Kadi Sarva Vishwavidyalaya, Gandhinagar
MCA Semester II
MCA-26 (A) : Mobile Cross Platform Development

Rationale: PhoneGap is a growing and leading open-source mobile web apps development framework that lets developers build JavaScript and HTML5-based web applications with native wrappers for more than six mobile platforms, including iOS, Android, and BlackBerry. This framework lets you build HTML- and JavaScript-based apps and still take advantage of native mobile device capabilities like camera, localStorage, geolocation, storage and much more, irrespective of the mobile platform you target. It also lets you use more specialized JavaScript frameworks like jQuery Mobile and more.

Prerequisite:
Knowledge of object oriented programming, basic HTML and database concepts

Learning Outcomes:
- Set up app development studio with tools of the trade.
- Test the app on virtual and actual mobile devices.
- Write appropriate HTML5 for mobile
- Use CSS3 to create stunning mobile user interfaces..

Teaching and Evaluation Scheme: The objective of evaluation is to evaluate the students throughout the semester for better performance. Students are evaluated on the basis of continuous evaluation system both in theory and practical classes based on various parameters like term work, class participation, practical and theory assignments, presentation, class test, Regular Attendance, etc.

Sub Total Credit	Teaching scheme (per week)		Examination scheme				Total Marks
	Th	Pr	MID Th	CEC Th	External Th.	External Pr.	
3	3	-	25	25	50	-	100

Course content:
Unit I: Introduction to PhoneGap   **[20%]**
A Little PhoneGap History, Why Use PhoneGap? How PhoneGap Works, Designing for the Container, Writing PhoneGap Applications, Building PhoneGap Applications, PhoneGap Limitations, PhoneGap Plug-Ins, Getting Support for PhoneGap, PhoneGap Resources, Hybrid Application Frameworks   PhoneGap Development, Testing, and Debugging, Hello, World!, PhoneGap Initialization, Leveraging PhoneGap APIs, Enhancing the User Interface of a PhoneGap Application, Testing and Debugging PhoneGap Applications, Dealing with Cross-Platform Development Issues, API Consistency

Unit II: PhoneGap Developer Tools [20%]

Configuring an Android Development Environment for PhoneGap, Installing the Android SDK, Eclipse Development Environment Configuration, Creating an Android PhoneGap Project, Testing Android PhoneGap Applications, Configuring a Windows Phone Development Environment for PhoneGap, Installing the Windows Phone Development Tools, Creating a Windows Phone PhoneGap Project, Testing Windows Phone PhoneGap Applications,Using PhoneGap Build, The Fit, Getting Started,Configuration, Creating an Application for PhoneGap Build, Creating a PhoneGap Build Project, Dealing with Build Issues, Testing Applications, Debug Mode

Unit III: PhoneGap APIs –1 [20%]

Accelerometer: Querying Device Orientation, Watching a Device's Orientation, **Contacts:** Creating a Contact, Searching for Contacts, Cloning Contacts, Removing Contacts. Device, The Network, And Notifications.

Unit IV: PhoneGap APIs –2 [20%]

Events: Creating an Event Listener, deviceready Event, Application Status Events, Events, Button Events. File: Available Storage Types, Accessing the Device's File System, Reading Directory Entries, Accessing FileEntry and DirectoryEntry Properties, Reading/Writing Files, Deleting/Copying/Moving Files and Directories, Uploading Files to a Server

Unit V: PhoneGap APIs –3 [20%]

Media: The Media Object, Playing Audio Files, Recording Audio Files, Seeing Media in Action Storage: Local Storage, SQL Database

Text Book:
1. PhoneGap Essentials, Building Cross Platform Mobile Apps, John M Wargo, Addission Wesley

Reference Books:
1. Beginning PhoneGap, Thomas Meyer,
2. PhoneGap 2.x Mobile Application Development
3. PhoneGap Mobile Application Development Cookbook
4. 20 Recipes for Programming PhoneGap, Building Mobile Applications with Java
5. Beginning PhoneGap,Mobile Web Framework for JavaScript and HTML5, Publisher: Apress, Rohit Ghatol, Yogesh Patel

Unit wise coverage from Text Book

   Unit 1: Chapters 1,2
   Unit 2: Chapters 3,8,9
   Unit 3: Chapters 10,15, Chapter 5 from Reference Book 1
   Unit 4: Chapters 17,18
   Unit 5: Chapter 20, 22