

COMMONWEALTH OF AUSTRALIA

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Introduction

- Overview of Mobile Computing
- Overview of this Unit of Study



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Era of Mobile

- Hardware
- Software
- Internet
- Web: 1.0 + 2.0
- Mobile (Wearable)

Mobile Computing

- Broadly refer to techniques allow users to access information and services anytime and anywhere
- Hardware, infrastructure
 - ▣ Communication
 - ▣ Devices (e.g., PDA, Pocket PC, and phones)
 - ▣ Backend: Cloud
- Software, services
 - ▣ OS
 - ▣ Apps

Impact of Mobile Computing

- Dressing/cloth, eating/food, living/accommodation, transport
 - ▣ 衣食住行
- Commerce, Business, Finance
- Communication (Social)
- Education
- Entertainment
- Health
- Tourism (travel experience)
-

Industry

- Commerce and Business
 - ▣ eBay, Amazon, Taobao, JD, ...
- Communication (Social)
 - ▣ Facebook, Twitter, Instagram, WhatsApp, WeChat, ...
- Education
 - ▣ Anywhere, anytime, anybody
 - ▣ Media rich
- Entertainment
 - ▣ Game, video, ...
- Tourism (travel experience)
 - ▣ Augmented Reality
- Health
 - ▣ Nike Fit band, Jawbone, ...

Mobile Devices

- Portable
- Powerful
- Rich sensors

Opportunities + Challenges

- Search
 - ▣ Interaction, context
- Personal data
 - ▣ Management, sharing
- Resources
 - ▣ Storage, computation, bandwidth, power,
-

Cloud Computing

- Virtualization
- Infrastructure
- Service

Course Description

Mobile computing is becoming a **mainstream** for many IT applications, due to the availability of more and more powerful and affordable mobile devices with rich sensors such as cameras and GPS, which have already significantly changed many aspects in business, education, social network, health care, and entertainment in **our daily life**. Therefore it has been critical to equip students with sufficient knowledge of such new computing platform and necessary skills. The unit aims to provide an in-depth overview of existing and **emerging mobile computing techniques and applications**, the **eco-system** of the mobile computing platforms, and its key building components. The unit will also train students with hand-on experiences in developing mobile applications in a broad range of areas.

Mobile Computing – Schedule

| | Week | Topic | |
|--|------|------------------------------|--|
| | 1 | Introduction | |
| | 2 | Mobile App Development 1 | Suggest to bring your own laptop |
| | 3 | Mobile App Development 2 | |
| | 4 | Mobile App Development 3 | |
| | 5 | Internet of Things | |
| | 6 | Mobile Game | The schedule may be subject to change. |
| | 7 | Cloud Computing | |
| | 8 | Advanced Mobile Innovation 1 | |
| | 9 | Advanced Mobile Innovation 1 | |
| | 10 | [Public Holiday] | |
| | 11 | Mobile Security | |
| | 12 | Demo Day | |
| | 13 | Course Review | |

Administrative Issues

- Lectures / Labs
- Assessment
- Resources

Lectures & Labs

- Lectures
 - ▣ **Monday** 18:00-20:00
 - ▣ **Architecture Lecture Theatre 1**
- Labs (Week 2 onwards)
 - ▣ **Monday** 20:00-21:00
 - ▣ **SIT Labs**
 - ▣ Android (and Windows Phone) app development in Microsoft Windows environment
 - iOS and Windows are also acceptable, though **NO** support is provided.
 - ▣ Mobile game with Unreal Engine in Windows environment
- Consultation
 - ▣ by appointment.

Assessment

| Tasks | Start | Due | Marks |
|------------|---------|-------------------|-------|
| Assignment | Week 02 | Proposal: Week 06 | 10% |
| | | Final: Week 12 | 25% |
| Lab Skills | Week 02 | Week07, Week 11 | 15% |
| Final Exam | TBA | N/A | 50% |

*What I hear, I forget; What I read, I remember;
What I do, I understand.*

--- Confucius

Assessment

- To Pass this course, you must
 - ▣ Score at least 50% overall, and
 - ▣ Score at least 40% in the final exam.
- Late submissions will **NOT** be marked.
 - ▣ It is your responsibility to account for any accident.
- Academic Integrity
 - ▣ Plagiarism: NO
 - ▣ Outsourcing: NO
 - ▣ See more details on the course website in Assessment section

Academic Dishonesty & Plagiarism

- "In assessing a piece of submitted work, the School of IT may reproduce it entirely, may provide a copy to another member of faculty, and/or communicate a copy of this assignment to a plagiarism checking service or in-house computer program, and that a copy of the assignment may be maintained by the service or the School of IT for the purpose of future plagiarism checking."

Special Consideration

- In case of **Illness** or **Misadventure**
 - ▣ you can apply for special consideration
 - ▣ the application has to be lodged within 7 days
- The first thing you do should be
 - ▣ **Let the coordinator know** (best by email and while still sick)
 - ▣ **Submit your assignment**
 - Send a friend and get him/her to submit your assignment at front-desk
 - ▣ Go to a Professional Practitioner and get them to fill in the particular university certificate (not just a usual medical certificate)
 - ▣ Then lodge the application for special consideration

Special Consideration

- No special consideration for missing out a few days or being on holiday etc.
 - ▣ Take responsibility of your time management
- Refer to School and University policies for more details.

Expectations

- To understand
 - ▣ Concepts, contents, and principles
- To be skillful
 - ▣ Programming
- To know
 - ▣ Solving problems
- To be creative

Outcomes

- Pursue your passion
- Exercise your creativity
- Gain rewarding experiences **Prize?**
- Understand mobile computing techniques

Resources

- Course website
 - ▣ eLearning
- Online resources
 - ▣ Android Developers
 - <http://developer.android.com/index.html>
 - ▣ iOS Development in Swift
 - <https://itunes.apple.com/au/course/ios-development-in-swift/id950659946>
 - ▣ Windows Phone Developer Center
 - <http://dev.windows.com/>
- Many books in university library

Need to Know

- Lab starts from next week (Week 02).
 - ▣ Preparation can start from this week.
- Think of a dream app you want to build

Global student technology competition

