

Module Study Guide

Academic Year 2020–2021

MAD – Mobile Application
Development

Level: 6

Credits: 5 ECTS; 10 UK credits

Academic Partner:

Marbella International University Centre
(MIUC)

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1 Module overview

1.1 Introduction

Lately, internet users are moving from computers to smaller devices such as smart phones and tablets. Studies show that the number of online searches and online sells that regular internet users make are increasing in this kind of devices and decreasing on computers. Therefore, mobile application development is steadily growing, in revenues and jobs created.

1.2 Module summary content and aims

In this module, the student will learn how to develop and deploy mobile applications for the two most popular and used Operating Systems: Android and iOS. The module will emphasize on the unique design and the creation of apps. The use of a dedicated framework and tool prevents the student from dealing with the technical details (coding).

This module aims to:

- Develop an understanding of the importance of mobile application development.
- Ensure that students are exposed to technology and business trends impacting mobile applications.
- Develop an understanding of the unique design and deployment issues of mobile application development.
- Develop in the students the ability to design mobile applications.
- Develop in the students the ability to develop mobile applications.

The module is composed mainly of seminars and will run throughout the semester (14 weeks).

1.3 Learning outcomes to be assessed

At the end of the module you will be able to:

LO1. Understand technology, techniques and business trends influencing mobile applications. (Summative Assessment 1 & 2)

LO2. Design mobile applications that fit accurately the purpose for which they are intended. (Summative Assessment 1 & 2)

LO3. Develop mobile applications using an application development framework. (Summative Assessment 2)

1.4 Scheduled contact hours

Teaching Contact Hours	56 hours
Independent Study Hours	44 hours
Total Learning Hours	100 hours

2 Assessment and feedback

2.1 Summative assessment grid

Type of Assessment	Word Count or equivalent	Threshold (if Professional Body-PSRB applies)	Weighting	Pass Mark	Submission due-date & time	Method of Submission & Date of Feedback
A1: Mobile Application Design and Development (Final Project)	n/a	n/a	100%	40	Week 14 (Date and Time TBC)	Via NEOLMS & 10 working days after in-class exercises

2.2 Assessment brief including criteria mapped to learning outcomes

2.2.1 Assessment 1: Final Project: Mobile Application Design and Development

By the end of the module, you will have to submit a final project in which you will have to prove that you understood and know how to apply the key aspects presented and studied during the module. Each student will make a proposal describing the mobile application he/she would like to develop. Once it is approved, with or without any changes, the student will create it.

Assessment criteria

Assessment criteria for Assessment 1 (LO1, LO2 and LO3 will be assessed)

These assessments will be marked according to the following criteria:

- ❖ **Content (25%):** The text and media (pictures, videos, audios) within the application is complete, coherent and relevant. It does not leave out details about the company or its products.
- ❖ **Functionality (35%):** The application permits the user to accomplish all the actions required (online store, social network, sells, reviews, etc.) in the proposal. It does not contains or through errors when using it.
- ❖ **Navigation (10%):** The navigation through the application is user-friendly and intuitive.
- ❖ **Design (10%):** The design of the application is convenient for its purpose and appropriate for its users.

For guidance on online submission of assignments, including how to submit and how to access online

feedback, please refer to the MIUC NEOLMS student guideline.

2.3 Learning materials

The reading list for this module is available on NEOLMS in the module area.

2.3.1 Core textbook(s):

- Appy Pie Support Information: <<https://www.appypie.com/support>> (Accessed: February, 2020).
- Bubble Documentation: <<https://bubble.is/documentation>> (Accessed: February, 2020).
- Fling, B. (2009). *Mobile Design and Development: Practical concepts and techniques for creating mobile sites and web apps*, 1st Edition. O'Reilly.
- Google. Principles of Mobile Site Design: Delight Users and Drive Conversions, Available at:<https://www.thinkwithgoogle.com/_qs/documents/538/multi-screen-moblie-whitepaper_research-studies.pdf> (Accessed: February, 2020)
- Hooper, S., Berkman, E. (2011). *Designing Mobile Interfaces: Patterns for Interaction Design*, 1st Edition. O'Reilly.
- Mobgen International Company. 10 Best Practices for Designing User-Friendly Forms: <<https://mobgen.com/mobile-forms/>> (Accessed: February, 2020)
- Neil, T. (2012). *Mobile Design Pattern Gallery: UI Patterns for Mobile Applications*, 1st Edition. O'Reilly
- Shoutem tutorials: <<https://www.shoutem.com/blog/category/shoutem-tutorials/>> (Accessed: February, 2020).
- Swiftic tutorials: <<https://www.swiftic.com/tutorials/>> (Accessed: February, 2020).
- Zhou, T., (2014). *Understanding users' switching from online stores to mobile stores*. Information Development, vol. 32(1), pp. 60-69.

