AHMEDABAD UNIVERSITY
SCHOOL OF COMPUTER STUDIES
Semester – VI MCA/BCA Programme
INDUSTRY INTERNSHIP/SOFTWARE PROJECT

General Guidelines

1. **It is strongly suggested to do the innovative projects in current IT trends only. The common projects like Payroll or Inventory System or a Simple website will not be accepted as Internship projects.**

2. The unique projects like Software Testing (QA), Content writing, Network and Security Management and Database Administration will be appreciated and guidelines for evaluation and presentation will be designed and developed by respective internal guides.

3. **System Development Methodology:** Student should follow the below methodologies for drawing the diagrams.
    - Object Oriented Methodology (UML Diagrams: use-case diagram, class-diagram, sequence-diagram, collaboration-diagram, activity-diagram, deployment diagram)

2. **Project-file:** The student must prepare a project-file in which all the project related documents should be systematically organized and filed. Student must bring the file in all project reviews and sign to be taken from the internal guide (in the index of the file)

Analysis Phase Guidelines

3. **Preliminary investigation** and **information gathering** in the domain of the system must be done. Different types of information gathering techniques should be used like interviews and questionnaire with end-users, clients and people involved with the system, study of similar or related software systems available in the market, pros and cons of available with the proposed system.
4. **Initial problem definition document (Annexure-I)** must be prepared when students come for the project approval from the director and project coordinator.
5. **SRS (Requirements specifications document) must be prepared**
   SRS should contain following minimal information:
   a) Objective of the system, scope, assumption and dependencies, system features, and then specific functional requirements.
   b) If possible, functional requirements should be specified in classified way on the basis of modules or sub-systems.
   c) Non-functional requirements also should be explicitly specified.
   d) Different types of end-users (Actors) of the system and their privileges in the system should be specified.
6. **DFD(BCA)/UML Diagrams(MCA) :** System processes and data flow should be shown in these diagrams.
7. **ERD(BCA)/Class Diagram(MCA) :** Relationships between entities/classes should be shown in these diagrams.

Design Phase Guidelines

1. **System Architecture diagram** must be prepared.
   E.g., for web-based applications MVC architecture.

2. It is important to apply the SE concept of **software-partitioning and divide the System into Sub-systems (modules).** Analysis models can be refined and organized according to modules.
   If the project team comprises of 2 or more students, then distinct modules should be allocated to different students (division of work). All the project-members SHOULD NOT work on all the modules.

System Development Phase Guidelines

1. Student must follow the professional coding and naming conventions as per the specific technology (like JAVA or .NET or PHP). This coding conventions followed document should be prepared.
2. Sample code or Critical code may be kept in the project document (if permitted by the company).
3. Resources and books used for learning and applying the system development technology must be mentioned in the bibliography of the project.

System Testing Guidelines

1. Student must do different types of the testing of the system (black-box, white-box, integration etc.)
2. Prepare test-cases according the SRS document. Prepare separate test case for major functionalities in each module.
3. If any regression, performance or load testing is done, then it must be explicitly mentioned in the project documentation and presentation.

CHECKLIST FOR PROJECT (Annexure-II) should be submitted to the internal faculty before external presentation.

Project Profile

If you are developing a web-based application, then you must specify the following details in the project profile:

- Front end (GUI layer of your application)
- Middle tier (business logic layer of your application)
- Backend (Database of your application)

Any software used in the project, should have version information.

Data Dictionary

- Every table should have table description.
- Every table detail should have following columns.

- Tables having foreign key should specify “references foreign key table name” in the description field.

E.g.

Table Name : **AccountMaster**				
Purpose: Account Master will store the basic information of any supplier.				
SR.NO.	**FIELD NAME**	**DATA TYPE (SIZE)**	**CONSTRAINTS**	**DESCRIPTION**
1.	ID	Integer	P.K.	
2.	NAME	Varchar(30)	Not Null, Unique	
3.	CONTACT_PERSON	Varchar(30)		
4.	PHONE1	Varchar(12)		
5.	PHONE2	Varchar(12)		
6.	FAX	Varchar(12)		
7.	EMAIL	Varchar(50)		
8.	WEBSITE	Varchar(35)		
9.	ADDRESS1	Varchar(50)	Not Null	
10.	ADDRESS2	Varchar(50)		
11.	CITY_ID	Integer	F.K., Not Null	References City_Master
12.	STATE_ID	Integer	F.K., Not Null	References State_Master
13.	COUNTRY_ID	Integer	F.K., Not Null	References Country_Master
14	CREATED	Timestamp		
15.	MODIFIED	Timestamp		
16.	AUDITED	Timestamp		
17.	IS_DELETED	Bit		
18.	IS_AUDITED	Bit		
19.	CREATED_BY	Integer	F.K.	References User_Master
20.	MODIFIED_BY	Integer	F.K.	References User_Master
21.	DELETED_BY	Integer	F.K.	References User_Master
22.	AUDITED_BY	Integer	F.K.	References User_Master

Following Design Documents Should be Prepared(MCA)

- System architecture diagram
- Component Design (No of modules and their relationship)
- Flow charts (structured design charts or UML activity diagrams)

Screen Design

- Username and password fields should have minimum no of chars checking. Typed Password strength should be indicated to the user.
- Every compulsory field in the GUI screen should have red star indicating compulsory field, which must be entered by the user.
- Every GUI screen should display the currently logged in username at the top-left or top-right corner of every screen.
- Birth-date textbox should display the date format label, beside the textbox (Indian date format: dd/MM/yyyy and US date format: MM/dd/yyyy). Consistent date format should be used as per the requirements of the software endusers). Date pickers should be given to select the data form the pop-up window.

- System should generate some useful MIS reports (providing summarized information to the manager for decision making)
- All reports should have parameters, header, detail and footer and print button.
  E.g. Sales report can have parameters like start date and end date or Sales report according to product category as parameter.

Appendices in Project Report

- All documents for studying existing system must be attached (original or photocopy as permitted by company).

Evaluation Scheme

- For Software Project(BCA) refer Annexure-III
- For Industry Internship(MCA) refer Annexure-IV

Guidelines for the final Project Submission(hard copy and presentation)

- Students have to prepare documentation (spiral bounded hard copy) of the Software Project and are required to submit power point/flash presentation of the project at the end of the semester for the final external evaluation.
- Refer the document <<Annexure-V Software_Project_Guidelines to prepare hard copy of project report.doc>> to prepare hard copy of the project report.
- The power point presentation should contain the slides in following sequence.
  1. Project Title, Group No., Names of Projectees, Roll No.
  2. Organization Profile
  3. Overview of System
  4. Requirements/Features of new system
  5. Data flow diagram/Use case diagram
  6. Entity Relationship diagram/Class diagram
  7. Data dictionary(Table Design)
  8. Screen layouts
  9. Report layouts
  10. Enhancement
  11. Acknowledgement

  Note : Header and Footer should be as per the sample. Refer the document <<Annexure-VI Software_Project_Header_Footer_for_Presentation.ppt>> for header and footer.
- Student has to take approval of his/her project from the internal faculty; otherwise the project will not be evaluated by the external examiners and considered as “Incomplete”. In that case, student will be given grade “I”-Incomplete and he/she has to repeat the project or to undertake new project which will be submitted during next year.

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