

2.4 MULTIMEDIA AND ANIMATION

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RATIONALE

This subject aims to develop a clear understanding of What is multimedia?, and how it can be used for enhancing teaching instruction met hodologies, business and personal communications. It will help the students in understanding technical aspects of multimedia content creation, the processes and tools used for designing multimedia systems. This will make the students proficient in designing and developing an multimedia application.

LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- Define and describe multimedia functions.
- Identify and explain the devices, hardware and software system.
- Operate and design in graphics.
- Use photo-shop/GIMP software for drawing and editing photos.
- Identify the tools to create animations,
- Reduce the size of various file formats i.e. audio, video and text.

DETAILED CONTENTS

1. Introduction to Multimedia Systems (08Periods)

What is Multimedia, Evaluation of Multimedia, Multimedia hardware and software Quality criteria and specifications of different capturing devices, Communication devices, Storage devices, Display devices, Applications of multimedia – benefits and problems

2. Architecture & Issues For Distributed Multimedia System (10Periods)

Multimedia System Architecture, Distributed Multimedia, Synchronization, Orchestration & QOS Architecture, Framework for Multimedia System

3. Compression/Decompression & File Formats (08 Periods)

Need, Types, Evaluating & Visibility, Video Compression Technique, Introduction to Standardization of Algorithm, File Formats, History of RIF, TIFF, Introduction to RIFF, AVI, JPEG-objectives, Architecture, JPEG-DCT encoding, Quantization, JPEG-stastical coding, predictive lossless coding, JPEG- performance ,MPEG-objectives, Architecture, BIT stream syntax performance, MPEG2 & MPEG4

4. Multimedia Authoring and User Interface (10 Periods)

Multi Media Authoring System and its type, Hypermedia Application Design consideration, User Interface Design, Information Access, Object Display / Playback Issues

5. Multimedia Tool (10 Periods)

Introduction to Multimedia tool – Flash, Creating & Modifying elements, Line tool, fill/attributes, different shapes, text tools & pen tool, Selecting lines fill with arrow tool, selecting shapes, using lasso tool ,performing basic editing tools, selecting & deselecting elements, modifying created objects.

6. Animation Technology (10 Periods)

Definition, History of Animation, Types of Animation – 2D and 3D , Basic principles of animation. Introduction to Multimedia tool – Flash, Creating & Modifying elements, Line tool, fill/attributes, different shapes, text tools & pen tool, Selecting lines fill with arrow tool, selecting shapes, using lasso tool, performing basic editing tools, selecting & deselecting elements, modifying created objects.

LIST OF PRACTICALS

1. Installation of various multimedia software like Photoshop/GIMP, Blender, Flash, Director or any open source software
2. Installing and use of various multimedia devices
 - Scanner
 - Digital camera, web camera
 - Mike and speakers

- Touch screen
 - Plotter and printers
 - DVD
 - Audio CD and Video CD
3. Reading and writing of different format on CD/DVD
 4. Transporting audio and video files
 5. Using various features of Flash
 6. Using various features of Photo-shop/GIMP
 7. Using various features of Blender
 8. Making multimedia presentations combining, Flash, Photo-shop/GIMP, such as department profile, lesson presentation, games and project presentations.

INSTRUCTIONAL STRATEGY

As the subject is practice oriented, more stress should be given to students to do the work practically. The features of software packages Photo-shop/GIMP, Flash are to be demonstrated in class using LCD projector.

MEANS OF ASSESSMENT

- Assignments and quiz/class tests, mid-term and end-term written tests
- Actual laboratory and practical work, exercises and viva-voce
- Software installation, operation, development and viva-voce

RECOMMENDED BOOKS

1. Principles of Multimedia by Parikh, Tata McGraw Hill Education Pvt Ltd , New Delhi
2. Multimedia Technologies by Banerji, Tata McGraw Hill Education Pvt Ltd , New Delhi
3. Multimedia An Introduction by Villam Casanova and Molina; Prentice Hall of India, New Delhi
4. Multimedia Bible by Win Rosch
5. Multimedia Making it work by Vaughan, Tay
6. Photo-shop for Windows Bible by Deke Maclelland IDG Books India Pvt. Ltd., New Delhi
7. Multimedia Technology and Application by Hillman, Galgotia Publications, New Delhi
8. Flash 5 Bible by Rein Hardit, IDG Books India Pvt. Ltd.
9. Flash 5 in easy steps by Vandome IDG Books India Pvt. Ltd.

10. Fundamentals of Multimedia by Li and Drew, Pearson Publications.
11. e-books/e-tools/relevant software to be used as recommended by AICTE/UPBTE/NITTTR.

Websites for Reference: <http://swayam.gov.in>, <http://spoken-tutorial.org>

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	08	14
2	10	18
3	08	14
4	10	18
5	10	18
6	10	18
Total	56	100