SIR C.R.REDDY COLLEGE OF ENGINEERING, ELURU
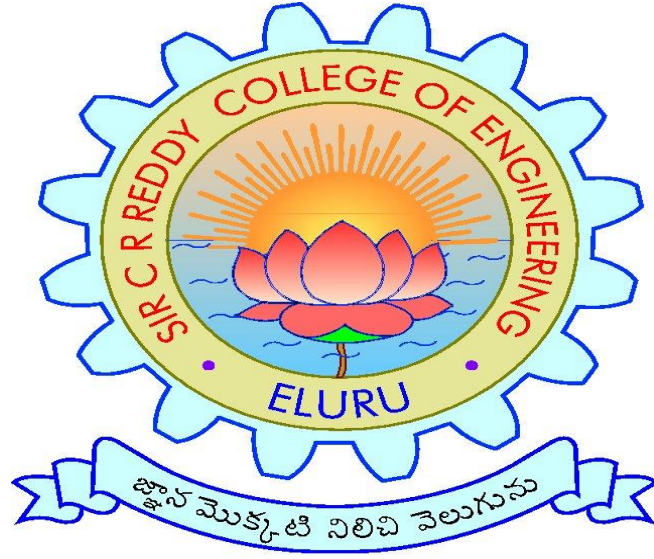
DEPARTMENT OF INFORMATION TECHNOLOGY

LESSON PLAN

SUBJECT: IT 3.1.1 Human Computer Interaction

CLASS: 3/4 B.Tech., I SEMESTER, A.Y.2019-20

INSTRUCTOR: SMT B.LALITHA BHAVANI

Sir C R Reddy College of Engineering
DEPT. OF INFORMATION TECHNOLOGY

Course Description:
HCI is an interdisciplinary field that integrates theories and methodologies from computer science, cognitive psychology, design, and many other areas. Issues include: command languages, menus, forms, and direct manipulation, graphical user interfaces, computer supported cooperative work, information search and visualization, World Wide Web design, input/output devices, and display design. Students will learn the fundamental concepts of human-computer interaction and user-centered design thinking. Students will work on both individual and team projects to design, implement and evaluate computer interfaces.

Course Objectives:
On completing this course student will be able to

- Demonstrate an understanding of guidelines, principles, and theories influencing human Computer interaction.
- Recognize how a computer system may be modified to include human diversity.
- Select an effective style for a specific application.
- Design mock ups and carry out user and expert evaluation of interfaces.
- Carry out the steps of experimental design, usability and experimental testing, and evaluation of human computer interaction systems.
- Use the information sources available, and be aware of the methodologies and technologies supporting advances in HCI.

Course Outcomes:

1. understand the user-centered design cycle is , and to gauge the usability of digital environments, tools and interfaces
2. Apply core theories, models and methodologies from the field of HCI
3. Analyze one after another the main features of interactive systems

IT 3.1.6	HUMAN COMPUTER INTERACTION	
Instruction: 4 Periods +1 tutorial/week,Univ. Exam: 3 Hours		Credits: 3
Internal: 30 Marks	University Exam: 70 Marks	Total: 100 Marks

Syllabus

UNIT-I:
The User Interface: Introduction, Importance of the User Interface, Importance and benefits of Good Design History of Human Computer Interface. Characteristics of Graphical and Web User Interface: Graphical User Interface, popularity of graphics, concepts of Direct Manipulation, Graphical System advantage and disadvantage, Characteristics of GUI. Web User Interface, popularity of web, Characteristics of Web Interface, Merging of Graphical Business systems& the Web, Principles of User Interface Design

UNIT-II:
The User Interface Design Process: Obstacles and Pitfall in the development Process, Usability, The Design Team, Human Interaction with Computers, Important Human Characteristics in Design, Human Consideration in Design, Human Interaction Speeds, Performance versus Preference, Methods for Gaining and Understanding of Users

UNIT-III:
Understanding Business Functions: Business Definitions & Requirement analysis, Determining Business Functions, Design standards or Style Guides, System Training and Documentation

UNIT-IV:
Principles of Good Screen Design: Human considerations in screen Design, interface design goals, test for a good design, screen meaning and purpose, Technological considerations in Interface Design System Menus and Navigation Schemes: Structure, Functions, Context, Formatting, Phrasing and Selecting, Navigating of Menus, Kinds of Graphical Menus Windows Interface: Windows characteristic, Components of Window, Windows Presentation Styles, Types of Windows, Window Management, Web systems

UNIT-V:
Device and Screen-Based Control: Device based controls, Operable Controls, Text entry/read-Only Controls, Section Controls, Combining Entry/Selection Controls, Other Operable Controls and Presentation Controls, Selecting proper controls

UNIT-VI:

Effective Feedback Guidance and Assistance: Providing the Proper Feedback, Guidance and Assistance Effective Internationalization and Accessibility- International consideration, Accessibility, Create meaningful Graphics, Icons and Images, Colors-uses, possible problems with colors, choosing colors

Textbooks:
1. Wilbert O. Galitz, "The Essential Guide to User Interface Design", Wiley India Edition
2. Prece, Rogers, "Sharps Interaction Design", Wiley India.
3. Ben Shneidermann,"Designing the user interfaces". 3rd Edition, Pearson Education Asia.

