Vivekanand Education Society's Institute of Technology

Approved by AICTE & Affiliated to University of Mumbai

AI and Data Science Department

Lab Plan

Year: 2023-24

Lab Code	: ADDOL7021	**Year/ Semester**	: B.E.(AI and DS)/ Sem VII
Name Of the Lab : User Experience Design with VR Lab		**Class**	: D16AD
Lab Teacher	: Mrs. Himanshi Jiwatramani	**Subject Teacher**	: Mrs. Himanshi Jiwatramani
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Prerequisite: Computer Graphics, Python

Lab Objectives:

	Description
1	Analyze how to design Effective and Efficient User Interfaces for intended users
2	Learn techniques for Prototyping and Evaluating User Experience
3	Apply the concept of Good UI and User Experience (UX)
4	To perform installation of Unity and explore working of VR Gadget
5	To develop scene VR application

Lab Outcome:

LO	Description
LO 1	Demonstrate the tools and techniques for designing informing models
LO 2	Develop a high fidelity prototype for an end end solution.
LO 3	Apply best practices for evaluating user experience.
LO 4	Setup VR development environment and use HTC Vive/ Google Cardboard/ Google Daydream and Samsung gear VR.
LO 5	Develop VR scene and place object

Term Work & Practical Examination:

1 Term work should consist of 8(min) to 12(max) experiments.
2 The final certification and acceptance of term work ensures satisfactory performance of laboratory work and minimum passing marks in term work.
3 Total 25 Marks
(Experiments: 20 Marks, 5 Marks Punctuality)

List of Experiments:

Sr No	List of Experiments	LO's	Bloom's levels
1	Project Proposal and Requirement Gathering (Choose the project). Briefly state the problem(s) that the project will seek to solve. Take the user's point of view. Consider what the user's goals are, and what obstacles lie in the way.	LO1	2,6
2.	Creation of Scenario : Write a scenario that involves all three of the tasks identified for the chosen project.	LO1	1,2,3
3	Creating a Paper Prototype on selected problem statement.	LO2	1,2,3
4	High Fidelity prototype (Wire Frame) using Figma tool.	LO2	1,2,3
5	Usability Evaluation of the Design Testing of User Interface from Third Party(Test scripts)	LO3	2,5
6	Design an interactive design for the selected problem.	LO3	2,5,6
7	Installation of Unity and Visual Studio, setting up Unity for VR development, understanding documentation of the same.	LO4	2,3
8	Demonstration of the working of HTC Vive, Google Cardboard, Google Daydream and Samsung gear VR.	LO4	2,3
9	Develop a scene in Unity that includes: i. a cube, plane and sphere, apply transformations on the 3 game objects. ii. add a video and audio source	LO5	2,3

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10	Develop a simple UI(User interface) menu with images, canvas, sprites and button. Write a C# program to interact with UI menu through VR trigger button such that on each successful trigger interaction display a score on scene .	LO5	2,3,6

Bloom's Taxonomy:-

Level	Descriptor	Level of Attainment
1	Remembering	Recalling from memory of previously learned material
2	Understanding	Explaining ideas or concepts
3	Applying	Using information in another familiar situation
4	Analyzing	Breaking information into part to explore understandings and relationships
5	Evaluating	Justifying decision or course of actions
6	Creating	Generating new ideas, products or new ways of viewing things

Software Tools used:

➔ Figma. AdobeXD, Unity , Visual Studio

TextBooks

T1. Interaction Design, Beyond Human Computer Interaction, Rogers, Sharp, Preece Wiley India Pvt Ltd.

T2. Smashing UX Design by Jesmond Allen and James Chudley, John Wiley & Sons

Reference Books

R1.The Elements of User Experience by Jesse James Garrett

R2. Don't make me think, by Steve Krug

R3. Observing the User Experience: A Practitioner's Guide to User Research by Mike Kuniavsky

Web Resources

- https://www.coursera.org/professional-certificates/google-ux-design

- https://nptel.ac.in/courses/124107008

- https://www.coursera.org/learn/develop-augmented-virtual-mixed-extended-reality-applications-webxr-unity-unreal

- https://tih.iitr.ac.in/AR-VR.html

Evaluation:

- Experiments are evaluated based on viva taken on experiments.
- Evaluation is based on following table:-

Range	Grade
80 and above	Outstanding (O)
75.00 – 79.99	Excellent (A)
70.00 – 74.99	Very Good (B)
60.00 – 69.99	Good (C)
50.00 – 59.99	Fair (D)
45.00 – 49.99	Average (E)
40.00 – 44.99	Pass (P)
Less than 40.00	Fail (F)

Program Execution	3
Documentation	3
Timely Checked	2
Viva	2
Total	10
Mini project Execution	3
Documentation	3
Timely Checked	2
Viva	2
Total	10

Name Of Lab Teacher: **Name of Subject Teacher: :**

Signature   :   **Signature :**