

# **Mobile Computing**

**COMP5216**

Assignment Project Exam Help

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**Week 12 – Course Review**

**Semester 2, 2020**

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School of Computer Science



THE UNIVERSITY OF  
**SYDNEY**

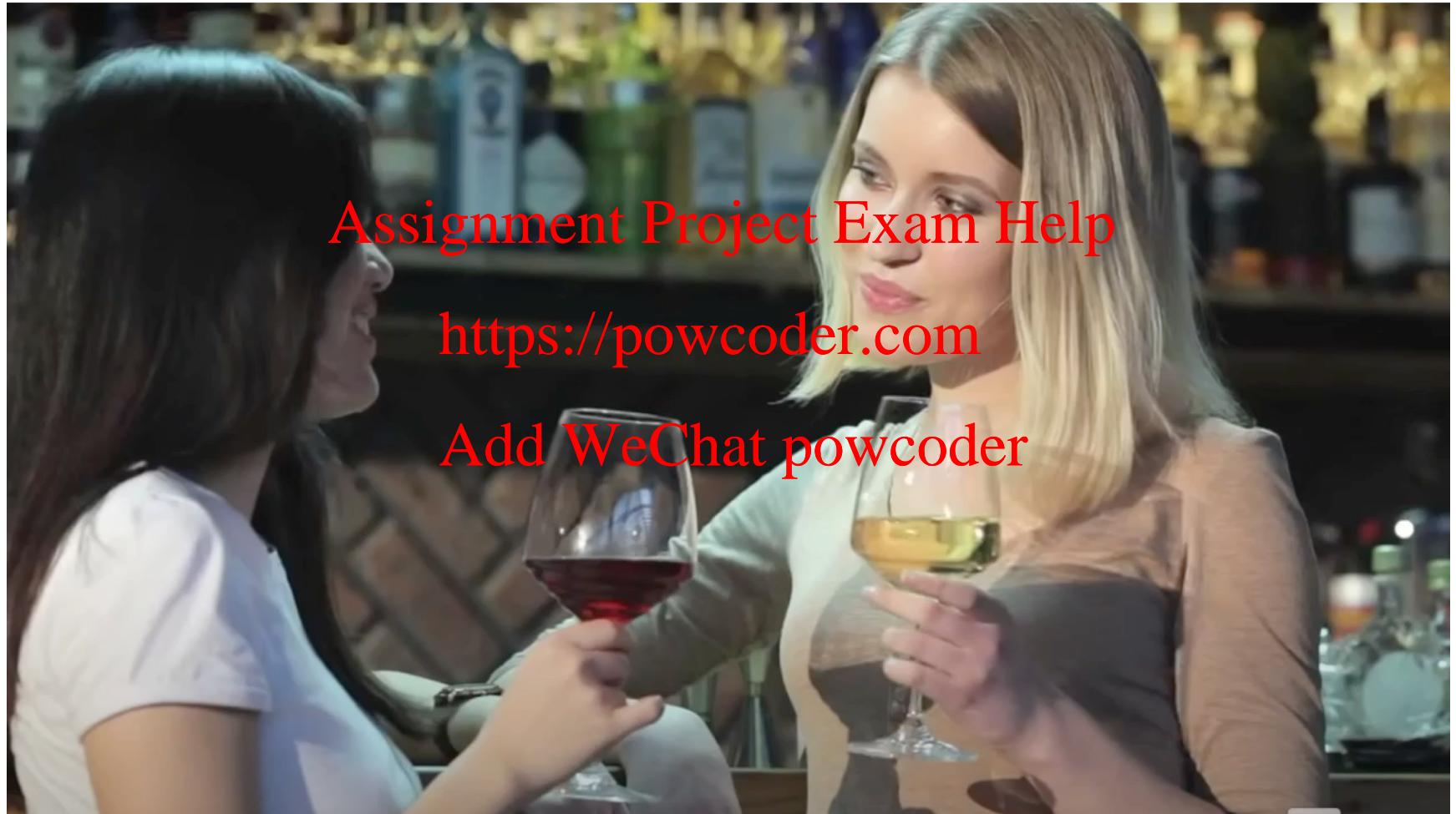
# Final Project Evaluations

- Well done everyone !
  - Every group presented and demonstrated a final product.
- Evaluation process
  - The overall app - In class (3 evaluators) and offline (1 evaluator) evaluation of all material submitted
    - Novelty/Problem
    - Creativity/Solution
    - Challenge
    - Effort
  - In class presentation (3 evaluators)
    - Presentation content (audio and visual aids)
    - Logical flow
    - Presentation skills (attitude/confidence, time, pace, eye contact)

# Final Project Evaluations

- Evaluation process
  - Virtual demo (3 evaluators)
    - Working app
    - Successful demonstration of key features
    - Readiness to distribute
  - Offline demo, documentation and code review (Tutors spend - 20 min per app)
    - Coding challenge/Effort
    - Documentation
    - Working app features
    - Successful installation

# Exposure



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# Beauty Delivery

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Bee



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# Health Keeper



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# Food Fair

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# Outline

- How can you take your app to the next level ?
- What to expect from the final exam ?
  - Structure **Assignment Project Exam Help**
  - Model questions and answers  
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- Course outcomes **Add WeChat powcoder**

## What's next for your projects ?

- You can definitely consider publishing your app at Google Play store.
- Submit your app to an app competition
- Do not worry about the monetization at the beginning. It will follow naturally, if your app is trendy.
- Pitch your app to an incubator program

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# Things to be aware of: Compatibility of Licenses

