Project AUGMENT

Augmented Interaction and Analysis for Spatial Design

Project Website:
http://augment.informatik.uni-bremen.de

Course website:
http://tinyurl.com/project-augment

Project Co-ordination
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(*personal meetings: walk-in, or make an appointment if you like to confirm availability*)

ABOUT AUGMENT

The project AUGMENT trains students in methods and technologies for the development of systems that will empower professional design practitioners in architecture and urban design, product design, and entertainment media design. The current focus of the project is on spatial planning by the use of state of the art methods from computer aided design, augmented reality, immersive virtual reality, natural interaction (e.g., gestures, sketch), and complex (spatio-temporal) data visualization.

Basic Facts

- **Who can join?**
  All interested students are welcome to participate (e.g., Informatik, Wirtschaftsinformatik, Digital Media and Design etc); interest in one or more of the following is desirable: programming, human-computer interaction, computer-aided design, natural interaction, use interface and interaction design, etc.

- **What will you learn?**
  Students in the currently ongoing project have used technologies such as C++, Java, C#, Python, HTML5 and CSS. Students regularly work with devices such as Kinect & Softkinetic, Occulus Rift etc. Open source APIs and tools for computer vision, image processing, gesture data processing, spatial reasoning are being used in the project.
  The choice of programming language is based on individual learning objectives and the problem to be solved.

- **Bachelor or Master Status?**
  The project will start as a bachelor project, and will subsequently also be available as a master project making it possible for students to continue to build on their work and acquired expertise. Please let us know if you are already at a Masters level and would directly like to join at this level.

- **Where do we start?**
  Results from the past occurrences of the project will be available to further build on; past students will provide general tools and tutorials to help new students integrate quickly (see also 'Early Results' below)

- **Are there obligatory lectures?**
  In principle, NO. But we are more than happy to advice certain courses based on personal interaction with individual students, and their respective interests and roles in the project (see also 'Supplementary Training' below)

Supplementary Training for Students

In addition to core training activities in the project, students will have access to supplementary specialised tutorials by leading experts in the community in order to learn about state of the art tools and technologies. Examples of past supplementary initiatives are available via the website below.

Supplementary training. http://tinyurl.com/project-augment

AUGMENT: Early Results

The preliminary results of the project and developed methods are being used as design assistance tools in the area of large-scale hospital design analysis, and toward the development of educational tools for students of architecture design and building engineering. This line of work is expected to continue.

Recognition: Microsoft Imagine Cup 2013

Project AUGMENT competed in the Microsoft Imagine Cup 2013, and was recognised as one of the national finalists in the category "Innovation".

THE DESIGNSPACE GROUP

The student project AUGMENT is conducted in the context of research of the DesignSpace group, which is a part of the Spatial Cognition Research Center (SFB/TR 8).

DesignSpace develops computational techniques and tools that are used as a basis of providing assistive design intelligence within a spatial / architectural design workflow. Assistive capability in spatial design is essential to detect design malfunction (e.g., errors, functional failures) by iterative design validation, and also to ensure that people-centred functional requirements of a design are fulfilled when the design is deployed in reality.

DesignSpace. http://www.design-space.org