

iDesk

The use of 3D printing in the Bio-Medical field

3D printing is the buzz word today. Its spreading its wings far and wide and improves the quality of people's lives. Ever heard of machines involved in printing human organs? Yes, this is indeed possible. A new life and a new beginning is what 3D printing in biomedical field gives you. It helps in facial reconstruction of an accident victim since surgery for this purpose is very expensive and a risky procedure. Not only that 3D printing aids in prosthesis which is the process of artificial replacement of a missing body part. So that's really invaluable, right? Any organ can be printed according to the defects of the patient. Basically, the missing part of the body is scanned and is used to create prosthetics. With the aid of specialty software, engineers well versed in 3D technology convert CT or MRI scans into an anatomically correct 3D CAD Format which can be readily printed as a 3D model. All relevant data of a patient is converted into an STL format so that the patient will be benefitted from 3D printing solutions for medical problems.

Polyjet models are widely used in many modeling applications because of their high accuracy, fast build time and ease of model sterilization. The models are also highly resilient enabling drilling and fixing of screws and model plates in a similar way to human bone tissue. Furthermore, support removal that preserves thin and delicate structures, as well as the lack of an after production step that can degrade the model surface, makes it possible to build complex models of human anatomical structures even more delicate than bone, such as blood vessels. This eliminates operation procedure and reduces hospitalisation time to a great extent. And most importantly, the cost is also lowered. The victim or the patient gets back what he lost and nothing can be more satisfying than this.

Complex surgeries can be performed in a precise manner with the help of 3D printing as the surgeon gets a clear picture of what he needs to do. So it serves as an organ model for the surgeon to work upon. Physical replicas of patient's internal bone or soft tissue structures are useful to medical professionals for planning complex surgical procedures and deciding on the best course of action. Some of the proven benefits of this technology are – a reduction in surgery time (less exposure to anesthetics for patients) and a more predictable outcome.

In this issue, we are presenting three of our interesting works and the excerpts of interview with one of our esteemed clients, Mr. J. Thamizharima, Director of MANCINI Design. Happy Reading!

iNews - Recent Projects



SKYLARK

This magnificent model was created for Skylark mansions for whom satisfying the client is the top most priority. A picture perfect layout of the residential villas with all the facilities such as fountain, swimming pool, basket ball court, lush greenery, club house, jogging track have been made in the model to make it as real as possible.



SIDHARTH HOUSING

This is the Miniature of the Sidharth Housing Project, Chennai. This Model was awarded to iKix for the purpose of the launch of their project. The iKix team proved that TAT (Turn Around Time) was maintained since they were able to execute it in a week's time. The client as well their customers were awed on seeing the splendid work.



PEARL BEACH INTERNAL MODEL

This miniature Internal Model represents the dream guest house developed by Pearl Beach Developers, Chennai. The interiors were painstakingly brought about beautifully and the clients were able to easily decipher the complexities.



The 3D model has the skill sets to convince the client regarding the Design, Texture and Intricate Features

Mr. J. Thamizharima
Director, MANCINI Design

Tell us about the current trends of architecture industry, Chennai in particular and brief us about MANCINI's projects?

Trend in architecture typically depends on clients' requirements. It varies according to the type of buildings and the place in which it is being built. Trend is usually set by the person who wants that product in comparison to what is usually followed by others. It's the customers, who set the trend with their specifications and the industry keeps evolving based on the wide spectrum of different clients. People of Chennai prefer contemporary style which to my knowledge is not completely taken care. Though, it has been attempted in bits and pieces, a collective package is yet to come.

MANCINI commenced its operations in 2004 with German connection and has been doing versatile designs for Hotel, Office, Residential towers and even developed product design. We have created a brand name and each project of MANCINI stands as testimony to our capability and creativity.

Does 3D modelling support the marketing initiatives of a company?

It does help and support. The finest example being the product model we developed through iKix. It was a compact model and we could explain or brief about the finer details with the help of the 3D model. Details were pretty clear to the clients as they could see and visualise better. With the conventional model making process, we cannot develop a convincing model.

What do you think are the benefits of using a 3D model?

Designs can be created in 3D instead of using the traditional 2D. It's easier to understand the design in 3D rather than struggling to visualize how the house or model will look in reality. This will be especially true for less technically minded clients and customers.

An architect could run off one or two samples with a 3D printer to see if his idea works. The flexibility of 3D printing also facilitates the numerous design revisions in the architecture.

The very concept of 3D printing changes the idea of making customized components. Whenever there is a need for a specialized part, it may be cheaper and quicker to have the part printed than to order one from a regular supplier following the conventional method involving higher cost and longer time duration.

The ability to produce highly complex designs with powerful software and transform them into real objects without too many complications, is going to cause a paradigm shift in the architectural industry.

Your experience with iKix?

iKix team has taken the work from the moment we gave the basic information and was handled very professionally. iKix team has done an excellent job and the 3D model of comber product has come out exceptionally well. We are satisfied and impressed with the dedication of iKix team and wish them a great success.

