MONASH University

Introduction to Mobile and Distributed Computing

Lecture 1 – Part I

FIT5046: Mobile and Distributed Computing Systems

GROUP OF EIGHT AUSTRALIA

FIT5046 Teaching Team

Clayton campus

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Prerequisites

- **FIT9131** AND **FIT9137** or (FIT9134 and FIT9135)
- Strong Java programming skills are required

Week	Topics	Lab Activities and Exercises
1	**Introduction to distributed and mobile computing, Web services, REST**	Introduction to Android Lab
2	**Android Introduction**	EventListeners and Spinner Labs
3	**Android Views, ViewBinding and Intent**	ViewBinding, Kotlin and Intent Labs
4	**Android Fragments**	Fragments with LiveData lab
5	**Android Navigation**	Navigation lab **Research Paper Presentation (15%) during your lab**
6	**Android Room**	Room lab
Semester Break		
7	**Android Network Connection** **Mobile User Interface Design**	**Android Project Proposal (20%) due Friday** Google search and Retrofit lab
8	**Ubiquitous Computing and IoT**	Graph and RecyclerView labs
9	**Mobile Sensing**	Map and Firebase labs
10	**Location-Aware Computing**	**Android Practical Assignment (40%) due Friday**
11	**Guest Lecturer**	Demos and Interviews (compulsory)
12	**Advanced Topics, Review and Exam Questions**	**Quiz (25%)** Demos and Interviews (compulsory)

Assessment

Presentation (Groups of 2)

- **Research Paper Presentation 15%**
  - 10 min presentation in Week 5 in labs
  - PowerPoint and pre-recorded video (with the presenter view) Submission to Moodle

Assignment 1 (groups of 3-4)

- **Assignment 1-Android Project Proposal (20%)**
  - A Proposal Report for an Android app (to be implemented in Assignment 2)
  - Submission to Moodle (**Turnitin**)
  - Week 7 Friday

Assignment 2 (groups of 3-4)

- **Android App Development and Demo (40%)**
  - Week 10 Friday
  - Submission of project & demo to Moodle (**code similarity detection**)

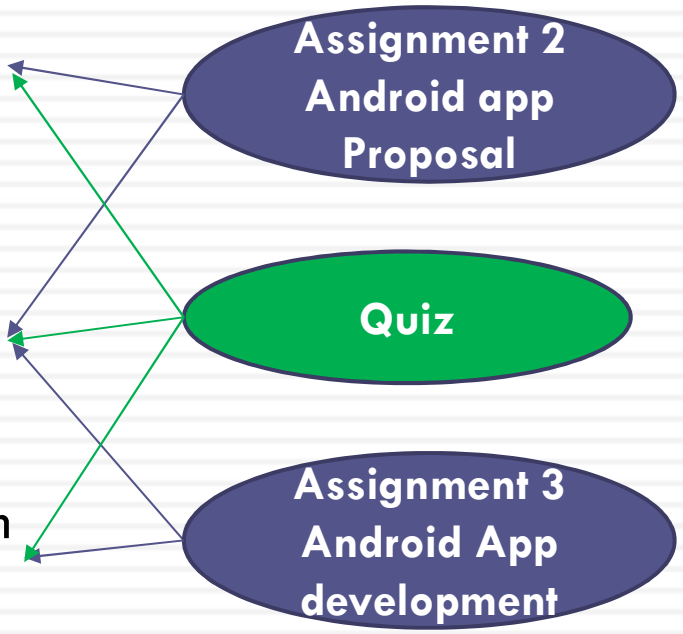
Individual

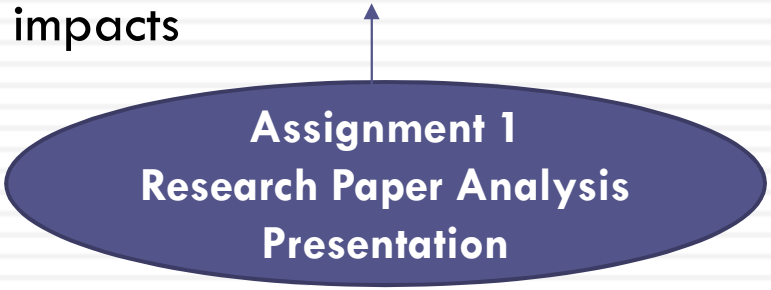
- **Quiz(25%) Week 12**
  - Moodle quiz 2hrs: 10 Multiple choice Qs & 5 short answer Qs

Alignment of ULOs and Assignments

Unit Learning Outcomes (ULOs):

1. identify and describe different approaches and methods for building distributed and mobile computing systems;
2. evaluate several models and approaches and select suitable mobile computing solution to a particular case;
3. propose and develop a mobile distributed system that is appropriate to a problem domain;
4. identify the current research directions in the field and their impacts





Software for This Unit

The version used in lab exercise and lectures

- **Android Studio Electric Eel, 2022.1.1 (stable version) SDK 13 API 33**
  - Instructions to install Android Studio are in Lab 1

- On-campus students: **bring your own device** (laptop) to the lab

Programming Language

- **Android**
  - **Java**
    - The original language
  - **Kotlin**
    - We learn the Kotlin code by comparing to Java and only limited to the lecture topics

Resources

- No Textbook required
- Refer to Android official website for any related information
- https://developer.android.com/

Academic Integrity

- **Plagiarism**
  - unacknowledged use of someone else's work
- **Collusion**
  - Collusion is unauthorised collaboration on assessments (written, oral or practical) with other people
  - Collusion may be with another Monash student or with people outside university. This also includes sharing and copying notes, and offering to complete work for other students instead of collaborating (e.g. on team assignments)
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