

Course Code CHI3001	App Development for Healthcare Informatics	Course Type	LP
		Credits	3
Course Objectives: <ul style="list-style-type: none">Understand system requirements for mobile applications.Understand the use of Mobile application in health care.Generate suitable design using specific mobile development frameworksGenerate mobile application design.Implement the design using specific mobile development frameworksDeploy the mobile applications in marketplace for distribution			
Course Outcomes: At the end of the course, students should able to. <ul style="list-style-type: none">Describe the requirements for mobile applicationsUse mobile application in health care.Explain the challenges in mobile application design and developmentDevelop design for mobile applications for specific requirementsImplement the design using Android SDK.			
Student Outcomes (SO): a, b, c, l a. An ability to apply the knowledge of mathematics, science and computing appropriate to the discipline. b. An ability to analyze a problem, identify and define the computing requirements appropriate to its solution. c. An ability to design, implement and evaluate a system / computer-based system, process, component or program to meet desired needs. l. An ability to apply mathematical foundations, algorithmic principles and computer science theory in the modelling and design of computer-based systems (CS).			
Module No.	Module Description	No.of Hours	SO
1	Introduction to Mobile Application Need for mobile applications in healthcare – Cost of Development – Importance of Mobile strategies in the Business world-Market and business drivers for mobile application. Explore the existing mobile applications used for health care industries, Understating the features of those applications. Mobile Application Design: Basics of embedded system design - Embedded OS - Design constrains for mobile applications, hardware and software related - Architecting mobile applications- Understanding	4	a
2	Mobile application development: Downloading and installing the Android Software Development Kit (SDK). Details of steps to create the first application using eclipse and Android SDK – creating Android Virtual Device (AVD). Deploying Android application on physical device. Structure of Android Project. Applications, Activities and Views. Programming in the mobile environment. Activity lifecycle phases. Fundamentals of user interface design. Some basic Views. Integration of the above to create application. Changing screen orientation.	6	b, c

3	Android Programming: Designing for Interaction with Users: Event listeners, implementing the required method to handle user-initiated activities, assigning listeners to view elements. Optimizing event listener implementations – assigning listener to multiple view elements, Activity as a listener. Multiple uses of Resources. Use of Application logs and Toast messages. Resources - Application types Topic- Activities - Introduction to Layouts – Fragments – Adapters - Action bar.	6	b, c
4	Design of Menus: Simple menu. Creating menu items with id's. Grouping and sorting menu items. Using menu inflater and xml menu. Design of Context menu. Use of programs to create Layouts, various layout parameters. Creating View components dynamically. Changing layout parameters dynamically in a running application. Putting it all together in a real application.	6	a, b, c, l
5	Databases and Content Providers: Persistent storage in Android – introduction to SQLite. Sensors and Deployment: Sensors - Finding sensors - Accelerometers - Gyroscopes - Other types - Orientation and Movement - pitch, roll and yaw - Natural device orientation - Reference frame remapping - SMS - Sending -Receiving - App Distribution -Signing - Google Play requirements- Needed assets- Monetization- Tips on becoming a top app Google analytics.	6	l
5	Guest Lecture on Contemporary Topics	2	
	Total Hours:	30	
Mode of Teaching and Learning: <i>Flipped Class Room, Activity Based Teaching/Learning, Digital/Computer based models, wherever possible to augment lecture for practice/tutorial and minimum 2 hours lectures by industry experts on contemporary topics</i>			
Mode of Evaluation and assessment: <i>The assessment and evaluation components may consist of unannounced open book examinations, quizzes, student's portfolio generation and assessment, and any other innovative assessment practices followed by faculty, in addition to the Continuous Assessment Tests and Term End Examinations.</i>			
Text Book(s):			
1.	Zigurd Mednieks, Laird Dornin, G. Blake Meike, and Masumi Nakamura, Programming Android, O'Reilly Media, 2011.		
Reference Book(s):			
1.	Jeff McWherter and Scott Gowell, "Professional Mobile Application Development", Wrox, 2012		
2.	Charlie Collins, Michael Galpin and Matthias Kappler, “Android in Practice”, DreamTech, 2012		
3.	Paul Deitel, Harvey Deitel, Abbey Deitel, Michael Morgano, Android for programmers an app-driven approach, Deitel developer series, Pearson Education, Inc, 2012.		
4	Wei-Meng Lee, Beginning Android 4 application Development, John Wiley Publication, 2012		
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Indicative List of Experiments

No.	Description of Experiment	SO
1	Android Application for different activity design	b
2	Donors and Receivers Android Application	c
3	Android enabled Home Automation System (via Bluetooth)	a
4	Hospital Management system.	l
5	Doctors appointment management System	b,c
6	Search Your Doctor Android Application	c,l
7	Blood bank management system	l
8	Application for medicine delivery system	c,l
9	Application for sample collection and report generation	c,l

<i>Recommendation by the Board of Studies on</i>	Second BoS, 28-07-2021
<i>Approval by Academic council on</i>	
<i>Compiled by</i>	Dr.Sandip mal