A University of East Anglia Enterprise

SYS CONSULTING

3D printing

3D Printing

Business Challenge

Recent advancements in rapid prototyping and 3D printing technologies have made it possible to print 3D physical models with surface colours in a relatively short time period.

3D printing or 'rapid prototyping' can be used to create solid objects from a digital computer image. Printers lay down successive layers of powder or liquid to create a three-dimensional solid object of virtually any shape.

To render a successful three dimensional object you must first digitally acquire the model, for example using a 3D scanner. However, to ensure successful reproduction in the printer you also need the capability to create a high quality geometric model.

Our Solution & Expertise

SYS Consulting have developed techniques for constructing robust three dimensional digital models suitable for 3D printing.

Using the 3D Modelling skills of the Urban Modelling Group, it is also possible to create 3D models suitable for the printer. Using an in-house ZCorp 450 3D printer we are able to rapidly produce physical 3D models in colour.

We also have expertise in constructing 3D models for medical applications, including images from CT or MRI datasets. We have worked with consultants where the models of the patient's anatomy have aided in the pre-op planning stages.

Traditional methods for constructing **prototypes for buildings** can be time consuming. Rapid prototyping of architecture using 3D printing can provide an efficient medium through which accurate coloured models may be produced.

Applications

Applications of 3D printing technology include:

- Architecture
- Cultural Heritage
- Component Design
- Dental and medical industries
- Protein Structure
- Industrial design
- Engineering
- Construction
- Education

Scientists from the School of Computing Sciences have established techniques to effectively and rapidly process volume datasets, such as those created using **CT or MRI scans** into high quality geometric models, enabling the construction of high quality 3D objects.

Delicate **cultural artefacts** can be digitally preserved through laser scanning. 3D prints of models acquired through laser scanning can provide a unique insight into the construction of the models in addition to allowing people to handle replicas of potentially fragile artefacts.

Further information

Small models start from less than one hundred pounds and can be completed in as little as two days, dependent on complexity.

To discuss your idea for a 3D model please contact Dr Stephen Laycock s.laycock@uea.ac.uk

W: www.sys-consulting.co.uk T: +44 (0) 1603 591163 E: info@sys-consulting.co.uk