Project Guideline
5 Years Integrated MCA (9th Semester)
060060901: Smart Mobile Application Development

Objective: The main objective of this project work is to provide industry experience to study, analyse, design and develop web application to students.

Course Outcomes: Upon completion of the course, the student shall be able to

CO1: Apply and usage of the map based API to develop location based features.
CO2: Utilization of network and web services to develop mobile application.
CO3: Demonstrate and utilization of gesture and integrate within the application.
CO4: Identify needs of the sensors and usage of that sensor to develop mobile application.
CO5: Understand the concepts of wearable to develop custom wear application.
CO6: Describe the usage of cross platform for mobile application development.

Programme Outcomes: The student will have

PO1: Proficiency in and ability to identify problems related to computer science as well as design and apply computational knowledge to solve them.
PO2: Ability to design develops, test and maintain system, component, product or process as per needs and specification.
PO3: Understanding of professional and ethical role and responsibility.
PO4: Recognition of the need for and ability towards life-long learning.
PO5: Knowledge of programming languages, database systems, operating systems, software engineering, Web & Mobile technology and relevant modern issues.
PO6: Ability to demonstrate the use of modern tools, models and languages to solve problems related to software development.
PO7: An Ability to communicate effectively with a range of audiences.

Tools and Technologies:-

A student can be used the following computing environment to develop their project.

- Android Studio (Compulsory).
- SQL Server
- Net Beans
- MySQL Server

Phase Based Schedule:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Phase Title</th>
<th>Activities to be done by Students</th>
<th>Activities to be done by Teacher</th>
<th>Deliverable at the end of the phase</th>
<th>Related Units</th>
<th>Date of completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Requirement Gathering</td>
<td>Definition, Define Scope,</td>
<td>Demonstration</td>
<td>Submission of chapter -1</td>
<td>Unit 1 and Unit</td>
<td>After 2nd Week</td>
</tr>
</tbody>
</table>

Approved

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<table>
<thead>
<tr>
<th></th>
<th>Purpose, Functional and Non-functional requirements.</th>
<th>the web services part</th>
<th>Project Report</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Application Designing and Admin panel designing</td>
<td>Designing of data dictionary and GUI Controls</td>
<td>Presentation -1</td>
<td>Unit 1 and Unit -2</td>
</tr>
<tr>
<td>3</td>
<td>Implementation and Integration of web services, sensors with the application</td>
<td>Validations Unit Testing.</td>
<td>Presentation -2</td>
<td>All</td>
</tr>
<tr>
<td>4</td>
<td>Testing</td>
<td>Applying Unit Testing and Integration Testing</td>
<td>Verification of the student work.</td>
<td>Submission of Final Project Report-2</td>
</tr>
</tbody>
</table>

### Project Guidelines

[A] **General Guidelines:**

- In the project, students have to develop mobile application with advanced concept of the syllabus or outside the syllabus.
- Student is expected to develop a project of approx. 40 hrs.
- Course Teacher shall act as a project guide.
- In Project, functionalities implementation must cover 70% of the syllabus.
- Decision of Course Teachers shall be final and team must have to obey it.
- For any query, a student can approach to the Ms. Durdarshana Patel.
- Students can take help of the any faculty member for other technology which used by students in their mobile application.
- A student team can contact the Support and Guidance team directly, as and when needed.

[B] **Team Formation and Problem Definition:**

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A project shall be done in a team consisting of minimum 3 and maximum 4 students. Team shall be formed by students in a first week after commencement of semester.

Project definition shall be approved by Project Committee and that will be subsequently given to the student project team by Guide.

The Course Teacher will assign project definitions in 2nd week of semester.

[C] Reporting:

Project team must submit the timeline of [40 x total team members] schedule to the guide in the 3rd week of semester.

Project Timeline must be contain 12 – 15 tasks related to the project execution and duration of each task.

Status of the timeline shall be updated by Course Teacher.

Format of the timeline is given below:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Project Task</th>
<th>Proposed Date</th>
<th>Actual Date</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Start Date</td>
<td>End Date</td>
<td>Start Date</td>
<td>End Date</td>
</tr>
<tr>
<td></td>
<td>Status (Completed/Pending)</td>
<td>Mode (Intime/Early/Delayed)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A student shall maintain a log book team wise. Log book must be signed by respective lab teachers in each laboratory session.

Log book must also be signed by Support and Guidance team, whenever student team do any discussion with them.

