| **Assessment Brief Form** |
|---|

| | |
|---|---|
| Module Title: | Virtual Reality Systems |
| Module Code: | CI606 |
| Author of Assignment | Karina Rodriguez |

| | |
|---|---|
| Assignment No: | 1 |
| Assignment Title: | Virtual Reality Project |
| Percentage contribution to module mark: | 100% |
| Weighting of component assessments within this assignment: | Design and analysis of solution 30%<br>Description of implementation and testing 60%<br>Format of report 10% |
| Module Learning Outcome/s Covered: (Refer to module syllabus) | 1. Deploy methods and techniques for describing Virtual Environments.<br>2. Design and implement Virtual Reality systems on interoperable platforms.<br>3. Demonstrate an awareness of the range of current and potential uses of Virtual Reality Systems. |

| | |
|---|---|
| Date of issue: | 4th October 2023 |
| Deadline for submission: | 13th January 2024 |
| Method of submission: | e-submission link on MyStudies – please see detailed instructions on what / how to hand in in |
| Date feedback will be provided | 30 January 2024 |

| Assignment Brief and Assessment Criteria: |
|---|
| Spatial Mixed-Reality (MR) application to enhance our living environment.<br><br>Through this coursework you will demonstrate your understanding of the theory and practice for creating a Mixed Reality (MR) application by identifying a specific user need, designing, developing, and testing a solution. The coursework will be completed in groups of 2.<br><br>The aim for the team is to 1) design, 2) build and 3) test a system which enhances the user's living environment either indoors or outdoors. For example, you can present information to a user related to the environment (e.g. visit virtually a design |

of a house), allow a user to interact with data, or deliver some educational/entertainment experience such as an installation.

**Design**
The design task will include to brainstorm some ideas for this system in collaboration with a user (e.g. another student, a company, or a group of users). The system can be fully virtual or contain elements of mixed reality.

**Development**
As a minimum, the system you develop must deliver a minimum of dynamic information/content so that this changes every time the user accesses the environment. Instead of developing your content, you can draw multi-dimensional content – in particular images and 3D models - from 'linked' sources. The system must also allow for some type of interaction. The mechanisms to bring content can include querying data through an API in real time, at loading time or generating content on the fly.

To build the system you can use either a Web-based environment, or a game engine, such as Unity or Unreal, or WebVR.

**Testing**
You should aim to gather basic feedback on the developments.

**What you need to deliver?**
• The source material (including any development code) and assets of your project, submitted via MyStudies. You can provide a link to the git repository if using a source code control system.
• A 2,500 words reflective report.

Your submission should be done through MyStudies including the report and link to source code.

**General requirements for your report:**
When you prepare your report, you should set out at least the following content:
1. Describe the motivation, user requirements, design and implementing of your system.

2. Relate the various elements of the implementation to theoretical aspects of graphics systems (e.g. how do you collect content, what decisions you needed to make during the development, how you implemented the engagement with content) to demonstrate your understanding.

3. Present any testing you have done for your system, this can either be user testing or a testing technique such as white/black box testing.

4. Discuss the resulting system, its limitations, and ideas for expansion.

Remember to refer to relevant sources of the implementation if appropriate. You can base your implementation on pseudocode, but you are not allowed to copy-paste an implementation of a method.

The mapping of grades to assessment criteria should be read in combination with the University of Brighton marking descriptors – https://staff.brighton.ac.uk/reg/acs/docs/Undergraduate%20marking-grading%20descriptors.pdf

**Grading Criteria**

| Grade | Design and analysis of solution | Description of implementation and testing | Format of report |
|---|---|---|---|
| A+ 80-100% | The user requirements have been considered to an outstanding level, and the design reflects accurately how to implement a system which successfully address these. | The project has been implemented at an outstanding level to demonstrate the full understanding of the theories and techniques for developing Virtual Reality Systems as well as others which complement this. Testing validates the user requirements in an outstanding way. | The content and format of the report has an outstanding organisation, structure and standard of presentation of all points requested, including: requirements of the system, design of your solution, description of the implementation of your methods, relevant sources, as well as testing. The report describes decisions made throughout the project and discusses the limitations and results. Visual content is used to illustrates different concepts and there is enough evidence through the report of the learning developed during the tutorials. |
| A >70% | The user requirements have been considered to an excellent level, and the design reflects to an excellent extent | The project has been implemented at an excellent level to demonstrate the understanding of a great range of theories and techniques for developing Virtual | The content and format of the report is of excellent quality, correctly organised and convincing presentation with very few omissions of all points requested. More effort could have been done to provide evidence on the |

| | | | |
|---|---|---|---|
| | how to implement a system which can address these. | Reality Systems. Testing validates the user requirements in an excellent way. | underlying concepts used throughout the development, describe decisions made throughout the project and discuss the limitations and results. |
| B 60-70% | The user requirements have been considered to a very good level, and the design reflects to large extent how to implement a system which can address these. | The project has been implemented at a very good level to demonstrate the understanding of a varied range of theories and techniques for developing Virtual Reality Systems. Testing validates the user requirements in a very good way. | The content and format of the report is good overall, thorough and convincing presentation of various points requested. Some omissions can be found and there is a need to provide further information to provide evidence on the underlying concepts used throughout the development, describe decisions made throughout the project and discuss the limitations and results |
| C 50-60% | The user requirements have been considered to a good level, and the design reflects to a certain extent how to implement a system which can address these. | The project has been implemented at a good level to demonstrate the understanding of a limited range of theories and techniques for developing Virtual Reality Systems. Testing validates the user requirements in a good way. | The content and format of the learning portfolio is satisfactory and convincing presentation of various points requested with many omissions. |
| D 40- 50% | The user requirements have been considered in a very basic way. The design is basic in reflecting how to implement a system which can address these. | The project has been implemented at a basic level to demonstrate the understanding of a limited range of theories and techniques for developing Virtual Reality Systems. Testing is very limited or does not fully validate the user requirements. | The content and format of the report is very basic with a description of some points requested, and only the requested points treated in a very superficial way. |

| | | | |
|---|---|---|---|
| | | | |
| E <40% | The user requirements have not been fully considered. The design is very weak and do not reflect how the system was implemented to address these. | The project is weak in demonstrating the understanding of any theories and techniques for developing Virtual Reality Systems. Testing does not fully validate the user requirements. | The content and format of the report is weak in most respects, below pass standard. |
| F <30% | The user requirements have not been considered and the design is unsatisfactory. | The project is unsatisfactory in demonstrating the understanding of any theories and techniques for developing Virtual Reality Systems. Testing is very weak. | The content and format of the learning portfolio is completely unsatisfactory with most points requested missing. |