Statement of Work

Team Karsus

Members

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1. Team Information

Team name	Karsus
Team leader	William Fitzmaurice
Team skills	Software Engineering (coding in Java, Python, PHP) Design (UI/ UX with HTML, CSS, JS, Bootstrap)

2. Proposal Outline

The team has selected the project *Hot Shots*; a system aimed at increasing the amount of engagement within a classroom setting through gamification and incentivising learning. The specification also explores the potential use of Augmented Reality and Virtual Reality to improve user engagement; the findings however were unclear, and as such, we will not be pursuing an AR/VR focused solution. The proposed solution aims to break down shyness and language barriers that prevent a student from engaging in a classroom by enhancing user engagement and accessibility through the application of game design elements in a non-gaming context. As noted in the specification for Hot Shots, the target market for this solution is tertiary, and we will explore the implementation of this solution in the coming weeks.

3. Features Specification

An educational gamification system with the following features is intended to be built:

- Account accessibility that allows teachers and students to complete their tasks under their names.
- Avatars with options for anonymity for representation of students allowing those who are more shy and reserved to actively participate.
- Pre-recorded questions that will be asked in class; along with multi-choice clicker style questions with time to prepare for in class content (answer pool) to be displayed in the system.
- Use of Extended Reality (AR and VR) allowing access from anywhere, anytime.
- Ease of Use and simple UI for maximum technology engagement.
- Preparation, active learning and feedback for system improvements.
- Rewards to promote repeated visits to the system.

Tools expected to be used:

- Website Application with Front end: HTML, CSS, JavaScript, Bootstrap for front-end and PHP for back-end.
- WebStorm as IDE or Visual Studio Code as Text editor.
- Azure SQL Database for data storage.

4. Project Plan

4.1 Timeline and Milestones

Timeline	Milestones
Week 1 (3/08 - 9/08)	Choose Project Topic
Week 2 (10/08 - 16/08)	Team Building
Week 3 (17/08 - 23/08)	Statement of Work (17/08 6pm)
Week 4 (24/08 - 30/08)	Setting up basic front end UI and back end connections
Week 5 (31/08 - 06/09)	Planning for presentation of MVP
Week 6 (07/09 - 13/09)	Mid Presentation (10/09 10am)
Week 7 (14/09 - 20/09)	Improvements to current product version based on feedback
Week 8 (21/09 - 27/09)	Continuous work on project
Week 9 (05/10 - 11/10)	All front end UI complete
Week 10 (12/10 - 18/10)	All back end coding complete
Week 11 (19/10 - 25/10)	Planning for presentation of final product
Week 12 (26/10 - 01/11)	Final Demonstration (29/10 10am)

4.2 Team Personnel Resources Allocation

Team Member	Tasks Responsible For
Diana	Front end UI with Bootstrap, PHP and MYSQL support
Will	Leadership and delegation, backend coding
Harry	Database administration, GitHub management
Karthous	UI/ UX Designer, Assistant programmer
Jacob	Backend coding, topic researching
Edwin	Front end UI with HTML/ CSS, Google Drive management

4.3 Potential Risks and Mitigation

Risk	**Mitigation Plan**
Description: Absent team member(s) from meetings due to other commitments or illness. Probability: Medium. Severity: Low.	Ensure constant communication between the whole team such that team members who are absent are informed about important details and information discussed in class and meetings. This communication will be done through the methods described in Section 5, such that everyone will be up to date and can continue to make valuable contributions towards the project unaffected.
Description: Loss of work files such as project documents and code. Probability: Low. Severity: High.	All team members should keep backup copies of project files locally or on a hard drive. Project documents should be shared on Google Drive, such that it is safe on the cloud and all members can make changes simultaneously. Additionally, code will be backed up in a GitHub repository such that all members can stay up to date with the project as all times. Furthermore, team members will follow basic Software Engineering protocols during development, such as often making small and meaningful commits with Git.
Description: Required work not completed by the deadline. Probability: Low. Severity: High.	If work is not completed by the deadline, then this risk could have very serious consequences, such as delaying further progress of the project. To completely mitigate this risk, all members should follow the project timeline closely as described in Section 4.1. In the event that a team member is experienced with struggles to complete an assigned item on time, they should reach for help from other members of the team who happen to have more time up their sleeve.
Description: Conflict between team members, this could be personality clashes or clashing ideas with project work. Probability: Medium. Severity: Medium.	To minimise or prevent any form of conflict between team members, constant and clear communication is vital. This should include (but is not limited to): detailed face-to-face conversations in class and in meetings, along with clear messages and voice calls for outside class times. This will ensure that all team members feel comfortable, on the same page and clear with their work allocations. In the event of a serious conflict, team members should calmly discuss resolutions with compromises; further escalations should be taken to the course teaching staff.
Description: Technical issues	Although modern technology can be very powerful, it can

such as: bad internet, certain technologies not working properly. Probability: High. Severity: Medium.	become inconvenient when it doesn't work. In the likely event that the internet acts up, team members should continue to work locally and commit/ push changes once the internet is back up. When certain technologies are not working on personal devices, team members should continue to work on what they can, whilst seeking help from other team members, the course teaching staff to solve the issue as soon as possible. Furthermore, if all else fails, lab computers can be used as a temporary solution, as Google Drive and GitHub allows access from any work computer.Although modern technology can be very powerful, it can become inconvenient when it doesn't work. In the likely event that the internet acts up, team members should continue to work locally and commit/ push changes once the internet is back up. When certain technologies are not working on personal devices, team members should continue to work on what they can, whilst seeking help from other team members, the course teaching staff to solve the issue as soon as possible. Furthermore, if all else fails, lab computers can be used as a temporary solution, as Google Drive and GitHub allows access from any work computer.

5. Team Collaboration Plan

5.1 Tools to be used

- Google Drive for document sharing (reports and presentations).
- GitHub repository for version control of code.
- GitHub's built-in Issues and Projects tabs to be used for project management and task allocation.

5.2 Meeting and Communication Plans

- Team meetings will occur twice per week during the Studio Sessions (one online, and one in person).
- Discord will be the platform used for online communication during all other times to discuss progress and any other project issues; as it allows easy direct messages, voice/ video calls and screen sharing.