AUSTRALIAN STEM VIDEO GAME CHALLENGE

Sponsored by ACER PAT

Our team

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Team member	Role
Harrison Pribetic / Riley Mitchell	Game Designer
Riley Mitchell	Artist/Visual Designer
Riley Mitchell / Harrison Pribetic	Programmer
Harrison Pribetic	Storyteller
Harrison Pribetic	Sound and Music Effects
Harrison Pribetic / Riley Mitchell Hayley Mitchell / Dean Pribetic / Alan Mitchell	Tester(s)

Game overview

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- **Short story**: A Journeyman explores a factory to get energy capsules and restore power to the factory.
- **Long story**: Set in the year 2000, long after the Intergalactic War ended, the universe is in pieces as ignorant planets such as Earth watched. An elite force of soldiers known as **Journeymen** were trained to protect the universe. Receiving orders from a mysterious source known as The Protector, they vow to only interfere when they must. A group of Journeymen were recently sent to retrieve energy capsules from a drone-infested factory and restore it's power, but no Journeyman has survived the mission, so they have been sending more recruits. **You are one of those recruits**. You received these orders: "Use portals to move through the factory. Collect the energy capsules. Do not fail the mission."
- The title of the game is 'Journey 2000', using inspiration of what the year 2000 was expected to be like in 1980, giving it an arcade style. Players would expect it to have a style of games like Sim City 2000.

Link to the theme

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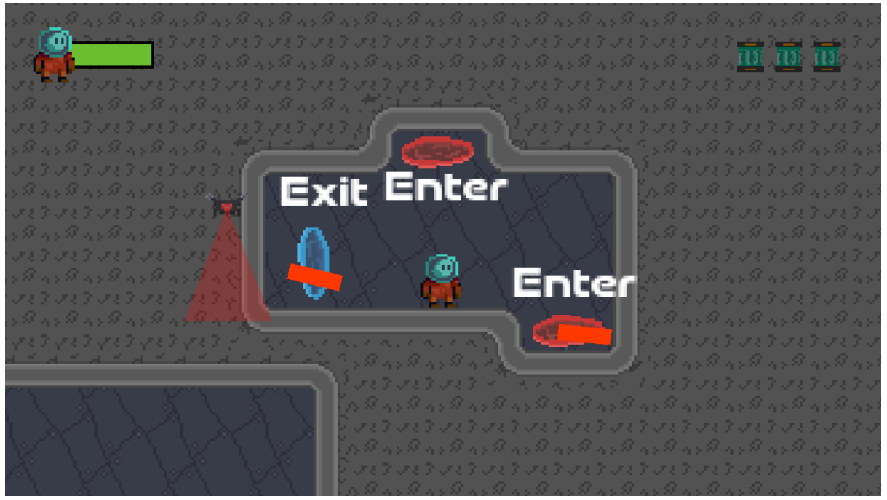
- The theme is **journey**.
- The game is linked to the theme through the journey you have to partake in throughout the factory, and also the personal self-discovery journey of the Journeyman as he learns from his actions (dash and double-jump) that he is more powerful than he thought!