- See whether just the release of one platform (Android only) will have a significant impact.
  - Can you think of example apps (out of the ones developed by you);
    1. That must have multiple platforms?
    2. That one platform is sufficient at the beginning?
- Every external SDK library, framework... you connect to have their terms of services. You need to verify all of them before you publish
  - Carefully review your app for licensing incompatibility
- Release your app under the correct license <https://powcoder.com>
- **Fedora Wiki for Licensing**
  - <https://fedoraproject.org/wiki/Licensing:Matrix>
- Examples:
  - Apache v2 is not compatible with GPLv2.
  - Eclipse Public License v1 is not compatible with GNU GPLv2.
  - "GPL v2 only" is not compatible with GPLv3 or LGPL v3
- If you use GPL code you will need to make all of the source code for your programs available to the public

# You can not combine all open source libs

## - GPL Compatibility Matrix

- [https://fedoraproject.org/wiki/Licensing:Main?rd=Licensing#GPL\\_Compatibility\\_Matrix](https://fedoraproject.org/wiki/Licensing:Main?rd=Licensing#GPL_Compatibility_Matrix)

		Assignment Project Exam Help						I want to release a project under:
		GPLv2 only	GPLv2 or later	GPLv3 or later	LGPLv2.1 only	LGPLv2.1 or later	LGPLv3 or later	LGPLv3 or later
I want to copy code under:		GPLv2 only	OK	OK 2	NO	OK if you convert to GPLv2 7	OK if you convert to GPLv2 7 2	NO
I want to use (link to) a library under:	GPLv2 or later	OK 1	OK	OK	OK if you convert to GPLv3 7	OK if you convert to GPLv3 7 2	OK if you convert to GPLv3 8	OK if you convert to GPLv3 8
	GPLv3	NO	OK if you upgrade to GPLv3 3	OK	OK if you convert to GPLv3 7	OK if you convert to GPLv3 7 3	OK if you convert to GPLv3 8	OK if you convert to GPLv3 8
LGPLv2.1 only		OK if you convert to GPLv2 7	OK if you convert to GPLv2 7 2	OK if you convert to GPLv3 7	OK	OK 6	OK if you convert to GPLv3 7 8	OK if you convert to GPLv3 7 8
LGPLv2.1 or later		OK if you convert to GPLv2 7 1	OK if you convert to GPLv2 7	OK if you convert to GPLv3 7	OK 5	OK	OK	OK
LGPLv3		NO	OK if you upgrade and convert to GPLv3 8 3	OK if you convert to GPLv3 8	OK if you convert to GPLv3 8	OK if you convert to GPLv3 8	OK if you upgrade to GPLv3 4	OK

