CSY3029 Mobile Computing
Assignment 2

Issue Date:		Submission:	9th May, 2021
Student Name: Student ID:			

Assessment Feedback

Aspect		**A**	**B**	**C**	**D**	**F/G**
Virtual Demo	20%					
Specification	10%					
Design	20%					
Implementation	30%					
Testing	10%					
Report Quality	10%					

Specific aspects of the assignment that the marker likes:	Specific aspects of the assignment that need more work:

Date:		Grade:	

The University of Northampton's Policy on Plagiarism & Mitigating Circumstances will be strictly implemented

Mobile Computing

Assignment 2 – CSY3029

Aim: To produce a meaningful Android, which has the necessary GUI elements, network capability, file or database features and utilises mobile smartphone specific features.

Brief: Modern smartphone apps, such as used on Android and iOS devices, have a rich API which make them extremely capable. The modern touch interface and the associated GUI elements married the devices connectivity allow the building of sophisticated apps which can communicate with servers and other mobile devices, using the Internet, to undertake complex tasks. These apps can be further enhanced but utilising built in hardware, such as

- Camera
- Maps
- GPS
- Compass
- Accelerometer
- Gyroscope

Specify, design, implement and test an app which utilises some or all of the above as well as including a sophisticated user interface and utilises web services.

You may devise an app of your choice but we will need to agree that the specification of your app you propose is suitable for the assignment.

If you are unable to think of an App then you may want to consider these brief specifications as a pointer:

1. The ACME Transport Company wishes to track their vehicles using GPS. The app should be able to record a trip and, at the end of a journey, upload the record of the trip using webservices. Additionally, the company wishes to record accelerometer data to ensure that the vehicle is driven in a way that goods don't get damaged. The company would like additional useful features, such as showing the route on a map, the altitude of the GPS locations recorded and sending a message if the vehicle is subjected to G-forces above a given threshold.
2. The ACME Geophysics lab want to be able to monitor seismic activity. To this end they want to distribute a free 'earthquake' app. This app should utilise the built in accelerometers and monitor vibration. If the vibration is over a certain threshold the app will report, using web services, the scale of the event and where it took place (using location based services). The customer would ideally like extra useful features, such as setting the threshold value, when an event finishes and viewing past events along with any other useful features (Note that the iOS simulator is not suitable for this app).

You will need to expand these specifications and ensure that the app utilises some mobile phone features such as location based services, maps, sensors and camera as well as web services.

Report: Your report should consist of the following sections

- Specification
- Virtual demo
- Design
- Implementation
- Testing

The quality of your report will also warrant extra marks such as the use of pagination and sectioning, including a table of content, introduction, conclusions, bibliography/references and appendices.

Espen Svennevik

Learning Outcomes*:

Subject specific understanding and skills

On successful completion of the module students will have demonstrated their ability to:

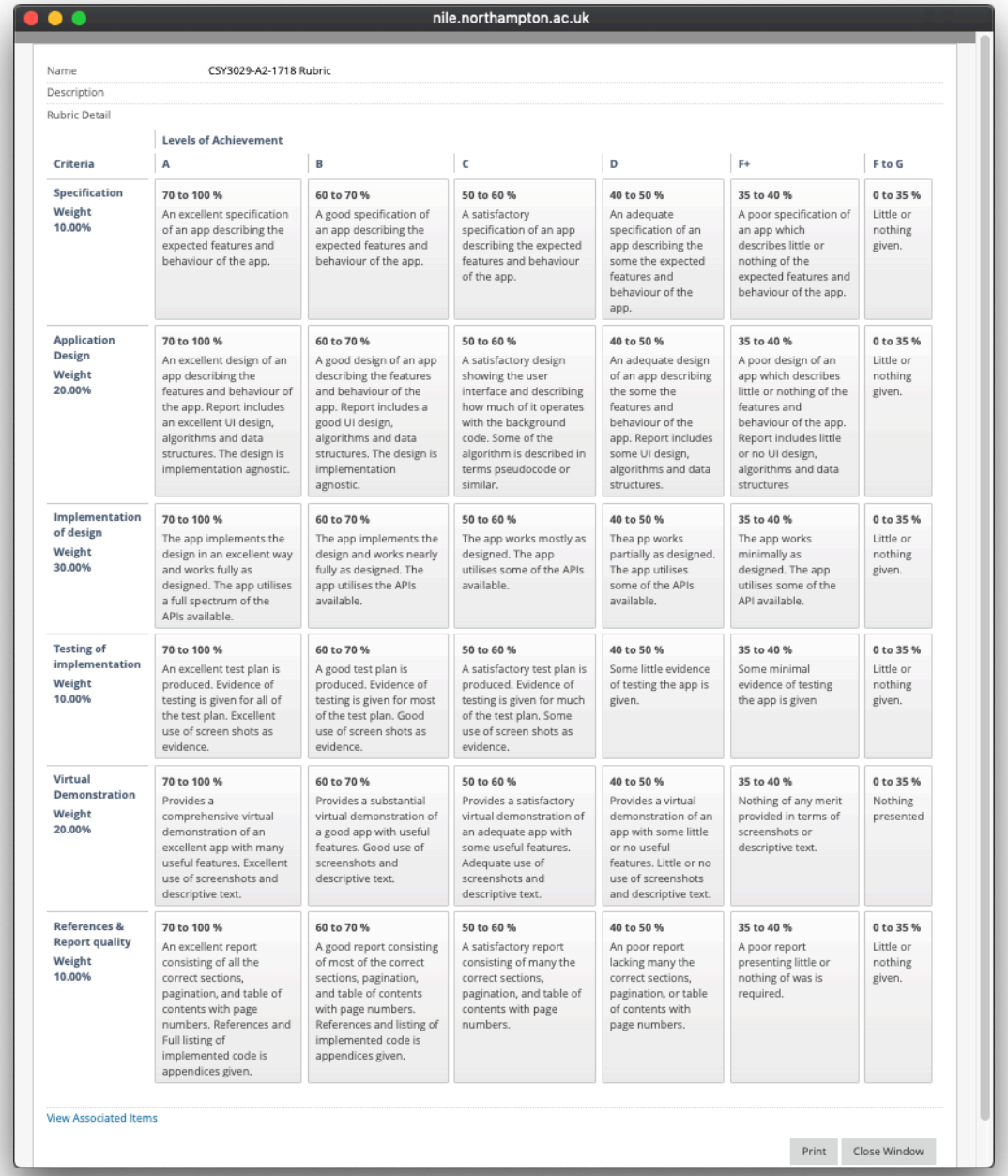
a) Understand the hardware deployed in mobile computing devices.
b) Understand the operating systems deployed on mobile computing devices.
c) Explain the specification of software needed to run of mobile devices.
d) Design and implement software for mobile devices to minimum requirements.
e) Use a mobile operating system application programming interfaces (API)

