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Course: CS-537 Interactive computer Graphics

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Paper: Eyecatch: Simulating Visuomotor Coordination for Object Interception

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The paper Eyecatch: Simulating Visuomotor Coordination for Object Interception presents a novel framework for animating human characters performing fast visually guided tasks. There are some aspect which are important to consider before animation like catching thrown balls. The paper proposes a new generative model for simulating large class of movements. The most interesting feature of the model is that it is based on simultaneous measurements of eye movements. Authors combine a model of active vision with a model of movement generation using short duration discrete sub-movements. Based on the visually estimated target movement, the authors then generated the gaze movements of the head. The simulation assumes that the movement in target tracking is to assist the eye in tracking the target more easily. With predetermined gaze behavior, the strategy of manual interception is modeled as a simple algorithm. The framework in the simulation includes novel feature such as gaze based motor coordination and sub-movement composition. Since the model is grounded in human behavior, the simulated catching movements look very human-like. The frame have some limitations which include the vision n model is a highly simplified approximation of the human visual system. The model currently relies on on kinematic control, but it is clear that a dynamic model, based on realistic biomechanics and neural control framework provides a new approach to computer animation, based on principles that may be used by the human brain to control movement, such as visual motion estimation, use of gaze to control body movements, and generating movements using overlapping submovements.

The content of the paper was crystal clear and was very neatly presented. I especially, liked the idea of presenting the paper with clean explanation and well-presented images. The paper was fun and easy to understand. I also liked that how

the authors explained each and every step that they used in this simulation. Some aspects of the paper were a little tricky but once you read it thoroughly, it wasn't that difficult.

Animation is an area of my interest and this paper increases my interest in animation by describing that how human characters performing fast visuals can be animated. The paper also increases my interest in implementing this simulation by myself.

I like what the author presented, because this is an area of my interest and additionally the paper so amazingly presented, that it increased my interest in this area.

I found this [article](#), which thoroughly explains the animation for human movements.