2.3.2 Other recommended reading:

- Denny, M. (2004). *Social Network Analysis*. Institute for Social Science Research, University of Massachusetts Amherst. <http://www.mjdenny.com/workshops/SN_Theory_I.pdf><http://www.mjdenny.com/workshops/Relational_Theory_Workshop.pdf> (Accessed: February, 2020)
- Ellison, N. B., Gibbs, J. L., Weber, M. S. (2014). *The Use of Enterprise Social Network Sites for Knowledge Sharing in Distributed Organizations*. American Behavioral Scientist, vol. 59 (1), pp 103-123. <https://www.researchgate.net/publication/272827229_The_Use_of_Enterprise_Social_Network_Sites_for_Knowledge_Sharing_in_Distributed_Organizations> (Accessed: February, 2020)
- Google. Mobile App UX Principles: <https://storage.googleapis.com/think-emea/docs/article/Mobile_App_UX_Principles.pdf> (Accessed: February, 2020)

2.3.3 Other resources:

- Kacen, J. J., Hess, J. D., Chiang, W. K., (2013). *Bricks or Clicks? Consumer Attitudes toward Traditional Stores and Online Stores*. Global Economics and Management Review, vol. 18(1), pp 12-21. <<https://www.bauer.uh.edu/kacen/documents/bricks%20and%20clicks.pdf>> (Accessed: February, 2020)

- The Good Barber Blog: <<https://blog.goodbarber.com/tags/Tutorial/>> (Accessed: February, 2020).

Remember to log into NEOLMS daily to receive all the latest news and support available at your module sites!

3 Things you need to know

3.1 Engagement

During the academic year 2020-21, the health, welfare, and safety of all our students and staff is our top priority as Spain continues to deal with the ongoing implications of the COVID-19 outbreak.

Face to-face-teaching, access to MIUC facilities and being part of our unique University community are key parts of the excellent student experience at MIUC. We have been working to create a safe and efficient plan that will allow us to deliver these elements when you start with us in the fall semester, subject to government regulation.

MIUC will be ready to teach in September and we are committed to engaging with you as closely as we can, and to ensuring that you have a rich educational experience that is safe and protected to ensure that you continue to get the most from the University life and the city of Marbella.

Whether you are engaging with teaching and learning activities on site or via the MIUC Virtual Learning Environment, we expect the same level of commitment and engagement from you. If you are unable to attend scheduled on site or online activities or complete activities in the timeframes set out, you should let your module leaders know. You should aim to stick to assessment deadlines; if you are concerned that you will not be able to complete your assessments on time, you should talk to your module leaders. Your engagement, whether online or on site, will be tracked and if we see that you are not engaging, we will get in contact with you. However, we encourage you to let us know if you are struggling so we can work with you to find solutions and get you back on track as soon as possible. Give yourself the best possible chance to succeed by engaging with the full range of learning and teaching activities available to you.

3.2 Need help, just ask

The University recognises that there are times when you may encounter difficulties during your course of study and provisions are made to help you. If you are struggling with meeting deadlines please talk to us, whether it's your course/module leader, personal tutor or any member of staff, speak to them so they can get you the support you need to succeed. You can extend your deadline if you have a good reason why you are not able to submit a piece of coursework on time, [apply online for an extension](#) before your deadline. An extension will allow you an extra 10 working days. If an extension is not sufficient and circumstances beyond your control are preventing you from completing your assessment, then you can, [apply online for mitigation](#).

Please remember late submission without extension or mitigation will result in penalties depending on how late it is, see [Academic Regulations](#).

You are reminded that MIUC applies penalties to students who commit an academic offence, in which case the Academic Offences Regulations will be used to deal with any cases of academic misconduct including examination offences, plagiarism and other means of cheating to obtain an advantage.

You are encouraged to seek advice from the Students' Union and counselling service which support you with all aspects of your academic experience by providing advice and guidance to ensure you are fully informed of the academic regulations as well as advocate for student views.

You are expected to behave in line with University expectations, irrespective of whether your interactions with staff and other students are in person or online. As you will be engaging with others

online and a range of online materials, it is important to consider how to stay safe online and ensure your communications are secure and appropriate. If you have any questions about how to manage your online activities, please contact your module leader.

If you have an issue about the module, you should speak to your Module Leader or Course Leader informally in the first instance. Your Course Representative can also raise your concerns at Course Committees, which take place each semester. If you are unable to resolve it informally, you should refer to the Complaints Procedure which is outlined in the student handbook and consult the Students' Union about it. The University aims to ensure that issues are resolved informally as quickly as possible to have minimum impact on your studies.