Key Skills

On successful completion of the module students will have had the opportunity to:

f) Identify relevant sources of information
g) Communication: Write clearly about complex subjects in a form appropriate to the purpose – e.g. report, summarise, explore, persuade, propose
h) Managed learning: Make, justify and implement decisions following careful evaluation of options.
i) Problem solving: Think critically and creatively about possible solutions to a problem, taking into account different issues and perspectives. Use logical argument to select methods for implementing a solution.

Rubric


nile.northampton.ac.uk
Name
CSY3029-A2-1718 Rubric
Description
Rubric Detail
Levels of Achievement
Criteria
A
B
C
D
F+
F to G
Specification
Weight
10.00%
70 to 100 %
An excellent specification of an app describing the expected features and behaviour of the app.
60 to 70 %
A good specification of an app describing the expected features and behaviour of the app.
50 to 60 %
A satisfactory specification of an app describing the expected features and behaviour of the app.
40 to 50 %
An adequate specification of an app describing the some the expected features and behaviour of the app.
35 to 40 %
A poor specification of an app which describes little or nothing of the expected features and behaviour of the app.
0 to 35 %
Little or nothing given.
Application Design
Weight
20.00%
70 to 100 %
An excellent design of an app describing the features and behaviour of the app. Report includes an excellent UI design, algorithms and data structures. The design is implementation agnostic.
60 to 70 %
A good design of an app describing the features and behaviour of the app. Report includes a good UI design, algorithms and data structures. The design is implementation agnostic.
50 to 60 %
A satisfactory design showing the user interface and describing how much of it operates with the background code. Some of the algorithm is described in terms pseudocode or similar.
40 to 50 %
An adequate design of an app describing the some the features and behaviour of the app. Report includes some UI design, algorithms and data structures.
35 to 40 %
A poor design of an app which describes little or nothing of the features and behaviour of the app. Report includes little or no UI design, algorithms and data structures
0 to 35 %
Little or nothing given.
Implementation of design
Weight
30.00%
70 to 100 %
The app implements the design in an excellent way and works fully as designed. The app utilises a full spectrum of the APIs available.
60 to 70 %
The app implements the design and works nearly fully as designed. The app utilises the APIs available.
50 to 60 %
The app works mostly as designed. The app utilises some of the APIs available.
40 to 50 %
Thea pp works partially as designed. The app utilises some of the APIs available.
35 to 40 %
The app works minimally as designed. The app utilises some of the API available.
0 to 35 %
Little or nothing given.
Testing of implementation
Weight
10.00%
70 to 100 %
An excellent test plan is produced. Evidence of testing is given for all of the test plan. Excellent use of screen shots as evidence.
60 to 70 %
A good test plan is produced. Evidence of testing is given for most of the test plan. Good use of screen shots as evidence.
50 to 60 %
A satisfactory test plan is produced. Evidence of testing is given for much of the test plan. Some use of screen shots as evidence.
40 to 50 %
Some little evidence of testing the app is given.
35 to 40 %
Some minimal evidence of testing the app is given
0 to 35 %
Little or nothing given.
Virtual Demonstration
Weight
20.00%
70 to 100 %
Provides a comprehensive virtual demonstration of an excellent app with many useful features. Excellent use of screenshots and descriptive text.
60 to 70 %
Provides a substantial virtual demonstration of a good app with useful features. Good use of screenshots and descriptive text.
50 to 60 %
Provides a satisfactory virtual demonstration of an adequate app with some useful features. Adequate use of screenshots and descriptive text.
40 to 50 %
Provides a virtual demonstration of an app with some little or no useful features. Little or no use of screenshots and descriptive text.
35 to 40 %
Nothing of any merit provided in terms of screenshots or descriptive text.
0 to 35 %
Nothing presented
References & Report quality
Weight
10.00%
70 to 100 %
An excellent report consisting of all the correct sections, pagination, and table of contents with page numbers. References and Full listing of implemented code is appendices given.
60 to 70 %
A good report consisting of most of the correct sections, pagination, and table of contents with page numbers. References and listing of implemented code is appendices given.
50 to 60 %
A satisfactory report consisting of many the correct sections, pagination, and table of contents with page numbers.
40 to 50 %
An poor report lacking many the correct sections, pagination, or table of contents with page numbers.
35 to 40 %
A poor report presenting little or nothing of was is required.
0 to 35 %
Little or nothing given.
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