Designing dynamic multi-touch interaction

for games with realistic physics-based animation

Student: Hoang Xuan Tung   Supervisor: Asst Professor Goh Wooi Boon

Project Objectives:

Study touch interaction and create an interaction that is able to bring realistic physics-based animation applications

Exploit touch devices' ability that has not been utilized by the common 1Finger interaction set

Study process

Study touch devices' ability

Design the interaction set

Conduct a user study to validate the realism and ease to control of the interaction set

Proposed interaction set

An interaction set of 1Finger interactions and 2Finger interactions to achieve simplicity and realism.

User study results

Proposed 2F interaction score:

2F interaction	Realism score	Controllability score
Rotate object	Realistic	High
Add torque to object	Neutral	Low

Compare with common 1F interaction set in a specific context (bowling game)

Higher realism score

Give the score (from 1 to 5) for the realism of the physical feedback of two gesture set in the bowling game
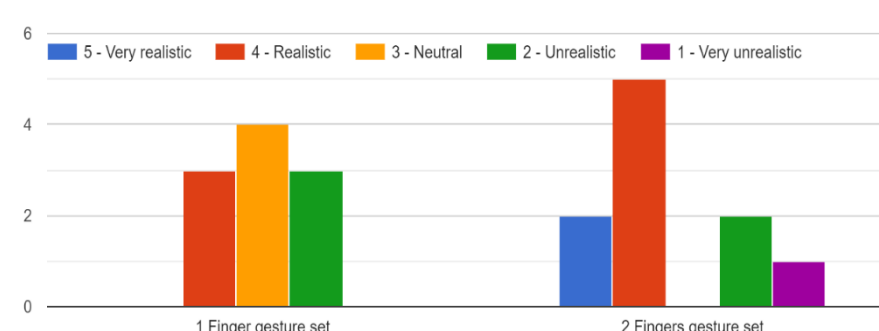
Lower controllability score

Give the score (from 1 to 5) for the the control ability of two gesture set in the bowling game