

MES's Pillai College of Engineering, New Panvel

**A REPORT ON
PROJECT BASED LEARNING (PBL)**

**Academic Year 2018-2019 (Semester IV)
Second Year Undergraduate Students of**

Computer Engineering Department

Objective—To enable the students to apply concepts of the present semester subjects (including those of previous semesters) in the form of a design project based on certain application. It is hoped that it shall eventually lead to a better learning experience as opposed to textbook learning. Separate topics are assigned to all students in groups (maximum 4-6 students per group) of the same year to enable healthy competition among the different teams. The students work in groups and assign and distribute various aspects of work so as to realize the project based on a timeline of about 2 to 3 months. Queries and doubts are clarified by interactions with the PBL coordinators and subject experts. Student groups submit the PBL report during their demonstrations on a specified date in front of the faculty members.

Judges for the PBL Demonstrations

All Computer and IT Engineering Faculty of the concerned class.

PBL Coordinators

Division A	Prof. Deepti L
Division B	Prof. Sujit T

PBL Topics:

OSTL		
#	Project title	Abstract
1	Analysis of Students Result(ML)	The model will be predict the score of the student in coming exams or upcoming result, based on previous result records of student.
2	Sentiment Analysis	The model will study the reviews of product from online website's.The reviews will be categorized as positive,negative or neutral.
3	Web Application for online ticketing	A web interface for booking movie tickets online in an easy way.
4	Id Card Generator(GUI)	GUI based application where student need to enter the data and the system will generate an id card based on the information provided.
5	Supermarket billing System(GUI)	GUI based application for billing system.It will generate bill for the products bought by the customer.It will also give an overview of transactions of past one year.
COA		
#	Project title	
1	Simulation for Unsigned Multiplication Algorithm	Multiplication involves the generation of partial products, one for each digit in the multiplier. These partial products are then summed to produce the final product. The partial products are easily defined. When the multiplier bit is 0, the partial product is 0.When the multiplier is 1, the partial product is the multiplicand The total product is produced by summing the partial products. For this operation, each successive partial product is shifted one position to the left relative to the preceding partial product. The multiplication of two n-bit binary integers results in a product of up to 2n bits in length. The main purpose is to produce a multiplier with simulation that performs the calculation for unsigned integers. The simulation can developed using any known language. The simulation algorithm can be analysed by using algorithm analysis measures.
2	Simulation for Booth's Algorithm	"Booth's Algorithm is used for Multiplication of two numbers. The main purpose is to produce a multiplier with simulation and to maximize the speed in which the multiplier performs the calculation. The simulation can developed using any known language. The simulation algorithm can be analysed by using algorithm analysis measures.
3	Simulation for Non-restoring Division Algorithm	Non-Restoring Division Algorithm is used for division of two unsigned numbers. The main purpose is to develop a simulator which performs division of two unsigned binary numbers using non restoring concept. The simulation can developed using any known language. The simulation algorithm can be analysed by using algorithm analysis measures.
4	Simulation for Restoring Division Algorithm	Restoring Division Algorithm is used for division of two unsigned numbers. The main purpose is to develop a simulator which performs division of two unsigned binary numbers using restoring concept. The simulation can developed using any known language. The simulation algorithm can be analysed by using

		algorithm analysis measures.
5	Simulation for IEEE 754 floating point format representation(32-bit)	The most important floating-point representation is defined in IEEE Standard 754. The IEEE standard defines a 32-bit single precision format with 8-bit exponent. The main purpose is to develop a simulator which performs addition and subtraction of two floating point numbers and represent the answer in 32-bit double precision format. The simulation can be developed using any known language. The simulation algorithm can be analysed by using algorithm analysis measures.
6	Simulation for IEEE 754 floating point format representation(64-bit)	The most important floating-point representation is defined in IEEE Standard 754. The IEEE standard defines a 64-bit double precision format with 11-bit exponent. The main purpose is to develop a simulator which performs addition and subtraction of two floating point numbers and represent the answer in 64-bit double precision format . The simulation can be developed using any known language. The simulation algorithm can be analysed by using algorithm analysis measures.
Computer Graphics		
#	Project title	
1	Create Balloon shooting game	This should be a interactive game in which different sized and coloured balloons should be floating on the screen and player will shoot those balloons with limited number of arrows.
2	Create Animation of varying star	In this animation star(set of lines) will be generated at the center of screen and it will get increased in size till any part of that star reaches any boundary of the screen, as soon as star reaches boundary of the screen program should get terminated.
3	Basic raster graphic editor	This editor should provide at least four functionalities to generate and to transform the graphic. There should be option to fill particular area with required colour.
4	Tic-tac-toe game	This game should accept user input and accordingly display winner of the game. This is multiuser game.
OS		
Sr. No.	Project title	
1	Gui based implementation of ls,mv,cp commands in c or Java	ls is a Linux shell command that lists directory contents of files and directories. mv - It is a Unix command that moves one or more files or directories from one place to another. If both filenames are on the same filesystem, this results in a simple file rename; otherwise the file content is copied to the new location and the old file is removed. cp - It is a UNIX command for copying files and directories. The command has three principal modes of operation, expressed by the types of arguments presented to the program for copying a file to another file, one or more files to a directory, or for copying entire directories to another directory.