Reference Books:

1. Soren Lauesen, "User Interface Design" , Pearson Education
2. Alan Cooper, Robert Riemann, David Cronin, "Essentials of Interaction Design", Wiley
3. Alan Dix, Janet Fincay, GreGoryd, Abowd, Russell, Bealg,"HumanComputer Interaction", Pearson Education.
Prerequisite
Software Engineering and Systems Analysis & Design

Internal Assessment Details:
Internal Test 1& 2: 20Marks
Assignment-1& 2: 10Marks

Total: 30 Marks

ONLINE REFERENCES:
　　1. https://canvas.wisc.edu/
　　2. https://www.interaction-design.org
Digital Learning Materials:
1. https://nptel.ac.in/courses/106103115/

SIR C R REDDY COLLEGE OF ENGINEERING :: ELURU

DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE SCHEDULE

The schedule for the whole course/subject is:

Unit No	Description of the Chapter	Description of the Topics	Total no of periods (L+T)

1	**The User Interface:**	Introduction, Importance of the User Interface, Importance and benefits of Good Design History of Human Computer Interface. Characteristics of Graphical and Web User Interface: Graphical User Interface, popularity of graphics, concepts of Direct Manipulation, Graphical System advantage and disadvantage, Characteristics of GUI. Web User Interface, popularity of web, Characteristics of Web Interface, Merging of Graphical Business systems& the Web, Principles of User Interface Design	10+2
2	**The User Interface Design Process:**	Introduction, Importance of the User Interface, Importance and benefits of Good Design History of Human Computer Interface. Characteristics of Graphical and Web User Interface: Graphical User Interface, popularity of graphics, concepts of Direct Manipulation, Graphical System advantage and disadvantage, Characteristics of GUI. Web User Interface, popularity of web, Characteristics of Web Interface, Merging of Graphical Business systems& the Web, Principles of User Interface Design	9+3
3	**Understanding Business Functions:**	Business Definitions & Requirement analysis, Determining Business Functions, Design standards or Style Guides, System Training and Documentation	6+2
4	**Principles of Good Screen Design:**	Human considerations in screen Design, interface design goals, test for a good design, screen meaning and purpose, Technological considerations in Interface Design System Menus and Navigation Schemes: Structure, Functions, Context, Formatting, Phrasing and Selecting, Navigating of Menus, Kinds of Graphical Menus Windows Interface: Windows characteristic, Components of Window, Windows Presentation Styles, Types of	12+2

		Windows, Window Management, Web systems	
5	**Device and Screen-Based Control**	Device based controls, Operable Controls, Text entry/read-Only Controls, Section Controls, Combining Entry/Selection Controls, Other Operable Controls and Presentation Controls, Selecting proper controls	8+2
6	**Effective Feedback Guidance and Assistance:**	Providing the Proper Feedback, Guidance and Assistance Effective Internationalization and Accessibility-International consideration, Accessibility, Create meaningful Graphics, Icons and Images, Colors-uses, possible problems with colors, choosing colors	10+2

Total no of instructional periods available for the course   :   75 periods

Total no of estimated periods   :   68 periods

Signature of the H.O.D   **Signature of the Faculty**

                                                     Date:

	LECTURE PLAN
DEPARTMET	INFORMATION TECHNOLOGY
NAME OF LECTURER	Smt.B.lalithaBhavani

Expected (Planed) date of completion of the course:
Unit Number: 1 29th June 2019
Unit Number: 2 18th July 2019
Unit Number: 3 29th July 2019
Unit Number: 4 20th August 2019
Unit Number: 5 4th September 2019
Unit Number: 6 30th September 2019

Sl.No	Topics to be covered	No. of Lecture hours	Teaching method	Text book	CO Mapping
	UNIT-1				
1	**Introduction to HCI:**	1	BB	TB1	
2	Introduction to **User Interface**	1	BB	TB1	
3	Importance of the User Interface	1	PPT with LCD	TB1	
4	Importance and benefits of Good Design	1	BB	TB1	
5	History of Human Computer Interface. Characteristics of Graphical and Web User Interface: Graphical User Interface	2	PPT with LCD	TB1	
6	popularity of graphics, concepts of Direct Manipulation,	1	BB	TB1	
7	Graphical System advantage and disadvantage, Characteristics of GUI.	1	BB	TB1	
8	Web User Interface, popularity of web,	1	BB	TB1	
9	Characteristics of Web Interface, Merging of Graphical Business systems& the Web,	2	PPT with LCD	TB1	
10	Principles of User Interface Design	1	BB	TB1	
Actual date of completion:					
Remarks:					
	UNIT-2				
11	Introduction to **The User Interface Design Process:** Importance of the User Interface,	1	BB	TB1	
12	Importance and benefits of Good Design	2	PPT with	TB1	

