PA201 Labs & Final Project

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The Labs

- Unity
  - Game engine not requiring too much programming knowledge
  - `https://unity.com/`
- Virtual Reality Toolkit (VRTK)
  - Collection of useful, reusable solutions to common problems in VR development
  - Supports all major VR equipment (HTC, Oculus) + VR simulator
  - `https://www.vrtk.io/`
  - tutorial: `https://learn.unity.com/project/vr-in-unity-a-beginner-s-guide`
  - features overview: `https://www.youtube.com/watch?v=vH5zHo6qI84`

The Project – "Escape Room"

- a simple level of a logic game
- one room with several puzzles
- user solves the puzzles to "win"
- use Unity & VRTK (look into the sample scenes)
- focus on interaction (no elaborate graphics neccessary)
- use any VR headset (available in HCILab)

Requirements:

- 1 scene
- 3 interactive puzzles
- an interactable UI (buttons, sliders, …)
- user embodiment – at least the avatar hands in the scene
- at least one puzzle incorporating sound effects (beeping, playing a tune, shooting sounds, …)
- at least one puzzle violating the laws of physics (e.g., gravity, …)

The Project – "Escape Room"

Puzzles:

- don't have to be too complicated
- examples:
    - find how to use an unknown object (e.g., need to lift it and look from the bottom) to solve the puzzle
    - find a key somewhere in the scene, find a lock, use them together
    - explore the scene and find a combination for a numeric-lock
    - explore the scene and find a missing part of an item, then find correct usage of the item
    - fire a wepon to a specific location to retrieve object/piece of information
    - …