		Add WeChat powcoder						I want to release a project under:
		GPLv2 only	GPLv2 or later	GPLv3 or later	LGPLv2.1 only	LGPLv2.1 or later	LGPLv3 or later	LGPLv3 or later
I want to use (link to) a library under:		GPLv2 only	OK	OK 2	NO	OK if you convert to GPLv2 7	OK if you convert to GPLv2 7 2	NO
I want to use (link to) a library under:	GPLv2 or later	OK 1	OK	OK	OK if you convert to GPLv3 7 1	OK if you convert to GPLv3 7 2	OK if you convert to GPLv3 8	OK if you convert to GPLv3 8
	GPLv3	NO	OK if you upgrade to GPLv3 3	OK	OK if you convert to GPLv3 7	OK if you convert to GPLv3 7 3	OK if you convert to GPLv3 8	OK if you convert to GPLv3 8
LGPLv2.1 only		OK	OK	OK	OK	OK	OK	OK
LGPLv2.1 or later		OK	OK	OK	OK	OK	OK	OK
LGPLv3		NO	OK	OK	OK	OK	OK	OK

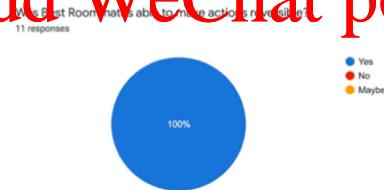
# Things to be aware of: UX-UI Matters !

- Too many lists and form filling in many apps !
  - UX-UI is one of the most important aspects of real-world applications
    - Google device market is diverse, make sure you test your app in various circumstances and restrict the distribution to what you have already tested.
    - Try Google Beta testing
- Learn from user studies. Pick users who honestly evaluate your product.

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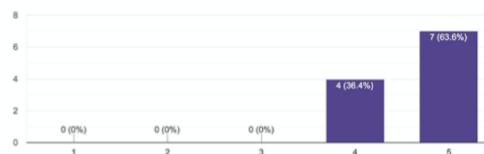
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Interview and Questionnaire result

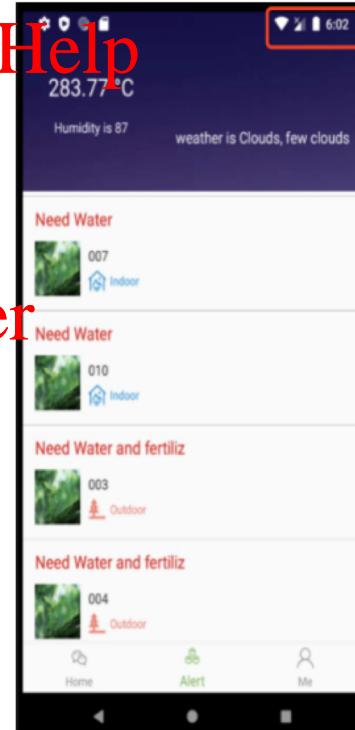
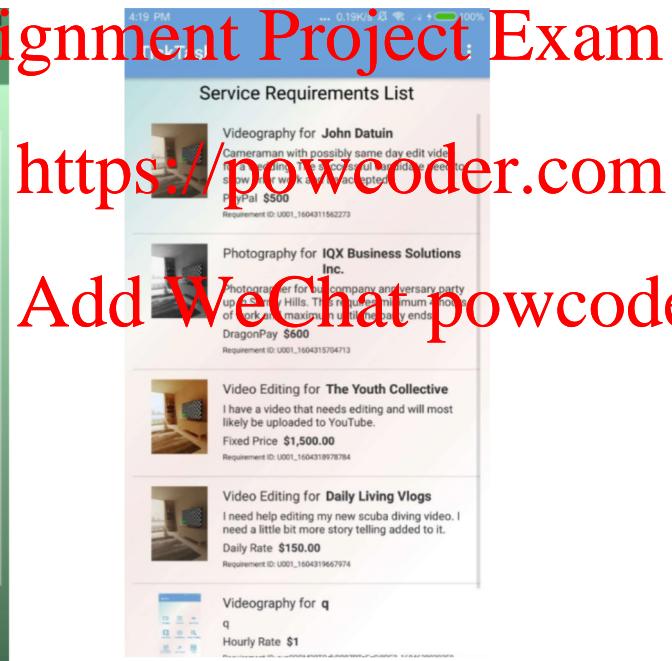
How likely would you be to use this app again? ( 1 is least likely, 5 is most likely)