			LCD		
13	Characteristics of Graphical and Web User Interface: Graphical User Interface,	2	PPT with LCD	TB1	
14	popularity of graphics,	1	BB	TB1	
15	concepts of Direct Manipulation,	1	BB	TB1	
16	Graphical System advantage and disadvantage,	1	BB	TB1	
17	Characteristics of GUI. Web User Interface,	1	BB	TB1	
18	popularity of web, Characteristics of Web Interface,	1	BB	TB1	
19	Merging of Graphical Business systems& the Web,	1	BB	TB1	
20	Principles of User Interface Design	1	BB	TB1	

Actual date of completion:

Remarks:

	UNIT-3				
21	**Understanding Business Functions:** Business Definitions & Requirement analysis	2	BB	TB2	
22	Determining Business Functions, ,	2	PPT with LCD	TB2	
23	Design standards or Style Guides,	2	BB	TB1	
24	System Training and Documentation	2	BB	TB1	

	Actual date of completion:				
	Remarks:				

	UNIT-4				
25	**Introduction to Principles of Good Screen Design:**	1	BB	TB1	
26	Human considerations in screen Design,	1	BB	TB1	
27	interface design goals, test for a good design,	**2**	BB	TB3	
28	screen meaning and purpose,	1	BB	TB3	
29	Technological considerations in Interface Design System	1	BB	TB3	
30	Menus and Navigation Schemes: Structure, Functions, Context	1	PPT with LCD	TB2	
31	Formatting, Phrasing and Selecting, Navigating of Menus,	2	PPT with LCD	TB3	
32	Kinds of Graphical Menus Windows Interface: Windows characteristic,	2	PPT with LCD	TB2	
33	Components of Window,	1	BB	TB3	
34	Windows Presentation Styles,	1	BB	TB3	
35	Types of Windows, Window Management, Web systems	1	BB	TB3	

	Actual date of completion:				
	Remarks:				

	UNIT-5				
26	**Device and Screen-Based Control**	1	BB	TB3	
27	Device based controls,	**1**	BB	TB3	

28	Operable Controls, Text entry/read-Only Controls,	2	PPT with LCD	TB3	
29	Section Controls, Combining Entry/Selection Controls,	2	BB	TB3	
30	Other Operable Controls and Presentation Controls	2	BB	TB3	
31	Selecting proper controls	2	BB	TB3	
Actual date of completion:					
Remarks:					
UNIT-6					
33	**Effective Feedback Guidance and Assistance:**	**1**	BB	TB1	
34	Providing the Proper Feedback,	1	BB	TB1	
35	Guidance and Assistance Effective	2	BB	TB1	
36	Internationalization and Accessibility- International consideration,	2	PPT with LCD	TB1	
37	Accessibility, Create meaningful Graphics,	2	PPT with LCD	TB1	
38	Icons and Images, Colors-uses,	2	BB	TB1	
39	possible problems with colors, choosing colors	2	BB	TB1	
Actual date of completion:					
Remarks:					
Actual syllabus completion:					
Faculty Remarks:					
HoD Remarks:					

Human Computer Interaction

Unit Wise Question Bank

UNIT-1

SHORT ANSWER QUESTIONS

1.Define user interface

2.Define sophisticated visual presentation

3.Define intranet

LONG ANSWER QUESTIONS

1.Explain the importance of user interface design

2.Describe history of the human computer interface

3.compare the GUI versus webpage Design

4.Explain principles of user interface design

UNIT-2

SHORT ANSWER QUESTIONS

1.Define perception

2.what is usability

3.what is foveal and peripheral vision

LONG ANSWER QUESTIONS

1.compare performance versus preference

2.write any five user tasks and needs

3.explain the human interaction speed

4.illustrate important human characteristics in design.

UNIT-3

SHORT ANSWER QUESTIONS

1.what is training

2.what is documentation

3.Define trade show

4.write about traditional focus group

LONG ANSWER QUESTIONS

1.determine basic business function

2.Explain Direct methods in business requirements

3.Explain document design

UNIT-4

SHORT ANSWER QUESTIONS

1.what screen users do

2.what screen users want

3.Define consistency

4.Define structure of menus

5.Define types of windows

LONG ANSWER QUESTIONS

1.Determine window management

2.Explain frames in web system

3.Explain components of windows

4.compare graphical and web systems

5.Explain functions of menus

6.Explain kinds of graphical menus

7.explain types of windows

UNIT-5

SHORT ANSWER QUESTIONS

1.Define spin box

2.what is custom control

3.what is the role of slider

4.Define tool tips

LONG ANSWER QUESTIONS

1.Explain any four selection control

2.Explain presentation control

3.How do you select the proper controls

UNIT-6

SHORT ANSWER QUESTIONS

1.What is monochromatic screen

2.Define response time

3.Define RGB

4.Define multi media

LONG ANSWER QUESTIONS

1.Explain Guidance and assistance

2.what are the possible problems with colors

3.Explain use of color

4Explain different types of icons and images

5.How graphics work