# Solent University Unit Descriptor

## **Unit Code: COM527 Unit title:** Mobile Application Development

### **Why is this unit important?**

Mobile technology is everywhere these days, with almost everyone owning a mobile device of some kind, be it a phone or tablet, and making use of apps. This unit will provide you with the fundamentals of mobile app development and thus give you the vital skills needed to develop your own apps.

### **What you will learn on this unit**

We will begin with an examination of the architecture of an app running on a commonly used mobile operating system and will then develop some basic apps using a contemporary development language (such as Kotlin), looking at user-interface features and communication between separate screens on the app. Moving on from these basics, we will examine some of the more contemporary approaches to UI development and take a look at how to save and load data to files and on-board, in-app databases. Network communication is important in app development; for example, a weather app needs to retrieve the forecast from a web API and a points-of-interest app also needs to retrieve the point of interest details from a web API. We will explore this topic by looking at how to communicate with remote web APIs from apps and how to interpret the data returned. We will also examine location-aware apps and take a look at how to obtain your current GPS position and show locations of nearby places on a map, as well as using the hardware sensors to get the app’s current orientation. During the course of the unit, we will consider some of the legal, ethical and privacy issues surrounding mobile application development and how features of the API help you write applications with the user's privacy in mind and also ensure how mobile app have to comply to accessibility standards.

**How you will learn**

The unit will consist of lab-based practical sessions which will allow you to gain hands-on experience of the unit topics through a series of lab exercises making use of either real or virtual mobile devices using an industry-standard IDE such as. These will be preceded by a 'mini-lecture' to introduce the unit topic and to ensure that you are aware of the principles before beginning the practical exercise. During the lab sessions, we will be on-hand to help you with problems.

**How much time the unit requires**

This unit is a 20-credit unit. For a 20-credit unit, you are expected to study for 200 hours (which equates to 10 hours per credit). This total learning time is made up of contact time, directed learning tasks, independent study and assessment activity. Your tutor will offer you guidance on how you should best manage your study time on this unit.

### **How you will be assessed**

#### **Tasks which help you learn and prepare you for summative tasks (formative):**

1. Each week you will perform practical exercises on the current topic. These practical exercises will allow you to gain practical experience of web development. The summative practical exercise will assess the same topics as the weekly lab tasks and thus by completing the lab tasks, with assistance from the tutor when needed, you will be well prepared to carry out the summative assignment successfully.
2. You will be able to receive feedback on the assessment prior to the hand-in date from the tutors.

#### **Tasks which count towards your degree (summative):**

**There will be one summative assessment:**

A practical assignment to build a mobile app making use of the unit topics and to a specific brief. As well as building the application, you will be asked to demonstrate the app in a 15 minute timeslot and be prepared to explain in this demonstration how you used the unit's topics to design and build it and any legal, ethical or privacy issues involving the scenario used in the assessment. Marks will be awarded for your understanding evidenced through the demonstration as well as for the app itself and accompanying analysis, design and testing artefacts.

## **When assessment does not go to plan:**

You will be asked to complete a modified version of the original assessment, following supportive feedback on the previous submission.

### **What you will be able to do after the unit:**

1. Design, build and test applications for a leading mobile platform using a contemporary language for that platform and to current standards.
2. Evaluate key features of the API for the selected mobile platform used in the unit.
3. Explain the fundamental architecture of an app for the platform covered in the unit.
4. Effectively communicate the key legal, ethical and privacy issues surrounding mobile applications.
5. Appraise and test the accessibility compliance of mobile applications.
6. Communicate the results of the software build to other mobile developers.

**How this relates to the dimensions of Solent’s Real-world curriculum framework**

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| --- | --- | --- |
| Dimensions | **How will students learn?** | **How will students be assessed?** |
| Students are challenged to think in critical, creative and applied ways | Learning the unit material will allow them to apply it to an interesting and engaging scenario. | The assignment will assess students’ ability to apply the unit topics to the scenario. Students will be able to use their creativity in implementing additional features or using well-designed, efficient code |
| Students experience an intellectually stimulating curriculum which inspires them to learn for life | The unit material will cover concepts which are new and intellectually challenging to the students. | By demonstrating application of those concepts in building an app. |
| Students learn from authentic, engaging and programmatic assessment | The scenario will involve building an interesting and engaging app and one potentially useful in the real world | By successful completion of the assessment |

### Summative assessment details

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| --- | --- | --- |
| AE1 | Weighting: | 100% |
|  | Assessment type: | Software Build with Demonstration |
|  | Aggregation: | N/A |
|  | Length/duration: | 15 minutes for demonstration |
|  | Online submission: | Yes |
|  | Grade marking: | Yes |
|  | Anonymous marking: | No |

### Unit Author: Dr Nick Whitelegg

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| --- | --- | --- | --- |
| Unit Title: Mobile Application Development | | | |
| Credit Points: | 20 | Unit Code: | COM527 |
| FHEQ Level: | 5 | School/Service | SMAT |
| Unit Delivery Model: | CD | Max/Min student numbers | Not Applicable |
| Unit Leader: | Dr Nick Whitelegg | | |
| HECOS code: | 100162 | | |

### Unit change history:

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| --- | --- | --- | --- |
| Unit Approved/Year Implemented/Code | July 2019 | 2020/21 | COM527 |
| Unit modified/Year Implemented/Code |  |  |  |
| Add extra rows as required |  |  |  |