Maharashtra State Board of Technical Education, Mumbai
LABORATORY PRACTICAL PLANNING

K2-A

Academic Year: 2025-26   **Date: 12/12/2025**

Institute Name & Code: K. K. Wagh Polytechnic, Nashik-3 (0078)

Program & Code:: Artificial Intelligence and Machine Learning (AN)   **Course Code &Abbr.:**314005(UID)

Course Name: User Interface Design   **Name of Faculty**: Mrs. J. S. Mahajan

Class: SYAN   **Semester**: IVrd   **Course Index:** 406   **Scheme**: 'K'   **Allocated Hrs:** 60

- ## Course Outcomes (COs): Practical

By learning course User Interface Design (UID-314005), Second Year students will be able to:

CO406.1 - Explain design thinking concept.

CO406.2 - Interpret user requirements.

CO406.3 - Select appropriate visual design for given problem..

CO406.4 - Create interactions using design tool.

CO406.5 - Create innovative design prototype for given applications

- ## Teaching-Learning and Assessment Scheme:

Course Code	Course Title	Abbr	Course Category/ s	Actual Contact Hrs./Week			SLH	NLH	Paper Duration	Theory				Based on LL & TL				Based on SL		Total Marks
														Practical						
				CL	TL	LL				FA-TH	SA-TH	Total		FA-PR		SA-PR		SLA		
										Max	Max	Max	Min	Max	Min	Max	Min	Max	Min	
314014	USER INTERFACE DESIGN	UID	DSC	1	-	4	1	6	3	-	-	-	-	25	10	25@	10	25	10	75

Abbreviations: CL- ClassRoom Learning , TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH-Notional Learning Hours, FA - Formative Assessment, SA -Summative assessment, SLA - Self Learning **Assessment**

Legends: @ Internal Assessment.

- ## Laboratory Learning Outcome (LLO):

LLO 1.1 Identify categories of website/ App such as government / e-commerce / tourism related etc.

LLO 1.2 Compare different websites/ Apps under one category for design aesthetics.

LLO 1.3 Use design tool to collect user requirements.

LLO 1.4 Record observations using any design tool.

LLO 2.1 Observe various interfaces used in kiosk based applications.

LLO 2.2 Prepare affinity mapping of User Requirements using designtools.

LLO 3.1 Use any Design tool to create a 'blank project'.

LLO 3.2 Use frame, shape, text of design tool to create screen layout of given user interface

LLO 4.1 Use frames, images, and colors to design given screen.

LLO 4.2 Explore various plug-ins/ extensions in the design tool.

LLO 4.3 Use different plug ins/extensions in design tool.

LLO 5.1 Use frames, components, auto-layouts to design given screenusing Design tool.

LLO 5.2 Create asset using design tool.

LLO 5.3 Create library/repository of created assets in the design tool

LLO 6.1 Use horizontal scrolling component in the design tool to create given page(s)

LLO 7.1 Use vertical scrolling component in the design tool to create given page(s).

LLO 8.1Use frame, shape, text tools, components of the design tool to replicate the design of givenweb page(s).

LLO 8.2 Use interactions, menus to replicate web page design.

LLO 9.1 Use various menus - bottom menu, slide menu to demonstrate navigations in the screen

LLO 10.1 Use components and navigations to design quiz like page in design tool.

LLO 11.1 Observe gamification techniques used in existing user interfaces.
LLO 11.2 Use files, templates to create gamification effect in given scenario using design tool.
LLO 12.1 Use files, templates to create gamification effect in given scenario using design tool
LLO 13.1 Observe micro animations used in existing websites, Apps, interfaces.
LLO 13.2 Use templates to create micro-animation for given user scenario.
LLO 14.1 Use Interactions/ events to create Prototype in design tool.
LLO 15.1 Use plug-in/ extension to convert the created prototype into html page(s).
LLO 15.2 Use browser to run the generated HTML page(s).

