SE4010 – Current Trends in Software Engineering

Year 4, Semester 1

Assignment 3 - Mixed Reality

Group Assignment

Objective: Develop a simple marker-based augmented reality (AR) application (Web/Mobile) that displays 3D models of objects on different markers related to a selected scenery (for example park, beach, classroom, etc …). The 3D models should appear when the markers are detected by the AR system. Additionally, add creative components to make the application more engaging and entertaining.

Percentage of overall: 10 %

Requirements:

- Use image markers to trigger the display of 3D models. Each member should contribute for one 3D object for the selected scenery.
- Download necessary 3D models of your choice (e.g., an animal, vehicle, or any creative object).
- As creative elements you can add animations, particle effects, or sound effects to make the experience more interactive.
- Development platform is not restricted. Students can use platforms such as Unity, and the Vuforia SDK or a similar AR tool.

Deliverables:

- Submit a short video (maximum 5 minutes) capturing the working AR application.
- Submit a report (2-3 pages) describing the development process, contribution of group members, screenshots of the working application, and if any creative elements added to the application.

Deadline: 18th May 2025

Evaluation Criteria

Criteria	Description	Points
Functionality	• The AR application should correctly recognize the marker and display the 3D model. • The marker should trigger the model seamlessly, with proper scaling and positioning.	10
Creativity	• The application should include creative elements such as animations, sound effects, interactive features (e.g., rotating the model, scaling, etc.), or any unique enhancements to make the AR experience engaging.	2
3D Model Quality	• The 3D model should be of high quality, with good texture resolution and realistic movements (if animated). • The models should be relevant to the selected scenery.	3
Marker Tracking Accuracy	• The marker should be easily recognized, with the 3D model correctly positioned on top of it. • The AR system should handle small deviations in marker alignment effectively.	5
Video and Report submission		5
Total		**25**

**** Students are evaluated individually for their contribution.**