Project-Proposal
"Mechs vs. Minions"-Game

Participants: Ian Winter [IW], Marcus Wunderlich [MW]

End Goal: Implementation of the board game "Mechs vs. Minions" [Official Website] [Explanation]

Responsibilities: Rendering, Animation, Game-Logic, Textures and Models, Procedural map generation

Milestone 1: Simple basic application

Rendering

- minimal implementation to display the board with grids and Dummy-*Mech* [MW] [IW]
- Blinn-Phong materials & lighting (without textures & shadows) [IW]
- mesh loading for testing purposes [MW]

Game Logic

- turn based game logic (let two players move their *Mech* alternating) [IW]
- start and end new game [MW]

Milestone 2: Raw but playable version

Rendering

- add a *Command Line* (GUI for *command cards*) for each *Mech* [IW]

Game-Logic

- all steps for the most basic version of the game (control with keyboard, only dummies) [MW]
- add example cards and their actions in the game [IW]
    - 1 Movement
    - 1 *Damage Card*
    - 1 Rotation
- add *minions* (only movement) [MW]
- Saving and loading game state [IW]

Milestone 3: Visual and Gameplay Improvements/Enhancements

Rendering & CG-Techniques

- load textures: map, Minions, Mechs, Cards [MW]
- procedural map generation for each game [MW]
- improve shading (e.g. shadows, ambient occlusion) [IW]

Gameplay

- add more cards [IW] [MW]
- alter *command line* arrangement (scrapping cards, minion damage) [IW]

Milestone 4: Polishing

Rendering

- Animations for movement and damage spells [IW]
- change control to GUI (instead of keyboard) [MW]
- Add game menu [IW]

Game-Logic

- Add other Goals [MW]
- pushing and pulling other mechs [IW]

Libraries: Vulkan, C++, glm, glfw

Other Technologies: Camera & Scan-App to digitize all necessary objects and textures