
Mobile Application Development – IT2010

Lecture 1 – Mobile Mindset

Introduction to the module

Module Code: IT2010

Credit Value: 4

Method of Delivery

- Lectures – 1 hour/week
- Tutorials (practical) – 2 hours/week
- Labs - 2 hours/week

Courseweb Enrollment Key: IT2010

Lecture Plan

- **Mobile Mindset**
- Mobile Platforms and Application Development fundamentals
- Introduction to Android Operating System
- Main Components of Android Application
- Android Interface Design Concepts
- Sensors and Media Handling in Android Applications
- Data Handling in Android Applications
- Android Web Services
- Kotlin Language to develop Android Mobile Apps
- Android Application Testing and security aspects

Assessment Criteria

Continuous Assessments

- Midterm Examination (MCQ) - 20 %
- Mini Project (Group Project) - 30 %
 1. Project Phase 1 – 10%
 2. Project Phase 2 – 20%

(This could be changed due to the current situation of the country)

End Semester Assessment

- Final Examination (Online) - 50 %

Lecturer Panel

- Lecturer in-charge of the module
Ms. Disni Sriyaratna (disni.s@sliit.lk)
- Malabe
Mr. Nelum Chathuranga Amarasena (nelum.a@sliit.lk)
Mr. Thusithanjana Thilakarathna (thusithanjana.t@sliit.lk)
- Metro
Mr. S.M.B. Harshanath (harshanath.s@sliit.lk)
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Ms. Gihani Gunarathna (gihani.g@sliit.lk)
Mr. Buwaneka Senevirathne (buwaneka.s@sliit.lk)
- Matara
Ms. Suriyaa Kumari (suriyaa.k@sliit.lk)

Learning outcomes of the lecture

At the end of this Lecture students will be able to:

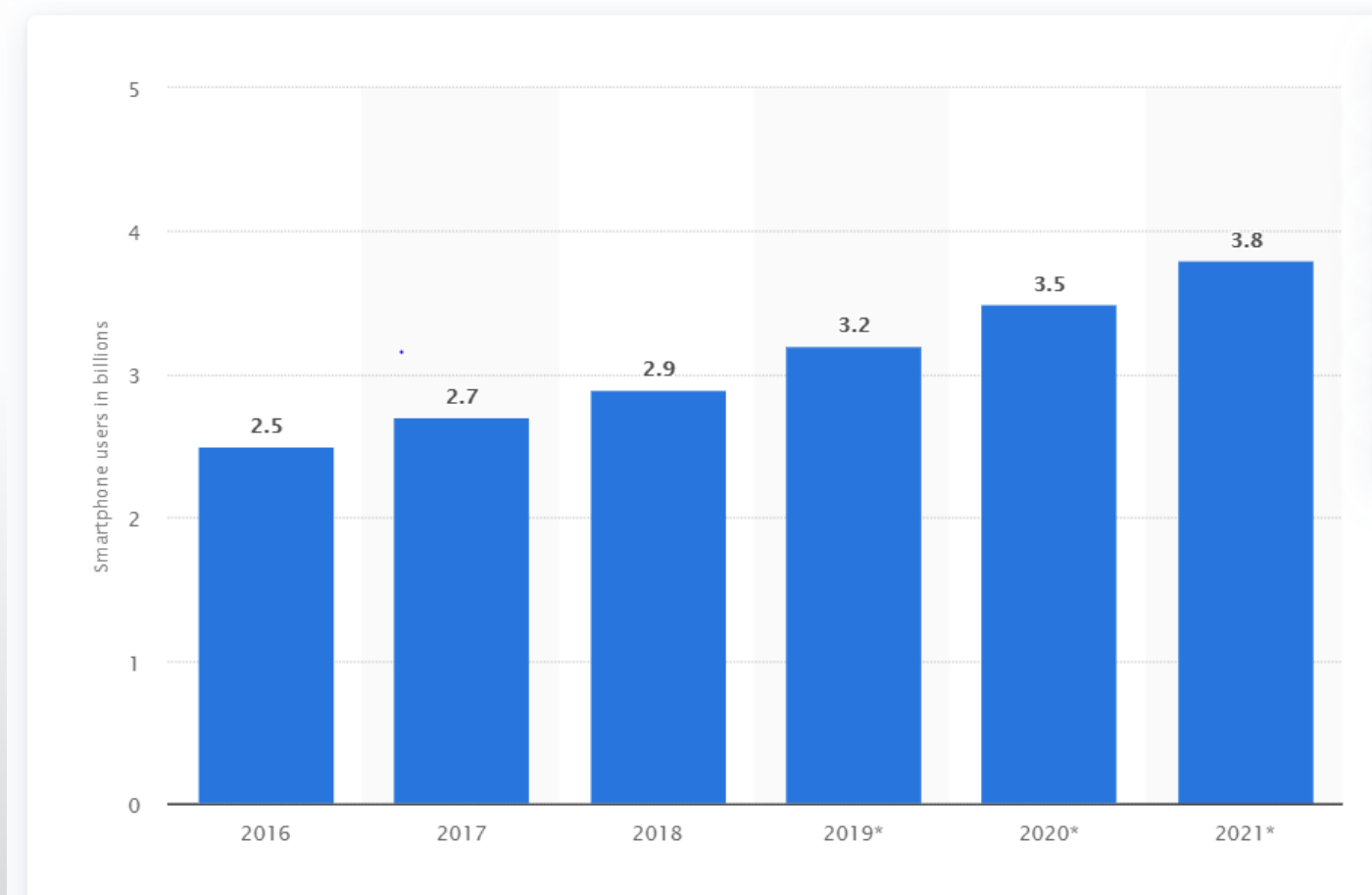
- Comprehend the important features of mobile applications
- Identify the requirement for mobile app development
- Understand the user behaviors of mobile applications

Why a Mobile App?