11 responses



# Things to be aware of: UX-UI Matters !

- Practice your skills in presenting your idea.
- Practice how to do impactful demos.



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# What to expect from the final exam ?

Week	Lectures	Labs/Tutorials
1	Introduction	Android basics
2	Mobile App Development 1 – Basics	Handling Interactions
3	Mobile App Development 2 - Capabilities	Local data storage
4	Mobile App Development 3 - Challenges	Cloud service
5	Mobile Networking	Media access
6	Mobile Security	AR/VR
7	Mobile Cloud Computing & Energy	User management
8	Microsoft Guest Lecture	Access to sensors
9	[Public Holiday]	[Public Holiday]
10	Google Guest Lecture	Location access
11	Beyond Smartphones	App analytics and publishing
12	Demo Day	
13	Course Review	Model Exam

# Final Exam

- To **Pass** this course, you must
  - Score at **least 50% overall**, and
  - Score at **least 40% in the final exam**
- A **short release take-home exam**
- **Date of exam:** ~~16 Assignment~~ Project Exam Help
- **Start time of exam:** ~~17:00~~ <https://powcoder.com>
- **Duration:** ~~3 hours and 10 minutes (190 minutes)~~. This includes 10 minutes of reading time.  
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- Answer ALL questions in the provided spaces on the exam paper answer booklet
- You can insert hand drawn diagrams as images into the relevant space of the word document or use drawing tools of MS Word for diagrams.
- An **additional 15 minutes** has been added to the exam duration - this is for the purpose of preparing and adding your image/s into the document and not as additional time to complete your exam.

# Academic Dishonesty & Plagiarism

- Academic Integrity
  - Plagiarism: NO
  - Outsourcing: NO
- **All exam submissions will go through Turnitin !**
- “The University of Sydney is unequivocally opposed to, and intolerant of, plagiarism and academic dishonesty.
  - Academic dishonesty means seeking to obtain or obtaining academic advantage for oneself or for others (including in the assessment or publication of work) by dishonest or unfair means.
  - Plagiarism means presenting another person’s work as one’s own work by presenting, copying or reproducing it without appropriate acknowledgement of the source.” [from site below]
- Submitted work is compared against other work (from students, the internet, etc)
  - Turnitin for textual tasks (through Canvas), other systems for code
- **Penalties for academic dishonesty or plagiarism can be severe**
- University Policy: <http://sydney.edu.au/elearning/student/EI/index.shtml>

# Final Exam

- After answering ALL questions, **convert the word document to a PDF** and upload it to “Final Exam – Main” assignment at Canvas site “Final Exam for: COMP5216”.

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- 5 Questions
- Short and long descriptive answers.
- Please effectively use the space provided.  
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- Questions categories:
  - **Short** – Android Fundamentals, Understanding of mobile computing
  - **Long** – Specific mobile app development
  - **Design** - Creative mobile app development

# It's time for you to support me...!

- <https://student-surveys.sydney.edu.au/students/complete/form.cfm?key=uss221821>
- Please take 10 minutes to complete the USS survey.

How to make your USS feedback count  
<https://powcoder.com>

Your Unit of Study Survey (USS) feedback is **confidential**.

It's a way to share what you enjoyed and found most useful in your learning, and to provide constructive feedback. It's also a way to 'pay it forward' for the students coming behind you, so that their **learning experience** in this class is as good, or even better, than your own.

