INDIVIDUAL ASSIGNMENT
LANKA
COMP50011
MOBILE APP DEVELOPMENT I
IF21A1SE COM

HAND OUT DATE: 31st October 2022

HAND IN DATE PART 1: 15th December 2022

HAND IN DATE PART 2: 25th January 2022

WEIGHTAGE: 65%

INSTRUCTION TO CANDIDATES:

1. Students are advised to underpin their answers with the use of references (cited using the Harvard Name System of Referencing).

2. Late submission will be awarded zero (0) unless Extenuating Circumstances (EC) are upheld.

3. Cases of plagiarism will be penalized

4. Assignment report and the application should be submitted in the form of a zipped folder to the link provided on LMS.

Learning Outcomes

Upon completion of this assignment, you will be expected to achieve the following learning outcomes:

1. USE A VARIETY OF TECHNIQUES TO DEVELOP AND TEST APPLICATIONS FOR MOBILE DEVICES THAT SHOWCASE MOBILE DEVICE CAPABILITIES

2. DESIGN A USER INTERFACE THAT CONFORMS TO SPECIFIC PLATFORM REQUIREMENTS

3. CONTRAST THE DIFFERENT APPROACHES TAKEN IN MODERN MOBILE APP DEVELOPMENT

To be submitted as specified in the Consolidated SAIS. The soft copy including the diagrams and the system prototype (compressed as a zip folder) should be submitted to the link provided on LMS.

Assessments

Assignment 1 - Worth 30% of module marks (LO 2,3)

Assignment 2 – Worth 35% of module marks (LO 1,2)

University Regulations

The University Regulations regarding exceptional circumstances and academic misconduct will apply. Please ensure that you are familiar with these regulations. For further information please see

https://www.staffs.ac.uk/students/course-administration/academic-policies-and-regulations/home

Submissions

- All submissions are done using LMS

- All reports must be uploaded in MS Word or PDF format and readable on a PC

- All presentations must be uploaded in PowerPoint or PDF format and readable on a PC

- All zipped files must be in .zip format NOT .rar

- Standard submission rules apply:

  o Late submissions attract ZERO marks for that section

  o Failure to submit on LMS may forfeit your opportunity to present or demonstrate your work

  o Failure to attend the presentation or demonstration on time may result in 0 marks for that component of assessed work

Important Weeks

Assignment 1
- Hand in date (electronically on LMS) **Week 8**

- Presentation / Demo **Week 9** (dates and times will be published on LMS)

Assignment 2
- Hand in date (electronically on LMS) **Week 13**

- Presentation / Demo **Week 14** (dates and times will be published on LMS)

Scenario

You have been asked to show your skills in mobile application development using a variety of methods, and have been asked to design, develop and test a mobile application suitable for an Android device.

You **must agree the application topic with your lecturer** before commencing implementation.

The app must:

- contain at least 4 screens

- provide suitable navigation to move between screens

- apply Android and other guidelines for mobile interface design
- contain well-laid out and appropriate content, with no Lorem ipsum

- have suitably formatted text of correct size using appropriate fonts

- use suitable and optimised media of the correct file format

- respond appropriately when the user changes orientation

- respond appropriately to different screen sizes and resolutions

- work offline, showing fall backs when accessing online data sources

It must demonstrate appropriate use of internal and external data handling, including:

- getting input from the user
- passing data between screens
- reading data from an external API or JSON file
- reading data from and writing data to a local data source

It must use at least 3 of the following, ensuring they are suitable for mobile devices and relevant to the application:

- camera

- access to contacts

- accelerometer / gyroscope

- geolocation

- proximity sensor

- ambient light sensor

- dark and light mode
- a form designed for mobile devices
- be configured with an app manifest, and appropriate icons

- any other feature agreed with your lecturer

Note: not all features are supported by every development technique

Assignment 1 - Worth 30% of module marks (LO 2,3)

This will be assessed in a 15-minute presentation.

You will need to hand in the following
- **a copy of your presentation slides**

You have been asked to introduce your application by creating a 15-minute presentation which shows the following:
- a brief introduction to your application
- high-fidelity screen designs, landscape and portrait, for each page of the application on an Android phone (i.e. 8 separate designs), created in Invision or a similar design application
    - **NB: the designs for landscape and portrait should not be the same**
- details of any transitions between screens

- details of how the user interacts with the application

- a researched and referenced comparison of

    - the different approaches taken in modern mobile app development (i.e. native, hybrid, transpiled and progressive web apps)

    - the design and publishing processes for Android and iPhones

Marking scheme

Task	Marks
• quality of presentation (including introduction)	10
• high-fidelity landscape screen designs for each page of the application on an Android phone, created in Invision or a similar design application	20
• high-fidelity portrait screen designs for each page of the application on an Android phone, created in Invision or a similar design application	20
• details of any transitions between screens • details of how the user interacts with the application	10

• a researched and referenced comparison of
 	
    o the different approaches taken in modern mobile app development (i.e. native, hybrid, transpiled and progressive web apps)
    o the design and publishing processes for Android and iPhones
	20

• discretionary mark
    o overall quality of the assignment, showing skills in designing for mobile
    o overall quality of research and referencing
	20

TOTAL	100

Assignment 2 – Worth 35% of module marks (LO 1,2)

This will be assessed in a 15-minute demonstration/presentation/viva.
You will need to hand in the following
- **a copy of your testing documentation in a word document**

- **a copy of your application in a zip file**

You have been asked to show your skills in Android development by:
- creating an Android application using Java, following the specification in the scenario, and feedback from Assignment 1

- testing your application using appropriate techniques

Marking scheme

Task	Marks
Content and Navigation • contain at least 4 screens • provide suitable navigation to move between screens • apply Android and other guidelines for mobile interface design • contain well-laid out and appropriate content, with no Lorem ipsum • have suitably formatted text of correct size using appropriate fonts • use suitable and optimised media of the correct file format	10
Responsive • respond appropriately when the user changes orientation • respond appropriately to different screen sizes and resolutions • work offline, showing fall backs when accessing online data sources	10
Appropriate use of internal data handling • getting input from the user • passing data between screens	10
Appropriate use of external data handling • reading data from an external API or JSON file • reading data from and writing data to a local data source	10
Use at least 3 of the following, ensuring they are suitable and relevant: • camera, access to contacts, accelerometer / gyroscope, geolocation, proximity sensor, ambient light sensor, dark and light mode, a form designed for mobile devices, be configured with an app manifest, and appropriate icons, any other feature agreed with your lecturer	10
Testing • quality of testing documentation	10
Discretionary mark • quality of application • understanding of code • quality of interface • demonstration of your mobile development skills • ability to answer questions	40

Task	Marks
TOTAL	100

Marking Criteria

Where criteria are marked out of 10, marks are allocated as follows.

       0 = no evidence of meeting criteria

       1-3 = poor attempt at meeting criteria

       4-5 = some attempt at meeting criteria

       6-7 = good attempt at meeting criteria

       8-10 = excellent attempt at meeting criteria

Where criteria are marked out of 20, marks are allocated as follows:

       0 = no evidence of meeting criteria

       1-7 = poor attempt at meeting criteria

       8-11 = some attempt at meeting criteria

       12-15 = good attempt at meeting criteria

       16-20 = excellent attempt at meeting criteria

Where criteria are marked out of 40, marks are allocated as follows:

       0 = no evidence of meeting criteria

       1-15 = poor attempt at meeting criteria

       16-23 = some attempt at meeting criteria

       24-31 = good attempt at meeting criteria

       32-40 = excellent attempt at meeting criteria