



Mobile App Testing

– Foundation Level



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Course Introduction

Course Introduction

1. Introduction



A fast growing topic:

- People using their handheld devices to access the web is estimated to reach **4.4 billion users** by the end of 2017
- **81.6 billion** apps have been downloaded in **2013** – this is expected to rise to over **309.6 billion downloads** by **2016**
- The share of **global internet traffic via mobile devices** has risen from **1% in 2008** to **28% in 2014**
- In **October 2013** the iPhone App Store reached **1,000,000 apps**. Already by **June 2014** there was another **20% increase with over 1,200,000 apps** in this one app store
- Of these first 1,000,000 apps in the iPhone App Store Forbes calculated: **games** made up the largest category of apps with **181,613 (18%)**, **education apps** were the second largest category with **107,844 (11%)** and **entertainment** was third with **81,690 (8%)**

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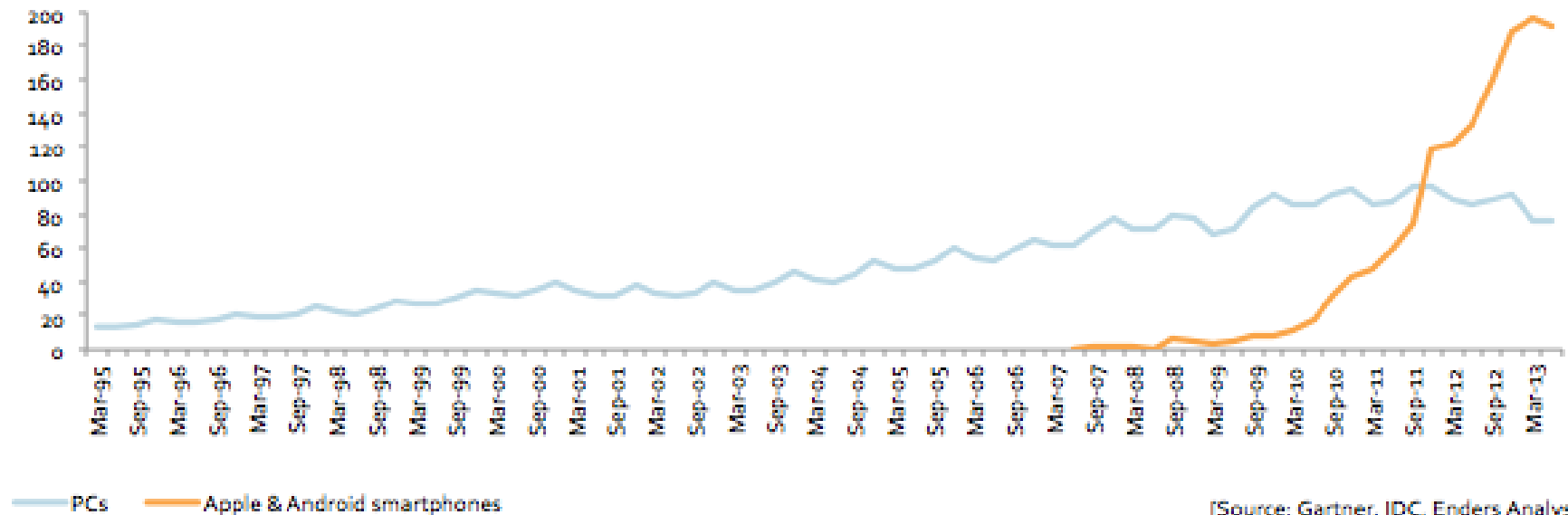
1. Introduction



A fast growing topic:

Global growth in unit sales of P.C.s and smart phones

Global unit sales (m)



[Source: Gartner, IDC, Enders Analysis]

