creative suggestions that the other questions may have sparked

Distribution

The Questionnaire was recreated on google forms for the purpose of so that it could distributed. Link (https://forms.gle/1SqEqfYWMbw7GfsB7)

Results