

IT82: Multimedia**Lecturers**

Dr. Bruce Graham (unit coordinator)

Dr. Amir Hussain

Prerequisites

IT11, IT41

Learning Outcomes

The course aims to give a broad introduction to Multimedia, specifically Multimedia authoring, graphics and sound. It also aims to provide a range of practical experience, both with the use of specialised image, audio and multimedia processing and development tools, and with the use of some of Java's multimedia facilities. After taking this course, students should have developed the following skills:

- Appreciation of the standards for representing audio files
- Appreciation of the standards and issues concerned in representing static/dynamic visual input/output
- An understanding of aspects of multimedia design
- An understanding of the tools available for multimedia production and image/audio processing
- Greater experience of Java programming
- Experience with using the more advanced Java APIs (e.g. Java2D, JFC, JAI) for multimedia purposes.

Contents

The lecture topics are as follows:

Multimedia Authoring and Design 6 Lectures

- Project design: setting up, requirements, navigation, storage, delivery
- Authoring tools: history, comparison of different approaches, functionality and principles
- Case studies (eg. Authorware, Director)
- Applications (eg. kiosks, distance learning, web-based)

Graphics 10 Lectures

- Colour and the production of colour on graphical output devices
- Graphical representation and techniques
- Java Graphics APIs
- Principles of animation: model design, animation design, production
- File formats of static and dynamic images: standards, uses, data compression, quality

Sound 3 Lectures

- Auditory input and output: standards and techniques
- Quality of service and usability in sound

The course also includes a small number of tutorials and a substantial practical component, which will complement the lectures. Practical sessions will cover the use of audio editing software, image processing software, animation software, and multimedia authoring software. There will also be some Java programming, providing the opportunity for greater familiarity with the language as well as the use of Java Multimedia APIs.

Assessment

Assessment is from one assignment (35%) and an exam (65%). The assignment will be the creation of a multimedia application.

Textbooks

Recommended reading includes:

Stephen McGloughlin. *Multimedia: Concepts and Practice*. Prentice Hall, 2001

Nigel Chapman & Jenny Chapman. *Digital Multimedia*. John Wiley & Sons. 2000.

Malcolm Richardson. *Practical Computer Graphics*. Second edition, McGraw-Hill. 1999.

Elaine England & Andy Finney. *Managing Multimedia*. Addison Wesley. 1998.

Web Pages

Information about the course may be found at:

<http://www.cs.stir.ac.uk/courses/IT82/>

Lectures: The first lecture will be on Thursday 13th February at 12:00 in V1

The lecture times and places are:

Day	Time	Room
Monday	10:00	V1
Thursday	12:00	V1

Lectures will be given by Dr Graham and Dr Hussain.

Practicals and Tutorials

There will be a one hour practical each week in 4X7. In some weeks there will also be a one hour tutorial. Details of practical and tutorial times will be given at the first lecture.