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1. Introduction



Key Topics in Mobile App Testing

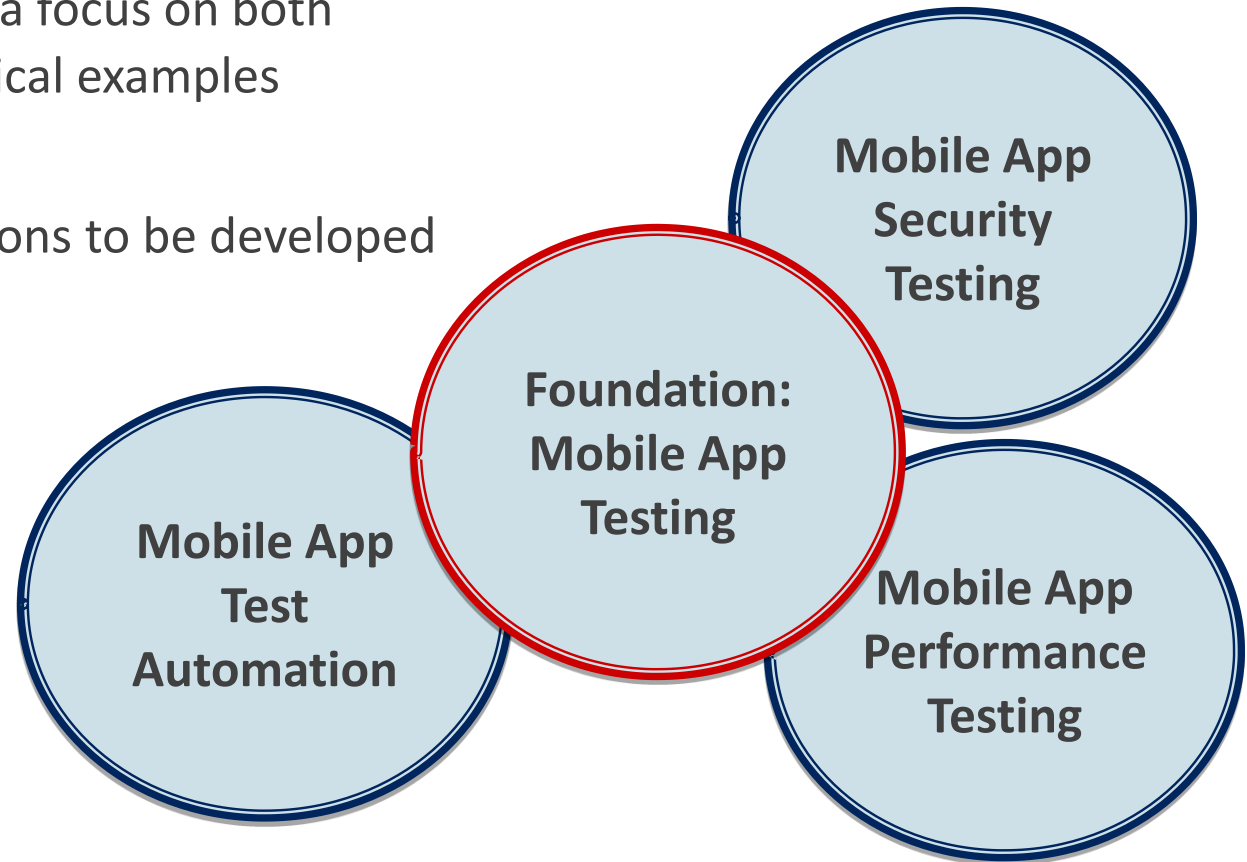
- The challenges of mobile application testing:
 - Frequent introductions of new devices and techniques
 - Wide variety of operating systems (Android, IOS, Windows, Symbian, Blackberry, and more)
 - Many network operators with different infrastructures and requirements
- The mobile test process with aspects such as performance, functionality, use of memory, battery life, usability and bandwidth

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2. Training and Certification: Overview



- An introduction with a focus on both theoretical and practical examples
- Hands-on specializations to be developed



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2. Training and Certification: Foundation Level



- Entry level certification aimed at anyone involved in mobile app testing: project managers, quality managers, software development managers, business analysts, developers, testers, IT directors and management consultants
- Provides an excellent introduction to mobile testing, the most relevant techniques and terminology
- Duration of the course is 3 days. On the last day participants have the opportunity to take the exam, which is a 60 minute, 40 question multiple choice exam