Format of Logbook is as below:

Logbook format:
First Page:

Team No: ____________________________ Class and Division: ____________________________

Project Title: ____________________________

Enrollment No and Name: ____________________________

Second Page:

<table>
<thead>
<tr>
<th>Date</th>
<th>Enrollment No.</th>
<th>Task Done by Student</th>
<th>Guide/Lab Teacher/Support and Guidance team comment</th>
<th>Student Signature</th>
<th>Guide/Lab Teacher/Support and Guidance team Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;en1&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;en2&gt;</td>
<td></td>
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<tr>
<td>&lt;en3&gt;</td>
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<tr>
<td>&lt;en4&gt;</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

[D] Evaluation and Assessment:

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To achieve quality and timeliness in game development work continuous internal evaluation scheme has been adopted.

Continuous internal evaluation shall be done on the basis of Presentation (A6) and Project Report (A5) evaluation defined by the Course Teacher as below assessment policy:

<table>
<thead>
<tr>
<th>Assessment Code</th>
<th>Assessment Type</th>
<th>Duration of each</th>
<th>Occurrence</th>
<th>Each of marks</th>
<th>Weightage in CIE of</th>
<th>Tentative Date</th>
</tr>
</thead>
</table>
| A5              | Project Report & Viva          | 15 Minutes       | 02         | 25            | 2×4=8                | Project Report-1 & Viva: 2nd week of August  
Project Report-2 & Viva: 4th week of September |
| A6              | Presentation & Viva            | 30 Minutes       | 02         | 50            | 2×6=12               | Presentation-1: 2nd week of August  
Presentation-2: 1st week of October      |

- During presentation, a student has to bring log book. Student shall use presentation slides to explain the project work.
- Student may be asked to write the code related to the project during presentation viva.
- No make-up work shall be accepted for missed or failed presentation or project report & Viva.
- Late submission of work and project reports shall be penalized as 5% of full marks per day for maximum five days after the cutoff date. In case, if a student has failed to meet the deadlines, he/she shall receive zero marks in particular parameter.
- First presentation is evaluated by guide and second presentation is evaluated by panel.
- Project work will be evaluated on the following criteria:
  - Timeliness
  - Usability
  - Documentation
  - Presentation
- The detail evaluation of the above criteria is mentioned below:

**Project Report & Viva -1:** It shall have included first two chapters of report as per the format discussed [E] Project Report & Submission. Evaluation based on following criteria:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Marks (25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement Gathering and Analysis</td>
<td>07</td>
</tr>
<tr>
<td>Conceptual Diagrams and Data Dictionary</td>
<td>15</td>
</tr>
<tr>
<td>Reporting &amp; Timeline status</td>
<td>03</td>
</tr>
</tbody>
</table>
Project Report & Viva - 2: It shall have included all chapters of report as per the format discussed [E] Project Report & Submission. Evaluation based on following criteria:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Marks (25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation and Working Demo</td>
<td>15</td>
</tr>
<tr>
<td>Validation and Testing</td>
<td>06</td>
</tr>
<tr>
<td>Incorporation of Suggestion given in 1st project document progress report</td>
<td>04</td>
</tr>
</tbody>
</table>

Project Presentation – 1:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Marks (50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement Analysis</td>
<td>12</td>
</tr>
<tr>
<td>UML Diagrams and Data Dictionary</td>
<td>12</td>
</tr>
<tr>
<td>Presentation Skills</td>
<td>07</td>
</tr>
<tr>
<td>Project Demonstration</td>
<td>12</td>
</tr>
<tr>
<td>Clarity regarding the technology and advanced concept</td>
<td>07</td>
</tr>
</tbody>
</table>

Project Presentation – 2:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Marks(50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of project work</td>
<td>20</td>
</tr>
<tr>
<td>Technical Knowledge and Testing Skill</td>
<td>15</td>
</tr>
<tr>
<td>Presentation and communication skills</td>
<td>10</td>
</tr>
<tr>
<td>Implementation of suggestion given in Presentation 1</td>
<td>05</td>
</tr>
</tbody>
</table>

For all presentation each team will be given 20 minutes for presentation followed by 10 minutes viva.

**Bonus Policy:**
If project team use any type of cross platform for the application development then team gets up to 2 marks as a bonus such that the Internal marks not exceed the 20 Marks.

[E] Project Report & Submission:
- Project report must contain following:
Report Format:

i. Title Page / Front Page

ii. Institute Certificate
    [The completion certificate should be certified by course teacher and endorsed by program coordinator. Refer section[E]]

iii. Declaration
    [A self-declaration regarding work originality and non-plagiarism. Declaration certificate format is given below at end of document.]

iv. Acknowledgement

v. Table of Contents with page numbering

vi. List of Tables, Figures, schemes

1. Introduction
   1.1. Identification of Need
   [Need describes the problem or issue, or situation where something needs to change to make things better, for a person, a group of people, an environment or an organization.]

   1.2. Purpose
   [Purpose means the objective to develop a project. Purpose describes what a project is trying to achieve.]

   1.3. Scope
   [Project scope should have a good idea of what the project consists of (and what will not be part of the project). This statement will give a view of the project.]