- **Laboratory Plan:**

Sr. No.	Course Outcomes	LLO	Name of Practical	Planned Date	Performance Date	Remark	Related Self Learning (if any)
1.	CO406.1	1.1,1.2, 1.3,1.4	Use Design tool for user requirement collection and analysis	A:16/12/25 B:17/12/25 C:15/12/25			
2.	CO406.1	2.1,2.2	Use Design tool for user requirement collection and analysis of various interfaces such as kiosks	A:19/12/25 B:20/12/25 C:18/12/25			
3.	CO406.1	3.1,3.2	Recreate a given user interface using any open source design tool	A:23/12/25 B:24/12/25 C:22/12/25			
4.	CO406.1	4.1,4.2, 4.3	Create grid system for the given screen using any design tool	A:02/01/26 B:03/01/26 C:01/01/26			
5.	CO406.1	5.1,5.2, 5.3	Design given user interface using various components such as auto-layouts in the design tool	A:09/01/26 B:10/01/26 C:08/01/26			
6.	CO406.2	6.1	Use horizontal scrolling to create pages for given website/ App	A:16/01/26 B:17/01/26 C:15/01/26			
7.	CO406.2	7.1	Use vertical scrolling for a given website/ Ap	A:23/01/26 B:24/01/26 C:22/01/26			
8.	CO406.2	8.1,8.2	Recreate given website for UI design, color, images,interactions,menu.	A:30/01/26 B:04/02/26 C:05/02/26			
9.	CO406.2	9.1	Create navigations for the given website/ App	A:06/02/26 B:11/02/26 C:12/02/26			
10.	CO406.2	10.1	Design a quiz for given user interface..	A:13/02/26 B:18/02/26 C:23/02/26			
11.	CO406.3	12.1	Create gamification for task completion in website such as LMS/ retail website/ banking website	A:20/02/26 B:28/02/26 C:02/03/26			
12.	CO406.4	13.1, 13.2	Create any five micro animations for the given user interface in given scenario	A:17/03/26 B:14/03/26 C:12/03/26			
13	CO406.4	14.1	Create prototyping with different interactions –tab, click, hover, delay. for the given user interface	A:24/03/26 B:25/03/26 C:23/03/26			

Formative Assessment Criteria:

Performance Indicators		Weightage
Process Related (15 Marks)		**60%**
1	Design UI	20%
2	Follow ethical practices	15%
3	Quality of Output achieved(LLO mapped)	25%
Product Related (10 Marks)		**40%**
1	Completion and submission of practical in time	20%
2	Answer to sample questions	20%
	Total (25 Marks)	100%

Rules for Formative Assessment:

1. Formative assessment of each practical is based on Process related (15 marks) and Product related (10 marks) - Total out of 25 marks as per the assessment scheme prescribed by MSBTE,

2. Final Formative Assessment (F.A.) of 25 marks is calculated as follows:

FA Marks = ((Total obtained marks)*25)/ (25*Total Number of practicals)

The schedule of MSBTE Practical Examination will be display on Notice board prior to examination.

Summative Assessment:

A comprehensive Final Practical End Semester examination (SA-PR of 25 Marks) will be conducted by MSBTE at the end of semester. The examiner for this examination will be an Internal examiner.

Practical wise LLO-CO Mapping:

Practical No.	LLO	CO406.1	CO406.2	CO406.3	CO406.4	CO406.5
1.	1.1,1.2,1.3,1.4	✔				
2.	2.1,2.2		✔			
3.	3.1,3.2		✔	✔		
4.	4.1,4.2,4.3			✔		
5.	5.1,5.2,5.3		✔	✔		
6.	6.1			✔		
7.	7.1			✔		
8.	8.1,8.2	✔				
9.	9.1				✔	
10.	10.1			✔	✔	
11.	12.1				✔	
12.	13.1,13.2				✔	
13.	14.1					✔

References:

Books:

Sr.No	Author	Title	Publisher with ISBN Number
1	Jesse James Garrett	The Elements of User Experience: User-Centered Design for the Web and Beyond	New Riders Publishing, 201 West 103 Street, Indianapolis, IN 46290 800-545-5914 ISBN:978-0-321-68368-7
2	Falk Uebernickel, Li Jiang, Walter Brenner, Britta Pukall, Therese Naef	Design Thinking: The Handbook	World Scientific Publishing Co Pte Ltd, No.16, South West Boag Road T. Nagar, Chennai 600017, INDIA \ISBN-10: 9811203504

			ISBN-13: 978-9811203503
3	Fabio Staiano	Designing and Prototyping Interfaces with Figma	Packt Publishing Ltd, Grosvenor House, 11 St Paul's Square, Birmingham, B3 1RB ISBN-10: 180056418X ISBN-13: 978-1800564183
4	Kilian Langenfeld	Design Thinking for Beginners	Personal Growth Hackers ISBN-10: 3967160629 ISBN-13: 978-3967160628

Web sites :

Sr.No	Link / Portal	Description
1	https://aim.gov.in/pdf/Design_Thinking.pdf	Design thinking phases and learning resources
2	https://www.ideou.com/pages/design-thinking-resources	Design thinking resources
3	https://www.figma.com/resource-library/what-is-design-thinki ng/	Design thinking and its stages
4	https://www.figma.com/resource-library/what-is-ui-design/	Key elements of UI design
5	https://youtu.be/-wzNTPXVIyM?si=zET5z3GpIPl-cAry	User Experience and research methods
6	https://youtu.be/XT152i5asdQ?si=jPdLFFExnaZO8NRs	User Experience and research methods

● **Tools :**
1. Google Classroom to share subject material to students.
2. Figma Design Tool

Mrs. J. S. Mahajan   Mrs. R. Y. Thombare
(Name & signature of Staff)   **(Name & signature of HOD)**

Cc: Course File – UID(314005)