# KV6002 Team Project and Professionalism Project Idea

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| Group Member Name | | Programme |
| Hassan Mohammad | | Computer Science with Animation, Graphics and Vision |
| Luke Rose | | Computer Science with Animation, Graphics and Vision |
| Zoe Irwin | | Computer Science with Animation, Graphics and Vision |
| Efstathios Efstathiou | | Computer Science with Animation, Graphics and Vision |
| Ana-Sabina Irimia | | Computer Science with Animation, Graphics and Vision |
| Project Idea (One sentence) | | |
| Produce a VR System for an immersive forensic virtual reality experience to emulate crime scenes for forensic investigation. (External Consultants from Social Sciences Department of Northumbria University) | | |
| Explanation (one paragraph) | | |
| To develop a 3D virtual reality crime scene environment where users can navigate and interact with the scene. The user will be uncovering a story developed by the group to examine the crime scene while using the Oculus VR headset to interact with various objects. A challenging aspect of this project is to create an accurate crime scene which feels natural for the user to navigate around while also being a notable educational tool. By using the Oculus VR headset coupled with Unity3D we can immerse the user using the latest advances in virtual reality technology. Using this latest technology we can introduce new ways of user interaction to move around and interact with objects such as bodies, weapons and other evidence related to a crime scene. We will be working and consulting with the Social Sciences Department of Northumbria University in this project. | | |
| Group Work | * The system must be an educational tool for the social sciences department using existing hardware provided by the university. * The system must feel natural to the user and immerse them in the environment. * The application must be running in real-time with acceptable performance. | |
| Subsystem 1  (Luke Rose) | Build a 3D Scene:  A 3D environment which:   1. Must simulate a crime scene, 2. Must Represent the crime scene according to the story written, 3. Must use existing 3D assets to populate the environment to create the scene, 4. Should Set up adequate lighting for the environment, 5. Could develop own 3D assets using additional software to add to the scene, | |
| Subsystem 2  (Ana-Sabina Irimia) | Create a storyline:  A Storyline which:   1. Must be able to describe the events that took place in the 3D environment, 2. Must provide clues related to the storyline that assist the investigation in uncovering the whole story, 3. Must write alternative pathways to the story to challenge the user’s perception of the scene, 4. Should produce a storyboard to describe events in the story, 5. Could write stories for additional crime scenes, | |
| Subsystem 3  (Hassan Mohammad) | User Interaction  A User Interaction System which:   1. Must be able to navigate around the environment fluidly using the Oculus VR headset, 2. Must be able to interact with various 3D objects in the scene, 3. Must provide adequate feedback response when interacting with the scene, 4. Should allow user to select storyline pathways relating to the overall story, 5. Could introduce alternative ways to interact with additional devices e.g. Smartphones, | |
| Subsystem 4  (Zoe Irwin) | User Interface  A User Interface which:   1. Must allow basic navigation through a main menu screen, 2. Must display and instruct the user on how to navigate around the scenes, 3. Must create sub-menu interfaces for the user to interact with the scene, 4. Should make user interfaces as user-friendly as possible, 5. Could make user interfaces more interactive with the use of sound & graphics, | |
| Subsystem 5  (Efstathios Efstathiou) | Testing:   1. Must be a runnable application and compile with no errors, 2. Must test the various sub-systems of the application and document the results, 3. Must regularly test each build of the application and provide feedback to the other members of the group, 4. Should analyse set objectives and goals against the finished product, 5. Could test the application on other hardware devices such as smartphones, | |
| Client? | As a group we will discuss with the students and staff from the social sciences department of Northumbria University from the Coach Lane Campus. | |
| Stakeholders? | The wider university context | |
| Existing systems? | * CSI VR Crime Scene Investigation Game : <https://store.steampowered.com/app/893650/CSI_VR_Crime_Scene_Investigation/> * ScanLAB Projects Crime Scene :   <https://scanlabprojects.co.uk/work/crime-scene/> | |
| Research? | **References** Nafarrete, J. (2018, March 2nd). *VRScout*. Retrieved from Chinese Courtroom Uses VR to Revisit Crime Scene: https://vrscout.com/news/chinese-courtroom-vr-crime-scene/ | |