- Mobile phones are no longer the ordinary communication device. It has various incredible features and opportunities offered to the users.
- The number of smartphone users is growing up day by day. (In 2020, it's 3.5 billions)
- Business organizations are more like to have mobile applications for their business instead of investing in a mobile friendly version of their websites.
- Good mobile application will add value to the business.



Smartphone users growth around the world



Reference: <https://www.statista.com/statistics/330695/number-of-smartphone-users-worldwide/>

Mobile Application Development

- Mobile application development refers to the creation of apps for use on devices such as tablets, smartphones, automobiles and watches.
- Mobile development often incorporates features of mobile devices that may not be available on desktop devices.

An example of this is the ability to operate a device or play a game simply by moving the smartphone around in space.



Key Features of Mobile Applications

- Great UI (User Interface)
- Fast loading time and high performance
- Extremely helpful user support
- Adapts to a user's needs
- Compatible with a mobile platform



Loading
Preparing data



Reasons for Mobile App failures

- The app doesn't have a market due to poorly researched market and audience
- The app does not have adequate security
- The app does not perform quickly enough
- The app does not fully consider UX/UI
- The app's listing in the marketplace is not persuasive
- Hard to adjust web version to the smartphone screen
- Due to limited functions



Fundamentals of Mobile Application Development

Choice of Technology

- In advance to choosing any technology platform, one must ensure it is feasible in every way possible.
- Most appearing platforms are Android, iOS and Windows, and they are evolving rapidly with frequent handy updates. These platforms make it practically possible for developers to build unique features and impressive interface to deliver outstanding user experience.
- Choosing the right platform means your apps will be supported by numerous devices used by customers.

Fundamentals of Mobile Application Development

Clear recognition of requirements

- Define and set your final goals where you want to reach so that you can make a clear strategy and avoid confusion down the path of development.
- Knowing your goals enrich your vision and helps you develop apps that hit the precise pain point.
- Detailed analysis of the product and target audience helps to build an effective app

Fundamentals of Mobile Application Development

Dynamic Functionalities

- Mobile application users like to explore a heterogeneous set of interactive functionalities such as GPS, transactions, messages, responsiveness, sensors, and even audio/video.
- Most application use these interactive functionalities to attract users.

Fundamentals of Mobile Application Development

Security and Speed Efficiency

- Security problems are potential threats to customers who will become the end users of the app. Choose a reliable, secure, authentic resources and industry-standard processes to build the app to ensure its highly secure.
- A mobile app should respond instantly to process customer requests in time. Ensure that the application is effective normal internet environment.

Fundamentals of Mobile Application Development

Testing Quality and Consistency

- Testing the app is a crucial stage for any developer as it confirms whether or not the app is ready to deploy.
- An ideal app testing method must include testing on different devices of varied screen sizes in order to measure its performance and view its compatibility.
- Developer must also necessarily maintain the consistency while coding the app to make sure the entire mobile app development process, along with its documentation and program updates and interface, is genuine, consistent and clear.

Fundamentals of Mobile Application Development

Introduce a Pilot Version

- Once the development team is confident that they have built a well-tested, mature and fully functional app, they can go for launching the pilot product.
- The course of ideal mobile app development must end with the launch of pilot version.
- It helps developers receive the feedback and responses from the users and judge the success of the app.

Mobile Application Design Tools (Prototyping tools)

*"If a picture is worth a thousand words, a
prototype is worth a 1000 meetings"*

Mobile Application Design Tools (Prototyping tools)

- Invision
- UXPin
- Sketch
- Slicy
- Skala Preview
- Placelt
- AdobeColor
- FontFace Ninja
- Illustrator & Photoshop
- Omnigraffle
- Proto.io
- After Effects
- Fluid UI

Successful Mobile Applications

 Pandora Radio Music Updated Jul 10, 2012 FREE	 Facebook Social Networking Updated Sep 20, 2012 FREE	 100 Floors Games Games Updated Aug 22, 2012 FREE	 Instagram Photo & Video Updated Sep 07, 2012 FREE	 Temple Run Games Games Updated Sep 19, 2012 Game Center FREE
 Netflix Entertainment Updated Sep 17, 2012 FREE	 iTunes U Education Updated Sep 19, 2012 FREE	 Angry Birds Games Games Updated Aug 02, 2012 Game Center \$0.99 BUY	 iBooks Books Updated Sep 19, 2012 FREE	 Gmail Productivity Updated Sep 06, 2012 FREE
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Thank You