

PICT Curriculum for Townplanners

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About the course

On the first day of the course we deal with the principles of the topic through a practical example: from a paper based map and some complementary information a three dimensional digital plan will be developed and published on a website completed with interactive tools for e-communication. On the second day case studies are presented.

Since the majority of expected town planners are chief architects, we do not need to teach them to use advanced CAD and Internet techniques in practice: the curriculum does not focus on practical skills. The aim of this course is to demonstrate the possibilities of computer aided design and e-communication in town planning, in view of these experiences office leaders can steer their staff on a higher level. Task and software specific courses will be organized for the contributors and assistants of town planners.

First day - E-communication in town planning

Part 1 – Preparing town plans with various CAD systems

- Introduction.
- Use of digital maps, digitalizing paper based maps, scanning, vectorizing.

Introducing digital maps and comparing them to paper based plans. Advantages of digital maps and plans: precision, reproduction, storing non geometric data, easy use with architectural CAD systems.

With the aid of a scanner and a vectorizer software we demonstrate how to convert paper based maps to a digital database.

- Processing digital maps with various CAD systems (AutoCAD, ArchiCAD). Managing layers, handling layer groups and XREFS.

With a general and an architectural CAD system (AutoCAD, ArchiCAD) we show the way of processing digital maps: creating and customizing layers, arranging geometric data on them, grouping layers in layer combinations. To use digital maps and plans of different structure without importing and converting them, we present the XREF features of CAD systems.

With an architectural software in common usage (ArchiCAD) we show the steps to create a real digital database from the map previously scanned.

- Processing town plans. Generating thematic maps.

Since the geometric and non geometric data of the plan are arranged to layers, to generate thematic maps we demonstrate the use of layer combinations. We show how to store them for later use and how to export and print thematic maps according to these layer combinations.

- Three dimensional visualization of town plans

In addition to digital maps for experts, presentations for public use are also needed. To get plans easy to understand, we demonstrate the way of creating simple 3D solid models from the digital maps.

- Publishing town plans on the Internet. Preparing two dimensional plans to publishing (ArchiCAD Publisher).

To make accessible the plans and thematic maps previously created without expensive CAD software, they must be converted to a form which can be interpreted programs in common use such as Internet browsers.

We demonstrate how to export data in several file format (PNG, PDF, DWF), and give a detailed explanation of their advantages and disadvantages. We introduce ArchiCAD Publisher, a publisher tool for CAD drawings.

- Three dimensional visualization on the Internet (rendered images, VRML, QuickTime VR).

Finally we show further possibilities to make online presentations using the three dimensional model created previously. To render axonometric or perspective images or animations are the simplest way to give a 3D representation of the plan.

To get a virtual world which can be explored by the user, we show how to create VRML models. VRML is supported by all browsers used nowadays.

With the QuickTime technology animations and virtual reality scenes can be created. To display them, the free QuickTime player program is needed, which can be installed as a browser plug-in, too.

Part 2 – Publishing plans on the Internet, ways of communication with the public

- Publishing plans, communication with the public

In Part 2 we concentrate to the possibilities of the Internet. With examples we present some typical use of the World Wide Web.

- Publishing images and text on the Internet, designing web pages

We begin to create a WEB page demonstrating the possibilities of the Internet: world-wide publication of town plans and communication with the public. First we introduce which types of content can be placed on a WEB site and create a simple page for a plan with text and images.

- Publishing materials prepared in the first part.

We demonstrate how to place materials like animations and virtual reality created in the first part can be placed on our web page.

- Online questionnaires

To communicate with the public, we show how to make interactive WEB pages. First we prepare a questionnaire and place it on our web site. We show how the answers can be gathered and processed automatically.

Finally we demonstrate publishing results on the Internet.

- Creating and managing mailing lists and forums.

To make our web page more interactive and to gather opinions which can not be given in questionnaires, we present two other form of communication via

Internet: mailing lists and forums. We demonstrate how to create forum topics and how links to forum topics can be placed on our web page.

- Summary, review of the the complete web page

Second day - Case studies

Part 1 – e-communication in Abony

- Introducing the PICT project

In the first part of the second day we introduce the transnational PICT project, in consideration of the project objectives and the experiences of the work in the pilot area.

- Participation of the public: good and bad examples, experiences of the e-communication with the public

We give a short report of our experiences in Abony, telling about the planning of the city market, the work of LCC-s and the free courses in organization of PICT project.

- Technical background, server-side and client-side applications

Finally we present the hardware and software environment which was used in e-communication: the pict.hu server and web site, our multilingual web pages, the forums and mailing lists and the online questionnaires.

Part 2 - Zoning plan of Szolnok

- Presenting a working example

In the second part we present an existing online zoning plan developed by the BME Department of Architectural Representation and WEBhu: we tell about displaying digital maps on the Internet, querying information from the digital map database, displaying web linking topics of a forum to web pages or map positions and others.

Part 3 – GIS in practice

- Introducing the GIS

Exposition of the characteristic features (visualization, operations) of a GIS system, review the essential components (geometric shapes, coverages, databases).

- Computer training

Computer training with specific examples in the following areas: thematic mapping, coverage operations, geocoding, address matching, orthophotos.