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## Sketch-to-Box: A new character modelling technique

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Sketch based modelling (SBM) has undergone substantial research over the past 2 decades. I propose an idea for a novel SBM system for modelling of anatomically plausible human characters using 3D boxes. Resting its foundations on the pioneering techniques of human figure drawing by George Bridgman, my idea aims to transform these classical techniques into a modern sketch based 3D modelling system, thus proposing a unique and novel approach to character modelling. The system will be divided into two major sub-systems: 1) 3D pose generation system, and 2) 3D muscle sculptor. The first sub-system will allow an artist to create a pose of the human body by creating / dragging 3D boxes from the menu and placing them in the 3D view representing the major parts of the human body such as torso, head, arms, pelvis and legs. Thus this sub-system will provide tools to create an entire human pose made out of boxes. The tools provided by this system will be in the form of sketching gestures that will make the system more artist friendly. The second sub-system will provide tools to the artist to sculpt refine the 3D boxes to look like human muscles, according to the drawing techniques of George Bridgman. The system developed on this idea will provide an intuitive sketching interface to the life drawing artists and students to create 3D character models with greater ease and correct anatomical details, thus providing them with a new and potentially enjoyable system to learn human figure sculpting. Our aim is to enhance the engagement of the users with our system in order to accelerate the time taken to master the skill of human figure sculpting.

### Biography

Ismail Khalid Kazmi is currently finishing his PhD at Bournemouth University, UK. His research involves Sketch Based Modelling of virtual characters. He is also working as a Lecturer at Teesside University, UK where he teaches a wide range of courses in Computer Science and Game Development. He has a passion for Computer Graphics both in terms of arts and programming.

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