3.3 Getting support for your studies

Throughout your course of study, you will have access to a wide variety of sources of support depending on your individual circumstances and needs. Your first point of call for getting general academic support is your Personal Tutor. As well as approaching your Module Leader with any questions specifically related to your module and your Course Leader with questions on your Course, do contact your Personal Tutor for academic advice in relation your studies and your academic development.

Apart from the University-wide support framework, which encompasses the Module Leaders, Course Leader, the Subject Librarian and your Course Administrator, you will also have at your disposal the MIUC Academic Support Team. The Team offers Academic Skills Workshops throughout the year, helping you to develop skills relevant to your degree. Workshops include for instance Essay Planning and Writing; Critical Thinking; Reflective Writing; Group Work and Presentation Skills.

English Language support and One-to-one academic support opportunities are also available. For information about all these services, please consult the Academic Office.

3.4 Student support

In addition to the support listed in the previous section, there is also more help offered by MIUC Student services, consisting of Student Life Department, Internship Support, Life Coaching Service and Counselling service. They offer a wide range of support and services consisting of extracurricular activities; Careers and internship support; Student Welfare and Counselling.

Contact Student Services for more information at:

Student Life Department: student.life@miuc.org

Internship Support: TBC

Life Coaching Service: Ms. Ana Cantle, ana.cantle@miuc.org

Counselling Service: Ms. Eva Berkovic, eva@miuc.org

3.5 Module evaluation – have your say!

Towards the end of the module, you will be invited to provide some anonymous feedback to the Module Leader through a(online) survey. This is your opportunity to give some direct feedback about the module through a series of questions and free text. Your constructive feedback will help the Module Leader and teaching team to understand the module experience from your perspective and helps inform the development of the module.

4 Appendix: Weekly Content

Week 1 - Introduction to Mobile Application Development

These sessions will introduce you to the module organization, structure and assessments. You will be exposed to the time commitments you will need to make and the skills you will develop through the duration of the module. Furthermore, you will see an overview of the current operating systems and programming languages available for each of them, their history and evolution, their impact in society and you will see that nowadays it is possible to develop high-quality mobile applications without coding.

Week 2 - Developing our First App with Appy Pie

Key concepts/issues: Templates; System pages: Menu, Main Screen, Log in, Register; Alerts; App Installation in Devices.

Literature for this session: • Appy Pie Support Information: <https://www.appypie.com/support> (Accessed: August, 2017).

Description: In this session, you will explore Appy Pie, a web tool in which you can develop mobile applications. You will see existing applications developed with it and you will start creating an app with basic elements such as the main screen and the menu. You will also learn how to deploy and install the app in your phone.

Week 3 - Forms and Surveys.

Key concepts/issues: Types of Surveys and Forms; Elements: Text Fields, Lists, Radio Buttons, etc.; Data Collection; Data Management; Statistics.

Literature for this session:

- Mobgen International Company. 10 Best Practices for Designing User-Friendly Forms: <https://mobgen.com/mobile-forms/> (Accessed: August 2017)
- Google. Mobile App UX Principles: https://storage.googleapis.com/thinkemea/docs/article/Mobile_App_UX_Principles.pdf (Accessed: August 2017)

Description: Once you have created your first app, you will start adding content to it. In these sessions, you will create forms and user surveys.

Week 4 - Multimedia Content.

Key concepts/issues: Folders; Photos; Video; Audio; Websites; Shortcuts for Native Tools: Camera, Location, etc.

Literature for this session: • Appy Pie Support Information: <https://www.appypie.com/support> (Accessed: August, 2017).

Description: In these sessions, you will learn the importance of the multimedia content to attract customers/visitors and you will learn how to add it to your app with Appy Pie. These multimedia content includes photos, videos, audios and links to external websites. You will also learn to include shortcuts for mobile native tools such as the camera and the location.

Week 5 - Social Networks

Key concepts/issues: User management; Content Management; Multimedia; User Interactions.

Literature for this session:

- Denny, M. (2004). Social Network Analysis. Institute for Social Science Research, University of Massachusetts Amherst.
- Ellison, N. B., Gibbs, J. L., Weber, M. S. (2014). The Use of Enterprise Social Network Sites for Knowledge Sharing in Distributed Organizations. American Behavioral Scientist, vol. 59 (1), pp 103-123.
- Appy Pie Support Information: <https://www.appypie.com/support> (Accessed: August, 2017)

Description: In this session, you will learn how to manage users, the content, and data they provide associated to their user account and how manage their interactions.