When you complete your USS survey (<https://student-surveys.sydney.edu.au>), please:

**Be specific.**

Which class tasks, assessments or other activities helped you to learn? Why were they helpful?  
Which one(s) didn't help you to learn? Why didn't they work for you?

**Be constructive.**

What practical changes can you suggest to class tasks, assessments or other activities, to help the next class learn better?

**Be relevant.**

Imagine you are the teacher. What sort of feedback would you find most useful to help make your teaching more effective?

# Final Exam – Model Questions - Short

- List an advantage of using Network Location instead of GPS location and provide an example use case for the given advantage. [4 marks]

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- List an advantage of using Network Location instead of GPS location and provide an example use case for the given advantage. [4 marks]

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# Final Exam – Model Questions - Long

- You have been asked to design an app that collects Motion Sensor and Body Sensor data from a smartphone and upload to a cloud service for fitness analytics. The app should start automatically across reboots or any user actions. Data is collected in a sample rate of few seconds. Note: *This is a design question only. You don't have to write code for this.*  
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- Describe technical approach that you plan to follow including the basic components of Android you need to develop this app (You may use a block diagram to explain your design). [6 marks]
- If the data upload process is not real time, describe two methods you can use to reduce resource usage (e.g. bandwidth and energy). [4 marks]
- If the data upload requirement is real time describe, describe two methods you can use to reduce resource usage (e.g. bandwidth and energy) ? [4 marks]

# Final Exam – Model Questions - Long

- Design an Android mobile app that records the distance travelled by the user throughout the day and display it to the user whenever the user invokes the app with historical statistics.  
*Note: This is a design question only. You don't have to write code for this.* **Assignment Project Exam Help**
- **3.1** Describe two methods of obtaining the distance travelled by the user and explain why one method will not be sufficient to record distance throughout the day. **[6 marks]**
- **3.2** Propose an energy efficient algorithm to collaboratively utilize the above two methods of distance calculation. (Note: Specify if you have made any assumptions on the default settings of the smartphone). **[6 marks]**
- **3.3** Name the android permissions required for the functionality of the app. **[2 marks]**

# Final Exam – Model Questions - Design

- You started a new company to sell small electronic items online. Smartphones can be used in numerous ways to enhance the efficiency of every business. Design an innovative mobile app to improve your productivity of your new business. Note: Innovation, feasibility, and usability will be taken into account for marking. [Assignment Project Exam Help](https://powcoder.com) <https://powcoder.com>
- **4.1** Briefly explain the primary goal of your app. [2 marks]
- **4.2** Justify the innovation of your solution (competitive advantage) [6 marks]
- **4.3** Explain the functionality of your app (how your mobile app works) with storyboards or a block diagram. [8 marks]
- **4.4** Explain your technical approach in developing the above proposed app as an Android mobile app. [8 marks]

# Assignment Project Exam Help

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Course Outcomes

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# What is our “Role” ?

## App Developers

**Role: Uncovering the true potential of mobile devices**

→ **Mobile Computing**



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- Sensitive personal data
- Storage, management, sharing
- Resource utilization
- Computation, network, power, storage
- User interaction
  - Voice, text, touch, gestures

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- Your work will impact all stakeholders on the chain.

# Background does not matter

- Does computer programming limited to Computer Science students ?
- **Mobile Computing is becoming a commodity**  
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- Mobile computing is for everyone !  
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- Knowledge and **Add WeChat powcoder** will be useful;
  - For your final year thesis project
  - To improve your productivity
  - Pursue your passion as a hobby
  - Just for Fun !
  - **Improve your chances of getting a better job**

# Outcomes

- Pursue your passion
- Exercise your creativity
- Gain rewarding experiences
- Understand mobile computing techniques
- Thorough knowledge of mobile app based eco-system  
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## At the end of the course; WeChat powcoder

- You will be able to develop your own mobile app
- May be you will be able to publish it in the app store
- Participate and win an App Competition

# Thank You !

- Remember – Final Exam is at
  - Thursday 10/12/2020 5:00pm (**check your exam time table**)
- **Good Luck!** Assignment Project Exam Help

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