Group name and number

Dev Fun One (GA_01)

Theme and interpretation

Strange pet, “collaborating on adventures with my strange pet.”

Game idea in about 100 words:

It’s a platformer game where you have to collaborate with a strange pet. Solving puzzles and fighting enemies so you can reach home safely with your newly found pet. The levels vary between puzzle and combat levels. You can switch between controlling the player and the pet during the puzzle levels, this is only possible while maintaining line of sight(otherwise control of pet is lost). And during combat levels, the pet will be controlled by AI while the character is controlled by the player. After all the levels are completed, the final boss battle will determine whether the pet will stay with you.

Student names, emails and role assignment

Name	Student Number	Email	Role
Alvin de Blieck	4557573	A.s.deBlieck@student.tudelft.nl	Game Designer - mechanics and overall feel Gameplay Testing
Qianqian Chen	4593499	Q.Chen-5@student.tudelft.nl	World Builder
Casper Teirlinck	4680723	C.Teirlinck@student.tudelft.nl	Lead Programmer
Shunqi Tang	4673530	S.Tang-2@student.tudelft.nl	Lead Artist
Shifra Lopulalan	4564383	S.A.Lopulalan@student.tudelft.nl	Game Designer - details Producer

Which features you are thinking to be implementing in your game

Total stars: 32 ¾ ★

Computer Graphics (CG): 17 ¾ ★

- o 3D Models:
  - ▪ 3D models for main character, pet, trees, plants. ★★

    Making a 3d model for the character and pet from scratch in Blender, which is a lot of work. The trees and plants can be made in Unity.
  - ▪ 3D animated models for main character, pet, trees, plants. ★★★

    After creating the 3d model the movement of the main character and pet have to be created. After this is done, it still has to be implemented in Unity which can be complex.

- o Textures:
  - ▪ Textures for objects ★ Not very difficult, just a lot of work for multiple objects
  - ▪ Animated Textures (such as fire, water, sparkles) ★, elements in the background that'll move like the fire of torches, the water in a pond

- o Special effects & Juiciness
  - ▪ Animations with eases for characters ★
  - ▪ Audio effects ★
  - ▪ Camera shakes (when interacting with gameobjects) ★
  - ▪ Particle Systems (smoke on torches, dust when opening doors, etc.) ★
  - ▪ Camera smoothing ★
- o Rendering
  - ▪ Play with lights and shadows ★ again not difficult, just a lot of work due to implementing, testing, adjustments, retesting, etc.

    Different settings will have different light levels.

- o User Interface (with new Unity3D UI tools)
  - ▪ Main menu screen ½ ★
  - ▪ End/results/score screen: time based scoring ½ ★
  - ▪ Pause ½★
  - ▪ High scores ★
  - ▪ Options (sound, look at keybinds)★
  - ▪ Credits ¼ ★
  - ▪ UI animations ★

● Artificial Intelligence (AI) 6 ★

- o Graph based A* pathfinding ★★★★

  An A* shortest path algorithm runs on a graph. The graph nodes are coded so they can be placed and connected in the editor. The graph is directed, so that fall paths can be defined, and the jump force on edge node location can be set and visualized

in the editor. The algorithm then finds the shortest path from one node (closest to pet) to another (closest to player click). The nodes are made so that we can manually edit all the possible locations the pet can go.

o Path following ★★

This is a separate AI system that uses the path from the pathfinding algorithm as input, and gives movement commands to the pet. This system is supposed to also detect parts of the path were the pet can get stuck, and act by jumping.

● (Web-Based) Game Analytics (GA) 7 ★

o Create your own remote server for storing data ★★

We got to find a service for a free remote server and learn how to use the service with Unity.

o Save relevant information from your game during play ★★

We got to determine what information is relevant and how to store it efficiently so it won't affect the game performance and we can access it easily.

o Collect and show highscores (remotely) ★

o Create gamer accounts (with avatars) ★

o Save and share game states with others through social media ★

● Programming (PR) 9 ★

o Game Mechanics

▪ Moving platforms, pressure plates, levers, buttons, pulleys ★★ Added a star, maybe not difficult per item, but added everything up takes quite a lot of work.

▪ Time will be the score mechanic, measured for scoring ★

▪ Giving pet commands (Line of sight unnecessary) ★

Scripts that allow the player to select a location to initiate the pathfinding, and give visual indicators to the location that is clicked.

o Game loop

▪ FPS independent (use Time.deltaTime / Time.fixedDeltaTime) ★

▪ Player can load previous save, saves generated after completing level ★ ★

o Physics

▪ Use Unity's triggers to trigger interactive parts of the levels ★

▪ Use Unity's full physics simulation for all movement, collisions etc ★★

Schedule:

When?	**What?**	**Who?**
Week 3 25/11	**Adjust Core Project Document** **Game Design Document** Prototypes building blocks for levels Implementing Petcommanding in player mechanics prototype. Player model + animations	 Shifra Shifra, Alvin, Chen Casper Saki
Week 4 02/12	Finish lever Finish rope swing implementation Build levels Make stonewall model, Pet model Finish pressure plate, Continue with UI Implement Two button system, Pulley system	Shifra Chen Chen, Shifra Saki Alvin Casper
Week 5 09/12	**Peer Reviews** Playtest level Animations of pet Create level 3 Continue with UI, dabble with 3D models Make 3D models Dabble with rendering settings	**All** Alvin Saki Chen Alvin Shifra Casper
Week 6 16/12	20/12: **Early Access Game (3 levels)** Start on game analytics	**tbd**
Week 7 06/01	Create more levels Analyze test results and adapt levels accordingly Add sound effects and music	**tbd**

	Add textures and create environment	
Week 8 13/01	18/01: **Beta Game Release**	**tbd**
Week 9 20/01	Adapt levels	**tbd**
Week 10 27/01	28/01: **Release indie game** 31/01: **Final presentation**	**All** **Alvin, Casper, Chen, Saki**