Week 6 - Online Stores

Key concepts/issues: Types and characteristics; Payment methods; Development; Administration Dashboards; Sales Statistics.

Literature for this session:

- Kacen, J. J., Hess, J. D., Chiang, W. K., (2013). Bricks or Clicks? Consumer Attitudes toward Traditional Stores and Online Stores. Global Economics and Management Review, vol. 18(1), pp 12-21.
- Zhou, T., (2014). Understanding users' switching from online stores to mobile stores. Information Development, vol. 32(1), pp. 60-69.
- Appy Pie Support Information: <https://www.appypie.com/support> (Accessed: August, 2017)

Description: In this session, you will easily learn how to create online stores for you app with Appy Pie. You will go through the types of stores and the characteristics to be included in each of them. You will explore the payment methods and you will be able to include them in your app. You will also learn how to use the administration dashboards Appy Pie provides and check the sales statistics it provides.

Week 7 - Documents, Cards and Feedback.

Key concepts/issues: Type of Documents; Access to Google Drive and One Drive; Member Cards; Loyalty Cards; Reviews.

Literature for this session:

- Appy Pie Support Information: <https://www.appypie.com/support> (Accessed: August, 2017)

Description: In these sessions, you will learn how to integrate documents such as the ones provided by Google Drive (Docs, Sheets, etc.) and One Drive into your application. You will be able to create visit, member and loyalty cards. Finally, you will learn how to provide your app users with a functionality to leave their reviews.

Weeks 8 and 9 - Customized Pages and QR codes.

Key concepts/issues: Creation of a mobile page with HTML; Plain HTML; HTML Editor; QR Concepts; QR within Mobile Apps.

Literature for this session:

- Hooper, S., Berkman, E. (2011). Designing Mobile Interfaces: Patterns for Interaction Design, 1st Edition. O'Reilly.
- Neil, T. (2012). Mobile Design Pattern Gallery: UI Patterns for Mobile Applications, 1st Edition. O'Reilly.
- Fling, B. (2009). Mobile Design and Development: Practical concepts and techniques for creating mobile sites and web apps, 1st Edition. O'Reilly.

Description: In these sessions, you will explore the creation of personalized pages using HTML code and you will be introduced to the concepts of QR codes.

Week 10 - Design of Mobile Apps

Key concepts/issues: Principles of Mobile Apps Design: User Friendly, User Experience, Decisions based on Target Users; Filters; In-app Searching; Authentication Methods; From Entries; Error and Warning Detection and Prompt Notification; Responsiveness; Permissions.

Literature for this session:

- Hooper, S., Berkman, E. (2011). Designing Mobile Interfaces: Patterns for Interaction Design, 1st Edition. O'Reilly.
- Neil, T. (2012). Mobile Design Pattern Gallery: UI Patterns for Mobile Applications, 1st Edition. O'Reilly.
- Fling, B. (2009). Mobile Design and Development: Practical concepts and techniques for creating mobile sites and web apps, 1st Edition. O'Reilly.

Description: In this session, you will learn how to design mobile applications based on aspects such as user-friendly interfaces and user experience. You will also learn how to include in you app filters and search boxes, as well as the user authentication methods. Finally, you will study the use of problems detection, prompt notifications and app responsiveness and permissions.

Week 11 - Alternatives to Appy Pie

Key concepts/issues: Bubble; GoodBarber; Shoutem; Swiftic.

Literature for this session:

- Bubble Documentation: <https://bubble.is/documentation> (Accessed: August, 2017).
- The GoodBarber Blog: <https://blog.goodbarber.com/tags/Tutorial/> (Accessed: August, 2017).
- Shoutem tutorials: <https://blog.shoutem.com/category/shoutem-tutorials/> (Accessed: August, 2017).
- Swiftic tutorials: <https://www.swiftic.com/tutorials/> (Accessed: August, 2017).

Description: Until this moment, you will have studied mobile applications conceptually and put into practice using Appy Pie. In these sessions, you will explore different alternatives to Appy Pie such as Bubble, GoodBarber, Shoutem and Swiftic. You will be able to see the similarities and difference among these tools and how the choice could affect the final result of your application.

Week 12 and 13 - Final Project

Key concepts/issues: Questions; Answers

Literature for this session:

Material of previous lessons

Description:

On Week 13, you will have to submit your work via NEOLMS

Week 14 - Final Project Presentation

Key concepts/issues: Importance of the Presentation of the Product; Feelings and Impressions about Watching Presentations.

Description: In this session, you will present your final project and attend the presentations of your colleagues.

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