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2. Training and Certification: Specialization



- Three areas of Mobile App specialization:
 - Test Automation
 - Performance Testing
 - Security Testing
- hands-on courses with a duration of 2-3 days, broken up into specialized sections
- These courses must evolve/grow with the developments within each segment – remaining current
- On the last day of the course participants have the opportunity to take the practical exam

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2. Training and Certification: Benefits of CMAP



- Up-to-date and practical training
- Participants receive information that is to the point, practical and relevant for today's professional tester
- Material developed by international team of experts and available for licensing
- Certificate issued by internationally renowned certification body
- Supported by important companies in the industry

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3. The SIG's Certifications



- **CMAP Mobile App Testing – Foundation Level**

Released in Spring 2014



- **CMAP Mobile App Test Automation**

Released in Spring 2015



- **CMAP Mobile App Performance Testing**

Planned release in 2015



- **CMAP Mobile App Security Testing**

Planned release in 2016



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6. Business Outcomes



	Business Outcomes: Foundation Mobile Application Testing
B01	A Mobile Application Testing certified professional can...
B02	Assist in adaptation of existing testing processes for testing of mobile applications
B03	Support the requirements team in review of mobile application related requirements using knowledge of mobile markets and contexts
B04	Adapt existing testing experience and knowledge and existing way of testing web and other applications to mobile testing
B05	Identify and apply appropriate methods for testing of characteristics unique to mobile technology
B06	Identify and use appropriate tools to assist in mobile application testing including emulators and simulators
B07	Assist the mobile application team in identifying potential test automation activities and corresponding tools
B07	Assist in identification of requirements of a test lab for carrying out mobile application testing

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7. Learning Objectives



Section	Sub Section	Sub-Sub Section	Description	LO	LO Description	K Level
1			Course Introduction			
2			Overview of Mobile World			K2
	2,1		Introducing the Mobile World			None
	2,2		Business Models in Mobile Space	LO2.2-1	Compare various business models for mobile applications	K2
	2,3		Overview of Mobile Devices	LO2.3-1	Be able to recall different types of mobile devices	K1
	2,4		Different Types of Mobile Applications	LO2.4-1	Compare different types of mobile applications	K2
	2,5		Mobile Application Architecture	LO2.5-1	Be able to understand the general architecture of mobile applications	K2
	2,6			LO2.6-1	Be able to identify and compare the development environment for mobile applications	K2
				LO2.6-2	Be able to identify and recall the purpose of some of the common tools that are supplied as part of Android/iOS application development platforms	K1
3			Development Platforms for Mobile Applications			K3
	3,1		Mobile Applications Test Types			K2
	3,2		Challenges in Mobile Application Testing	LO3.1-1	Comprehend the challenges in mobile application testing	K2
			Emulators and Simulators	LO3.2-1	Understand differences between emulators and simulators	K2
				LO3.2-2	Understand the application of emulators/simulators for mobile application testing	K2
	3,3			LO3.3-1	LO3.3-1 Be able to understand and implement different test types related to the mobile devices	K3
				LO3.3-2	LO3.3-2 Demonstrate principles used for testing mobile applications on multiple device types	K3
				LO3.3-3	LO3.3-3 Understand the differences in testing for different connectivity modes of mobile device	K2
				LO3.3-4	LO3.3-4 Describe challenges involved in multi-platform application testing	K1
				LO3.3-5	LO3.3-5 Demonstrate different types of testing specific to mobile applications	K3
				LO3.3-6	LO3.3-6 Identify various types of common tests that can be applied to mobile testing as well	K1
				LO3.3-7	Describe field testing and various factors to be taken into account for performing it	K1
4			Mobile Testing Types			K3
	4,1		Mobile Application Testing Process & Techniques			K2
			Mobile Application Test Process and Strategy	LO4.1-1	Be able to understand the implementation of the required testing process in mobile application projects	K2
				LO4.1-2	Identify various test levels for mobile application testing projects	K1
	4,2		Experience Based Testing Techniques	LO4.2-1	Apply experience based techniques to mobile application testing	K3
5			Tools and Automation			K2
	5,1		Automation Approaches	LO5.1-1	Compare various automation approaches & frameworks	K2
	5,2		Automation Solutions	LO5.2-1	Describe various automation solutions for mobile applications	K1
	5,3		Automation Process	LO5.3-1	Describe various steps of automation process	K1
	5,4		Exploring Mobile Automation Tools	LO5.4-1	Describe mobile test automation tool evaluation parameters	K1
			Test Environment & Test Lab	LO5.4-2	Enumerate existing tools and salient features of the same	K1
	5,5			LO5.5-1	Compare various approaches of creating test labs	K2

