CSE 165: 3D User Interaction

Lecture 8: Travel

Announcements

- Sunday, January 31st at 11:59pm:
  - Late deadline for project 1
- Monday, February 1st at 4pm:
  - Discussion Project 2
- Sunday, February 7th at 11:59pm:
  - Homework project 2 due

3D UI Presentations

- Jonathan Barnes
  - Real Haptics: Using Physical Manipulation to Control Virtual
- Matthew Zane
  - VR Skin
- Diego Gomez
  - Infinite Office

Navigation

Wayfinding – Cognitive Component

Travel – Motor Component

Travel

- Motor component of navigation
  - But good travel techniques integrate wayfinding aids
- Movement between two locations, setting the position (and orientation) of the user's viewpoint
- The most basic and common VE interaction technique, used in almost any large-scale VE

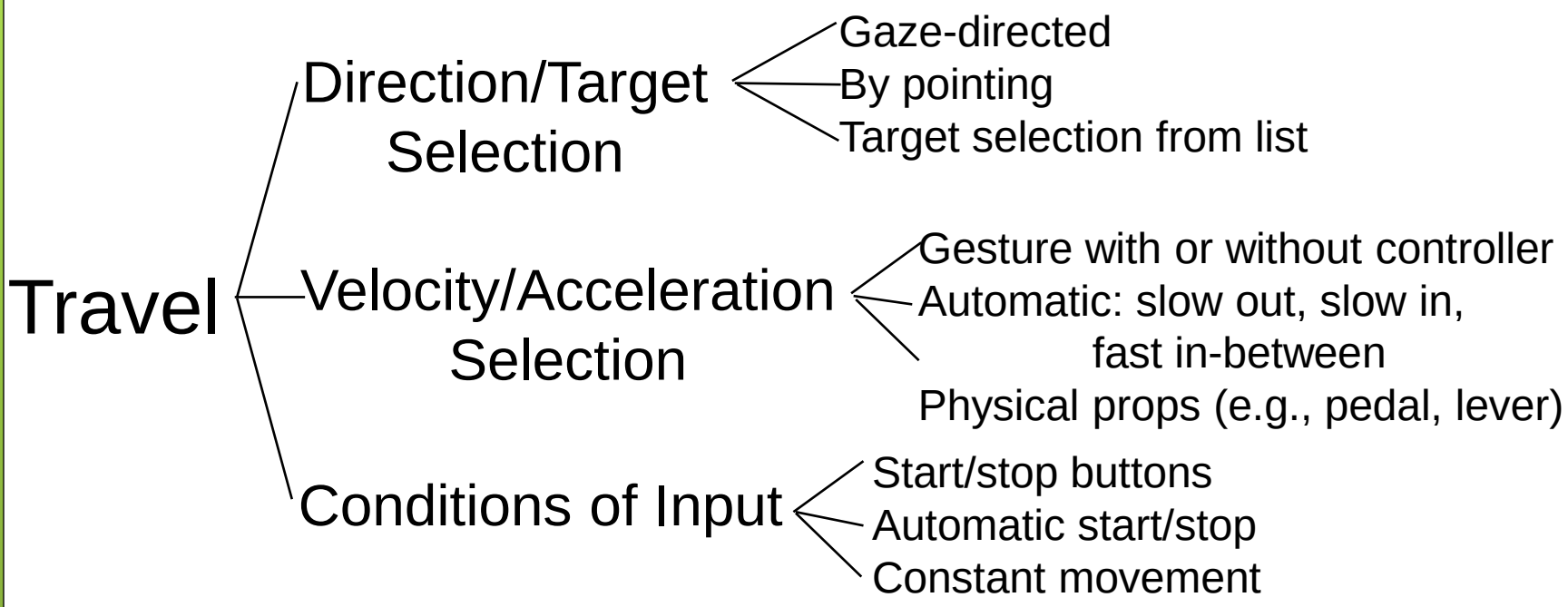
Travel Tasks: Why Travel?

- Exploration
  - travel which has no specific target
  - build knowledge of environment
- Search
  - naïve: travel to find a target whose position is not known
  - primed: travel to a target whose position is known
- Maneuvering
  - travel to position viewpoint for task
  - short, precise movements

Travel Parameters

- Travel distance
- Amount of curvature/number of turns in path
- Target visibility
- DOF required
- Accuracy required
- Other tasks to be done during travel
- Active vs. passive
- Physical vs. virtual

Travel Component Decomposition



From: Bowman, Koller, and Hodges, Travel in Immersive Virtual Environments. IEEE VRAIS '97