

## **C.U.SHAH UNIVERSITY – WADHWANCITY**

**FACULTY OF:** -Diploma Studies

**DEPARTMENT OF:** -Computer Engineering

**SEMESTER:** - V

**CODE:** - 2TE05PRO1

**NAME** – Project – I

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### **Teaching & Evaluation Scheme:-**

Subject Code	Name of the Subject	Teaching Scheme				Evaluation Scheme							
		Th	Tu	Pr	Total	Theory				Practical (Marks)			Total
						Sessional Exam		University Exam		Internal		University	
						Marks	Hours	Marks	Hours	Pr/Viva	TW	Pr	
<u>2TE05PRO1</u>	Project - I	00	00	04	04	00	00	00	00	00	50	50	100

### **General Guidelines for the Project – I & II**

#### **Following are the General guidelines:**

1. Semester 5th, teaching scheme is 0-0-4, with 2 credits worth of 100 marks
2. Semester 6<sup>th</sup>, teaching scheme is 0-0-12 worth of 200 marks.

#### **Objectives:-**

In the field of Computer engineering various technologies with proper paradigms needs to be implemented to develop different types of computer applications. So it is essential to get hands on experience for developing industrial applications. This subject is essential to understand the implementation of the system development process i.e. analyze, design, coding, debugging and testing. This will help the students to acquire skills and attitudes to work as programmer, Network administrator, and Technical assistant.

Furthermore the student will be able to find out various sources of technical information and develop self-study techniques to prepare a project and write a project report.

**Prerequisites:** - Basic knowledge of the subjects learned so far

#### **Learning Outcomes:**

##### **The students will be able to:**

1. Work in Groups, Plan the work, and Coordinate the work.
2. Develop leadership qualities.
3. Develop Innovative ideas.
4. Practically implement the acquired knowledge.

5. Develop basic technical Skills by hands on experience.
6. Document and Write project report.
7. Develop skills to use latest technology in Computer/Information Technology field.
8. Analyze the different types of Case studies.
9. Testing of software and hardware.
10. Maintaining systems and accessories.

### **Course Outlines:-**

1. One Project from any one of the following groups.
2. Form a group of maximum three students.

### **Contents:**

Four hours should be allotted for giving the Instructions for developing the project and preparing a Project Report.

### **Group Projects**

#### **Software Oriented Projects**

1. Develop Application Software for Hotels / Hospital / Shopping Mall / Cinema Theatre / Commercial Complex / Educational Institute / Industrial Complex / utility services on Mobile / smart phones, mobile phone games, GIS, GSM, CDMA coding for various applications.
2. Develop In-house Systems.
3. Case Studies Related to Industries - Operation / Maintenance / Repair and Fault Finding. (Refer Guideline Document).
4. Develop Information Processing System.
5. Develop Web Based Applications using Web Technologies.
6. Develop Network monitoring system.
7. Develop systems for financial organization.
8. Develop System Program based system like compilers, editors, spreadsheets, mini database systems.
9. Develop mobile phone based software to transfer pathological data to smart phone of Doctor to take second opinion before prescription.
10. Design and Implement Disaster Management software by taking help from Gigapan images which are coming from floated cameras in the cyclones.
11. Design and implement software to check virus and malware of mobile phones
12. Design local language operating system/Graphical User Interface for Tablet PC.
13. Design wearable computers for the physically challenged person. We are assuming that due some accident persons vision is blurred. Here microphone should whisper in the ear of this person by taking input from camera images and analyzing and recognizing places

and persons. Here we are assuming wearable computer means with spectacle mountable monitors and wallet size CPU.

### **Hardware Oriented Projects**

1. Develop Intrusion Detection System(IDS) and Intrusion Prevention System(IPS)
2. Develop Speech Recognition System. Focus should be on Machine learning.
3. Develop Image Processing Systems.
4. Develop Expert Systems. Here use cognitive concept.
5. Develop Artificial Intelligence based Systems. Use neural network concept here.
6. Develop various types of Interfacing Applications.
7. Develop device Controllers.
8. Design and implement energy saving devices for example people sensing fans and auto-off at the railway station, bus station
9. Holiday sensing traffic light controllers, which will modify automatically traffic lights time according to number of vehicles. We are assuming on holidays traffic is heavy.
10. Create panoramic images using Gigapan Cameras. This camera is giving various frames.
11. Design automatic human body vital parameters by sensors to diagnose the human.
12. Design cheaper night vision camera suitable for military operations. Keep program in the microcontrollers to process images.
13. Design operating system for washing machine or refrigerator. This is based on RTOS.

### **Learning Resources:**

#### **Magazines:**

1. IEEE Transactions/Journals
2. Computer Today.
3. PC Quest.
4. Data Quest
5. Any Journal Related to Computer/Information Technology/Electronics field.
6. Computer World
7. Chip
8. IT World

#### **2. Website:**

Using any search engine, such as <http://www.google.co.in/> the relevant information can be searched on the Internet.

### **Guidelines for the Students:**

1. The students are required to identify their problem during the vacation and they are required to follow all the rules and instructions issued by department, for safety and other requirements.
2. Each student or student group would work under the guidance of the Faculty from the College. In case any problem/other issue arise for the smooth progress of the project, it should be immediately brought to the notice of the project coordinator/Faculty /Department or Principal of your Institute.
3. The students are required to submit the Problem Definition (in the specified format) to their project coordinator or Head of the Department during the first week of the 5<sup>th</sup> semester.
4. Problem is to be located from either industry or institute and then it has to be developed in 5<sup>th</sup> and 6<sup>th</sup> semester in college with possible periodic inputs from concerned. Both the project parts are single major project. Student has to complete work in College premise only under supervision of College teacher along with Other Subjects/Course as per Teaching Scheme.
5. Any student can pick an industry as per his/her feasibility. He/she is allowed to choose any particular industry and interdisciplinary projects are allowed inside same college. Student has to complete work in College premise only under supervision of College teacher along with Other Subjects/Course as per Teaching Scheme.
6. The project work can be in-house industry project, where student need to implement project related to any domain of industry like education, legal, manufacturing, design, pharmaceutical, Ecommerce, etc.
7. Students are required to get approval of project definition from the department.
8. After approval of project definition students are required to report their project work weekly to respective internal guide.
9. Maximum 3 students can allow working in particular project group.
10. Students have to submit project with following listed documents after the approval of their project definition. Format for same will be provided by department.

1. Project Synopsis
2. Software Requirement Specification
3. SPMP
4. Final Project Report
5. Company certificate
6. Project Setup file with Source code
7. Project Presentation (PPT)