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8. Table of Contents



Chapter I. Introduction

- Introduction to the course

Chapter II. Overview of Mobile World

- II/1 Introducing the Mobile World
- II/2 Business Models in Mobile Space
- II/3 Overview of Mobile Devices
- II/4 Different Types of Mobile Applications
- II/5 Mobile Application Architecture
- II/6 Development Platforms for Mobile Applications

Chapter III. Mobile Application Test Types

- III/1 Challenges in Mobile Application Testing
- III/2 Emulators and Simulators
- III/3 Mobile Testing Types

Chapter IV. Mobile Application Testing Process & Techniques

- IV/1 Mobile Application Test Process and Strategy
- IV/2 Experience Based Testing Techniques

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Chapter V. Tools and Automation

- V/1 Automation Approaches
- V/2 Automation Solutions
- V/3 Automation Process
- V/4 Exploring Mobile Automation Tools
- V/5 Test Environment & Test Lab

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9. Foundation Level Exam Guidelines



CMAP Mobile App Testing – Foundation Level examination is:

- 40 multiple-choice questions
- 60 minutes
- available online or paper-based (many options available)
- 65% is required to successfully pass (at least 26 correct answers)
- not negatively marked (no “on top” minus points for incorrect answers)

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9. Foundation Level Exam Guidelines



Chapter	K-Level	Time (mins)	K1	K2	K3	Total Questions
Course Introduction		20	0	0	0	0
Overview of Mobile world	K2	155	5	4	0	9
Mobile Application Test Type	K3	275	7	5	6	18
Mobile Application Testing Process & Techniques	K3	60	2	2	2	6
Tools and Automation	K2	105	4	3	0	7
Total (Questions or Time:)		615	18	14	8	40

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10. References



Interesting websites

- <http://mobithinking.com/mobile-marketing-tools/latest-mobile-stats/e#appusers>
- <http://www.kpcb.com/insights/2013-internet-trends>
- <http://www.smartinsights.com/wp-content/uploads/2012/03/monthlyappdownloads-ApplevsAndroid.png>
- http://en.wikipedia.org/wiki/Comparison_of_Android_devices
- <http://ipod.about.com/od/iphonesoftwareterms/qt/apps-in-app-store.htm>
- <http://www.forbes.com/sites/chuckjones/2013/12/11/apples-app-store-about-to-hit-1-million-apps/>
- <http://ipod.about.com/od/iphonesoftwareterms/qt/apps-in-app-store.htm>
- <http://www.itbriefcase.net/effective-mobile-test-automation-a-hybrid-approach>
- <http://softwaretestingtips2.wordpress.com/2014/01/08/testing-automation-for-mobile-app-testing-increases-productivity-and-efficiency/>

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10. References



Further interesting websites

- <http://gs.statcounter.com/>
- <http://www.ifixit.com/>
- <http://www.thinkwithgoogle.com/mobileplanet/en/>
- <http://www.akamai.com/html/io/index1.html>
- <http://marketshare.hitslink.com/operating-system-market-share.aspx?qprid=8&qpcustomd=1>
- <http://www.appbrain.com/stats/top-android-phones>

Books

- http://wip.org/download/Mobile_DevGuide_13.pdf
- http://wip.org/download/GuideToTheParallelUniverse_3rdEdition.pdf
- http://wip.org/download/Fifth_Dimension_v1.pdf

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Thank you for your interest in CMAP (Certified Mobile App Professional) certifications.

We look forward to working with you in the future!

