SINGAPORE UNIVERSITY OF SOCIAL SCIENCES

MTD367
iOS Application Development

Tutor-Marked Assignment 02

July 2024 Presentation

TUTOR-MARKED ASSIGNMENT 02 (TMA02)

This assignment is worth 15% of the final mark for MTD367 – iOS Application Development.

The cut-off date for this assignment is **23 September 2024, 23:55 hrs.**

Note to Students:

You are to include the following particulars in your submission: Course Code, Title of the TMA, SUSS PI No., Your Name, and Submission Date.

SUBMISSION INSTRUCTIONS:

1. Students are to submit their work via Canvas.
2. All codes, code project folders and screen recordings are to be saved in a single .zip folder with maximum file size of 200 mb for submission. Submission by means of google links or any file sharing links are not accepted.
3. Name your compressed file strictly to this format: CourselD_AssignmentlD_StudentUserID_FullName. Student User ID refers to the front part of your SUSS email. Properly name your folders with question and sub question number.
4. Short Film format Title for the final short film: MTDxxx_TMAxx_QuestionNo._YourFullName Format: MP4 format (.mp4) Minimum resolution of 1080 by 720 (720P)
5. Report file name format: MTD3xx_TMAxx_Report_YourFullName. It should be in a .doc or .docx word document format.

Question 1

Apply your knowledge learnt in Gesture Recognizers, UIViews, UIControls and Animation. Build a simple game APP in Xcode. This is a fruit collection game, with fruits falling from the top in different location and speed, and a container at the bottom of the screen to collect the falling fruits. The user is rewarded when fruits are collected in a timely manner.

(a) Examine UIViews and UIControls to be used in this game APP, and design the workflow of the game APP.
(Describe which UIViews are used and their related function, and describe how the APP works in sequence.)

(10 marks)

(b) Evaluate the procedures of a game start page with difficulty selection (e.g., higher falling speed, more fruits) by **gestures**, and develop the falling animation of different type of fruits, from random location.
(Provide screen recording of the simulator showing the proper functioning of difficulty selection and related difficulty of game play.)

(10 marks)

(c) Experiment gesture recognizer-based events to perform container movement controls with a **swipe**, and use **double tap** to pause and resume the game.
(Provide screen recording of the simulator showing the proper functioning of movement by swipe, and game pause/resume features.)

(10 marks)

(d) Design the control flow in the game APP to provide reward and penalty based on different fruit types collection and missed collection, and the game can be restarted.
(Provide screen recording of the simulator showing the proper functioning of the required functions.)

(10 marks)

(Place your code project and recorded videos into their folders and zipped for submission. Your name and question number should be reflected on the video title of the corresponding video clip.)

Question 2

ARKit

(a) Experiment with the ARKit to create different types of 3D objects and 2 perpendicular planes, with at least 1 box object on the vertical plane and 1 sphere on the horizontal plane.
(Paste the code of create 3D objects and planes in your report. Capture a screenshot of the scene.)

(10 marks)

(b) Experiment with ARKit to find and set-up the horizontal plane in the real-world. Use ARAnchor to place an external imported 3d models in the plane with proper light source and camera view.
(Paste the code of detect a plane and anchor to the plane in your report. Capture a screenshot of the scene.)

(10 marks)

(Place your code project in their respective folders and zipped for submission.)

Question 3

Design and create an application

You are required to design and create an APP that facilitate "online shopping" The APP function should support "online shopping" of different items (clothing, artwork, electronic devices, etc.).

(a) Explain the concept and functions of the APP design, and create the workflow of the APP from View to View with related functional requirement. (A flowchart should be presented.)

(10 marks)

(b) Design and create the APP in Xcode with the following requirements:

- UI design with more than 3 Views, and include UIControls and UIViews.
(5 marks)

- Apply Audio or Video components to the APP.
(5 marks)

- Evaluate Gesture recognizers and add them to the APP.
(5 marks)

- Examine Camera and photo related functions and add them to the APP.
(5 marks)

- Experiment GPS location based functions (MAPKit) in the APP.
(5 marks)

- Good UI and appealing, background images, icons, color styles, layout etc.
(5 marks)

(Provide a screen recording showing all the functions the user can experience in the APP. One screen recording containing all the functions and transition between the functions as how the user uses it.
Place your project and video in their respective folders and get them zipped for submission.)

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