

Minutes for meeting on 12-05-2020

Project: 1-2 Crazy Putting

Date: 12/05/2020

Group number: 4

Group members: René Steeman, Aaron Schapira, Ivan Poliakov, Jean Janssen, Matthijs Kusters, Hoaran Luan

Attendants: René Steeman, Aaron Schapira, Ivan Poliakov, Jean Janssen, Matthijs Kusters, Hoaran Luan

Chair: Aaron Schapira

Secretary: Matthijs Kusters

1. Opening at 12:00
2. Minutes last meetings
 - a. Remarks from group: -
 - b. Remarks from tutor: -
3. State of the project:
 - a. Completed tasks/milestones: Basic bot, improved load/save system connection to physics (setting the loaded values), playable game, connection UI and backend, two Verlet solvers, finished UI system, main menu.
 - b. In progress: Experiments, presentation, code clean-up, shoot UI and reset ball UI (reset ball is non-functional)
Remark(s) from tutor: Add a visual representation using the different solvers. To avoid confusion, change “Our plan” to something like a summary of what we did. Ask examiners if they want the formulas explained.
4. Planning:
 - a. Things to finish before the next meeting: finish project, i.e. code and presentation, and pass phase 2
 - b. In progress before next meeting: -
 - c. Twice a week, once on Saturday at 10:00 and on Tuesday at 10:00. If needed we'll schedule extra meetings 'on-demand'.
 - d. Planning of the complete phase

description	Who?	March 25, 2019	April 6, 2019	April 13, 2019	April 20, 2019	April 27, 2019	May 4, 2019	May 11, 2019	May 18, 2019	Extended description		
MAJOR BUILDS / MILESTONES												
Basic working game										Working 3D engine, basic 2D UI options (text and images), 3D physics, the ability to shoot the ball and score (possibly with UI, but not necessarily), basic course designer (you can add and remove trees)		
Editor build										Fully functional course editor, including adding and removing both trees and sand. It also has the ability to save and load a terrain.		
Basic bot										A basic version of the bot that can already win the game with a simple course		
Improved physics engine										The new physics solvers are implemented and working		
Full Project bot										The final goals for this phase is working as intended		
PROJECT STRUCTURE AND PHASE 1 FIXES												
Improve the graphics engine structure	Rend									Make sure that the project structure is clear and flexible, focusing on the graphics engine's structure		
Improve the physics engine structure	Ivan									Make sure that the project structure is clear and flexible, focusing on the physics engine's structure		
Radio UI	Jean, Ivan									Create an improved version of the phase 1 UI in the new engine		
Main menu	Jean									Redo main menu		
Shooting the ball	Jean									Redo shooting the ball UI		
Sneaking after hitting water (non-functional, that's for phase 2)	Jean									Redo sneaking after hitting the water UI		
Have a playable game (for humans)	Ivan									Create correct UI (loading and saving options as well as key bindings explained)		
Redesign OpenWorldModule	Rend and Ivan									Have a working game where you can at least shoot the ball and score		
										Have to option to save and load the game information (start location, terrain info, etc)		
GRAPHICS ENGINE												
Create new 3D engine basic	Rend									Add the option to add 2D elements to the UI		
Create new 3D engine	Rend									Create a new 3D engine using twgl		
Show a triangle										Be able to show a colored triangle in 2D		
Add lighting										Add per pixel lighting and specular lighting		
Camera system in 3D										Add a camera in 3D that can be moved around		
Allow 3D imports										Have the ability to create models in 3D by code		
Import 3D models										Allow importing 3D objects from Blender		
Basic terrain system (flat ground)										Create a system to deal with terrain rendering (specialized code, separate from other 3D objects)		
Terrain with height										Add height to the terrain		
Multiple textures for the terrain										Allow for multiple textures to be applied to the terrain (grass and sand)		
Twylon										Add a skybox		
Cursor to point on terrain										Convert a mouse click onto coordinates on the terrain		
Spawn objects on clicked location										Add an object with the position being the point that was clicked on the terrain		
Water system										Add water to the game with reflection, Fresnel effect and "movement"		
Course designer basics (phase 3)										Enable the user to customize the terrain by adding sand and trees		
Course designer finished, including saving/loading (phase 3)	Rend									Add a save and load option to the course designer		
Expand 2D engine with buttons, sliders, textfields and a file explorer	Jean, Matthijs and Rend									Expand 2D engine with buttons, textfields and a file explorer		
UI improvements (ball rest preview, shot direction indicator)	Rend									Add 3D UI for resetting the ball and indicating in which direction you're shooting		
Ball rest preview										Show where the ball would end up after resetting it when you hit the water		
Shot direction indicator										Add a vector pointing to the shot direction from ball itself		
Additional engine improvements (checkboxes, improved AUI)	Rendon									Implement some additional and optional engine improvements		
Physics												
Second order Verlet solver	Matthijs									Implement the second order Verlet solver for physics		
Second/second order Verlet solver (velocity)	Matthijs									Implement a second second order Verlet solver, called velocity Verlet solver		
Classical 4th order Runge Kutta solver	Matthijs									Implement the classical 4th order Runge Kutta solver for physics		
Bouncing against trees (phase 3 prep)	Matthijs									Add the physics for bouncing against trees, including hit detection		
Consider flying balls (phase 3 prep)	Matthijs									Add the physics for flying balls and make sure the rest of the game still works when this is used		
SOUND												
Music/sound effects	Rendon									Add music, that plays when playing the game and add sound effects to actions like shooting and scoring		
BOT												
Basic bot research	Aaron and Ivan									Figure out how a bot should work to meet the requirements for phase 2		
Basic version of basic bot	Aaron and Ivan									Create a first version of the bot for phase 2 that can already meet the requirements		
Role in one if possible										If you can score in one shot, do so		
Handle more than one shot to win										If you need multiple shots to score than the bot has to be able to do this		
Improve heuristics										Improve heuristics to optimize the bot's behavior and performance		
Finished basic bot	Aaron and Ivan									Improve the bot further and fix any problems that the bot may have		
Research advanced bot (phase3)	Aaron and Ivan									Come up with an improved bot by doing research		
Get started with advanced bot (phase3)										Start the implementation of this improved bot		
Testing / experiments	Aaron and Ivan											
REPORT												
Start with report (mainly structure)	Jean, Matthijs and Rend									Prepare an outline for the report in LaTeX and learn LaTeX if needed		
PRESENTATION												
Create the presentation	Everyone											
Planned duration												
Finished earlier than planned												
Critically behind on schedule												
Possible extension												
Others												

5. Any other business:
 - a. From group: Haoran still doesn't respond.
 - b. From tutor:

For the presentation, the planning for phase 3 doesn't have to be that detailed, because it takes quite some time from the presentation. The presentation should be about **12 minutes**. **Be in the session 10 minutes before the presentation** to prepare everything like microphone, camera, etc. If there are connection problems, immediately send an email about it such that the tutor and examiners are aware.

For the schedule, the schedule and timeslots can be found on the portal. Check the studentportal for upcoming deadlines.

The draft of the report is checked (and graded?) by the language centre, so make it seriously.

6. Chair/Secretary for the next meeting. Chair: René Steeman; Secretary: Jean Janssen.
7. Closing at 12:15