2	Gui based implementation of ls,mkdir,rmdir,cat commands in c or Java.	ls Command: The ls command is a command-line utility for listing the contents of a directory or directories given to it via standard input. cat Command: cat command allows us to create single or multiple files, view contain of file, concatenate files and redirect output in terminal or files. mkdir: The mkdir command in UNIX allows users to create directories or folders as they are referred to in some operating systems. The mkdir command can create multiple directories at once and also set permissions when creating the directory. The user running the command must have appropriate permissions on the parent directory to create a directory or will receive a permission denied error. In DOS, OS/2 and Windows, the command is often abbreviated to md.
3	Gui based implementation of ls,open, read,write commands in c or Java.	ls() command is most widely used command and it displays the contents of directory. ls will list all the files in your home directory, open() returns a file descriptor, a small, non-negative integer for use in subsequent system calls. read() attempts to read up to count bytes from file descriptor fd into the buffer starting at buf. write() writes up to count bytes to the file referenced by the file descriptor fd from the buffer starting at buf. POSIX requires that a read() which can be proved to occur after a write() has returned returns the new data. Note that not all file systems are POSIX conforming.
4	Menu driven web pages for all basic Linux commands.	Linux is a family of free and open-source software operating systems built around the Linux kernel. Typically, Linux is packaged in a form known as a Linux distribution(or distro) for both desktop and server use. The defining component of a Linux distribution is the Linux kernel. To perform various operations we have some Linux commands for respective operations. These include pwd, ls, mkdir, cat, rmdir, etc. to demonstrate some of these commands through a menu driven webpage.
5	Create GUI for Scientific calculator.	A scientific calculator is a type of electronic calculator, usually but not always handheld, designed to calculate problems in science, engineering, and mathematics. a GUI calculator which can interact with the user and perform all the functions which a normal calculator does. Apart from the normal calculator a scientific calculator can perform complex functions , Trigonometric functions, and all other functions. Objective of a Scientific calculator: Perform all the normal calculations. Perform Complex and high end calculations. Should be user friendly
6	Search for a given pattern from given file using grep commands also include wildcard character.	grep is a command-line utility for searching plain-text data sets for lines that match a regular expression. Its name comes from the ed command g/re/p (globally search a regular expression and print), which has the same effect: doing a global search with the regular expression and printing all matching lines.

7	Separation of parent child process using PIPE.	System call fork() is used to create processes. It takes no arguments and returns a process ID. The purpose of fork() is to create a new process, which becomes the child process of the caller. After a new child process is created, both processes will execute the next instruction following the fork() system call. Therefore, we have to distinguish the parent from the child. This can be done by testing the returned value of fork(): If fork() returns a negative value, the creation of a child process was unsuccessful. fork() returns a zero to the newly created child process.fork() returns a positive value, the process ID of the child process, to the parent.
8	To explore file organization system.	Counting number of lines. This uses algorithm makes use of end of file method to count the number of lines in a file. Which can be .txt .java or any text file format by searching it in current directory it uses “\n” List all files in directly By using Dired.h header file we can access the files in a directory where the current program is saved.it uses path of current saved program and displays all the directories and files saved in the current working path. Copy the content of one file to another Delete a specific file. This function uses remove method to to Delete the file permanently by using dirent.h it only searches the file present in the directory where the program is located.

Photos :



Winners list:

Yet to be announced.