   1.4. Definition, Acronyms, and Abbreviations
   [An abbreviation/acronym is a shortened form of a word or phrase.
   - Abbreviation example: O.S. means Operating System
   - Acronym example: GHz, which stands for GigaHertz etc., which stands for etcetera
   - Definition: a statement of the exact meaning of a word]

   1.5. Technologies to be used
   [Mention the technologies i.e. hardware and software (other than Android) to be used in your project development and required for deployment.]

2. System Analysis
   2.1. Functionalities
   [This phase describes the functionality in system in following two parts:
   - Usual functionalities.
   - Distinct functionalities.]

   2.2. User Characteristics
   [Identify classifications of users of your system. E.g. System administrator, client. And write user wise functionality available in proposed system.]

3. Conceptual Diagram
   3.1. Use case diagram
   [A use case diagram defines interactions between external actors and the system to attain particular goals.]

   3.2. Activity diagram

4. System Design
   4.1. Data Dictionary, integrity constraints
   [A set of information describing the contents, format, and structure of a database and
   

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the relationship between its elements used to control access to and manipulation of
the database.

4.2. User Interface Design
[Snapshot of a project including validation with caption below]

4.3. Reports (if any)
[Snapshot of a project reports including input with caption below]

4.4 System flow design for the cross platform technology
[system flow of the Cordova application]

5. Testing
5.1. Test cases (Screen shots of validation)

6. Future scope and further enhancement of the Project

7. Learning during Project Work, i.e. "Experience of Journey during Project Duration"

8. References
[Enter the reference i.e. web, book or any other reference document taken for project
development.]

Guideline for Report Formatting:

- Use A4 size page with 1" margin all sides.
- Header should include Project title and footer should contain page number and enrollment
  numbers.
- Chapter Name should be of Cambria font, 16 points, Bold.
- Main Heading should be of Cambria font, 14 points, Bold.
- Sub Heading should be of Cambria font, 12 points, Bold.
- Sub heading of sub heading should be of Cambria font, 12 points, Bold, Italic.
- Paragraph should be of Cambria font, 12 points.
- Line spacing - 1 line, before - 0, after - 0.
- No chapter number for references.
- Before chapter 1, give page number in roman letter (Title Page, Project Certification Form,
  Acknowledgements, Table of Contents/Index with page numbering, List of Tables, Figures,
  Schemes and Summary/abstract of the project work).

- Team must have to submit one spiral copy of project report along with log book
  compulsorily in the prescribed format along with soft copy in CD on or before the date of
  final project document submission with dual approval of subject teacher and signed
  certificates from institute by concern authority.
- In the CD, a team has to submit softcopy of each presentation, final project document and
  code file. A team may add any significant file which they have presented or submitted to
  their subject teachers i.e. animation video, video of working project demonstration, etc.
- On the CD mention Team number, Project title, Subject code, Subject Name and enrollment
  number of each team members in ascending order.
- Refer following Title/front-page format.

MS. DURDARSHANA PATEL
Mobile Application Development Project entitled with

<<TITLE IN CAPITAL LETTERS>>

Submitted By,
<<Student’s Name (Enrollment Number)>>,
<<Student’s Name (Enrollment Number)>>,
<<Student’s Name (Enrollment Number)>>

Guided By,
<<Course Teacher Name>>

in partial fulfillment of the requirements
for the 9th Semester
Subject 060060901-Smart Mobile Application Development
of 5 Years Integrated MCA
Shrimad Rajchandra Institute of Management and Computer Application,
Uka Tarsadia University.
November, 2019.

[F] Institute Certificate:

- Institute certificate will be provided by Course Teacher.
- Students will certify their project from the course teacher and endorsed by the program coordinator on or before last week of semester failing which student will not be allowed to appear for the external examination.

MS. DURDARSHANA PATEL
CERTIFICATE

This is to certify that the project entitled "<<Project Title>>" is submitted by "<<Student Name (Enrollment Number), Student Name (Enrollment Number) and Student Name (Enrollment Number)>>" as a partial fulfillment for the requirement of the degree of 5 Years Integrated MCA (9th Semester) during the academic year 2018-2019.

Date: November, 2019
Place: UTU

<<Guide Name>>
Guide

Dr. Kalpesh Lad
Programme Coordinator

[GL Declaration Certificate: Each project document must have declaration certificate page as follows:

DECLARATION

We hereby declare that the project titled "<<Project Title>>" is fully implemented by us. It is neither paid nor copied. Even though, later on, in case of any infringement found for this project work, we are solely responsible for the same and understand that as per UGC norms, the University can revoke the degree conferred to us.

<table>
<thead>
<tr>
<th>Enrollment No</th>
<th>Name</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Guide Name | Signature
|-----------|-----------|

MS. DURDARSHANA PATEL

[Signature]