



The Abdus Salam  
**International Centre  
for Theoretical Physics**  
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# Concept mobile App for Course Management

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Technology Section  
ICTP

*Conference on Open-source tools for enhancing teaching, learning and research in  
Science, Technology, Engineering and Mathematics (STEM).  
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# Overview

- Introduction
- Challenge
- Course management
- Mobile devices
- Concept solution
- How to
- Conclusion

# Introduction

- The modern learner
  - Use of electronic tools
    - reading & communication
  - Vast information sources
    - INTERNET and on-line resources
  - Fast pace of Activity
    - Immediate response
  - Dual or multiple social contexts
    - Digital/on-line

# Challenge

- Getting and keeping learners interested and motivated enough for learning to take place.
- How to improve the modern learners overall perception of and participation in a course?
  - Institutional courses, e-learning, MOOCs, etc..

# Course management

Task/activity	One time	Daily/weekly	Periodic	Notes
Presentation of course outline	X		X	
Delivery of content		X		Scheduled
Students/ groups activities	X	X	X	Tutorial groups, lab groups, etc
Assignments/ Homework		X	X	
Tests /progress assessments/ feedback			X	
Registration/ Examination	X			
Grading	X	X	X	

# Mobile device

- Convergence of different technologies
  - Voice communication
  - Store and forward push messaging: sms
  - Digital aids/utilities: calendars, reminders, notes
  - INTERNET access: instant messaging, chats, web & e-mail access, VOIP
  - Extendable via small software applications
  - Unique terminal ID: ( at least one number/ID per user)

# Concept matching

Course Task/activity	Smartphone feature
<b>Registration</b>	One-time activity, with scheduled ability to un-register.
<b>Presentation of course outline</b>	Digital aids (calendars + reminders)
<b>Delivery of content</b>	Push notification of new topics & reference e-books and library book availability or purchase information.
<b>Students Groups / activities</b>	Notification of activity schedule/meetings
<b>Assignments/ Homework/ tests / exams</b>	Advanced Notification of due dates / schedule
<b>Grading/ assessments/</b>	Notification of availability and scheduling of appointments

# Privacy and security consideration

- Privacy
  - No association of phone number to student ID or personal Data required.
  - On-line registration via direct link to Institutional resource where available.
- Security
  - No storage of local data or access credentials
  - No direct access to personal grading information.



# Building the App

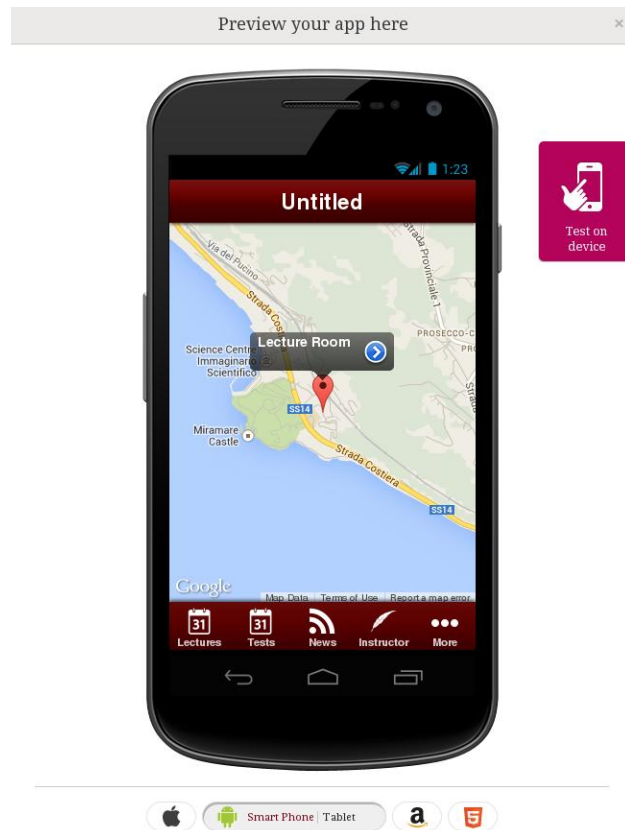
- Supporting multiple devices/platforms
  - Android, Apple iOS, Windows Phone, Blackberry OS and others
- Availability/Download
  - (shop/non-shop based)
- Various on-line frameworks/sites with free offerings (no coding required) including:
  - <http://mobile.conduit.com>
  - <http://appery.io>
  - <http://appypie.com>
  - <http://www.appmakr.com>

# Features of on-line frameworks

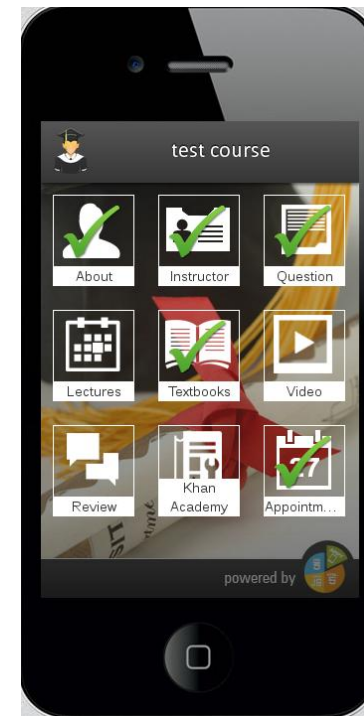
- Contents
  - Direct link to web-pages, events & calendars,
  - Face-book page, e-reader, twitter and RSS feeds..
  - Video playlist, Khan Academy, Ustream..
- Style
  - Color, icon, etc..
- Informative text

# Examples of concept apps

## Using Mobile conduit



## Using Appy Pie



# Conclusion

- The concept smart-phone app focuses on the delivery of course management services to the learner in a manner that resonates easily with current/future generations of young learners.
- Building and deploying a course management app for “free” is possible with existing on-line resources but ***one or more open-source tools is urgently needed for this functionality.***