Game details

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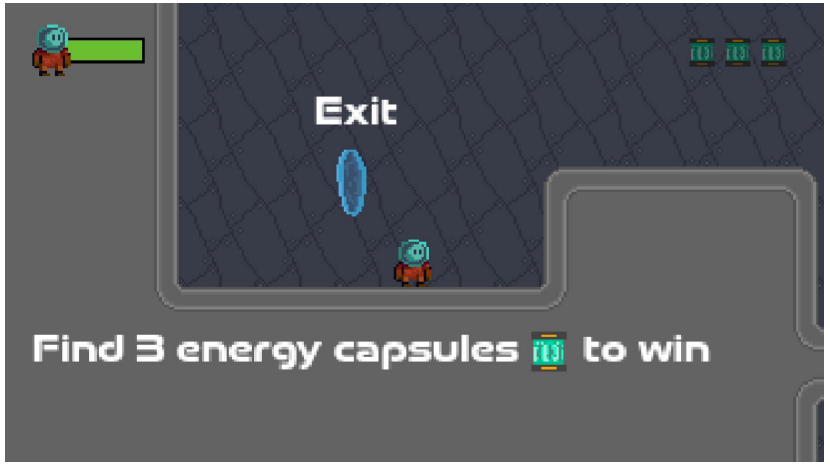
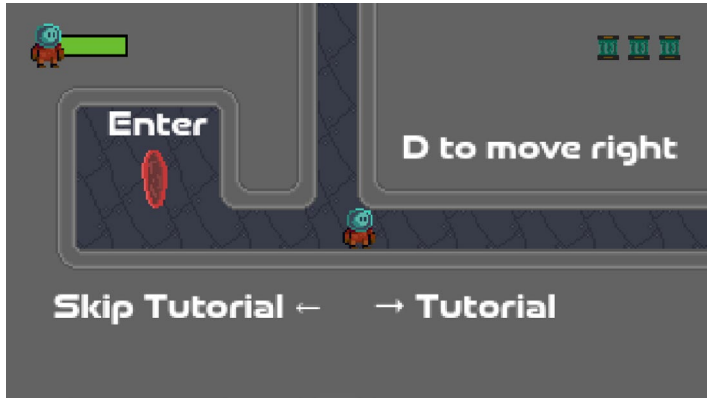
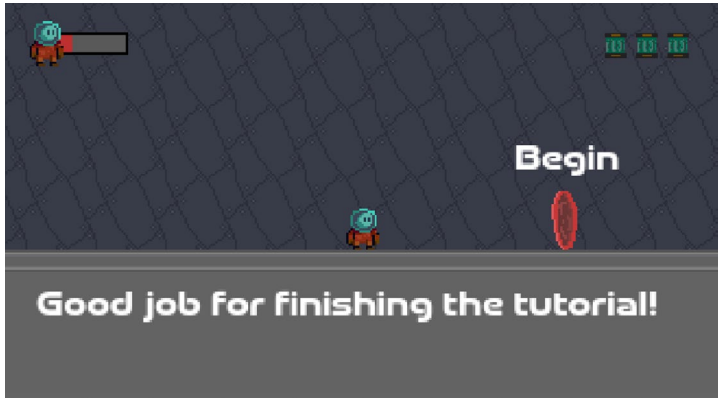
- Your goal is to find all three energy capsules in the factory.
- The player uses their abilities to make their way through the factory, using portals and avoiding security drones, and trying to find the energy capsules.
- We chose to make portals because the game was originally meant to be a journey across two dimensions, but mid-way through the game's development we changed the concept to use them to transport the player to different parts of the factory.
- (There are also some hidden secrets within the levels!)



Instructions

- You walk around exploring the factory, and move through portals.
- F = Dash, A/D/Left and Right Arrow Keys = Left/Right, Space bar/W/Up Arrow = Jump, Jump Midair = Double Jump, Enter = Dance.
- The player finishes the game by collecting three energy capsules hidden throughout three ‘challenge rooms’ which are inside of portals.
- We added a tutorial to teach players the controls and allow them to skip if they wanted.





Characters & object interactions

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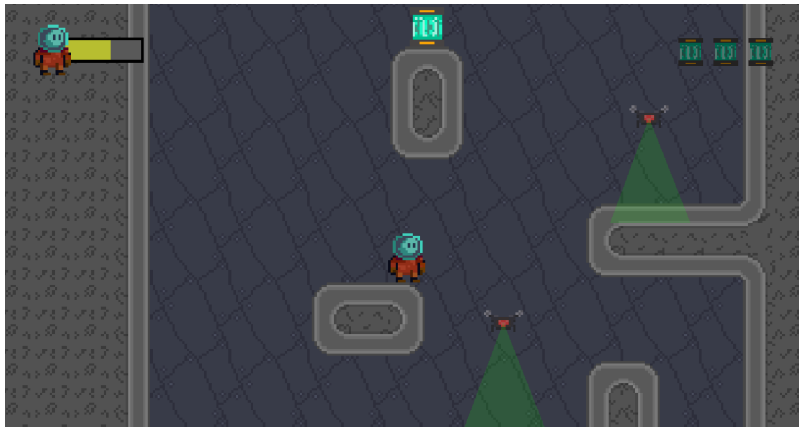
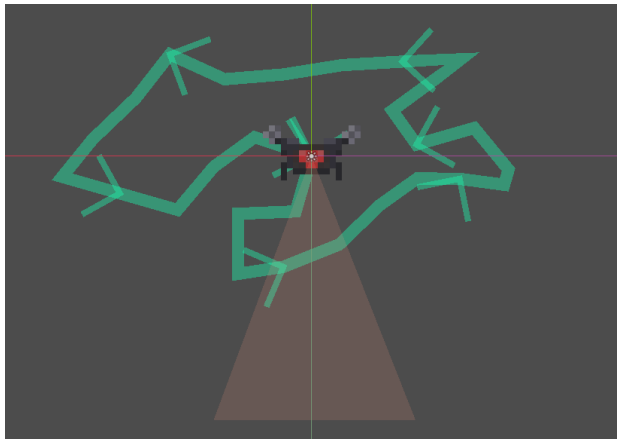
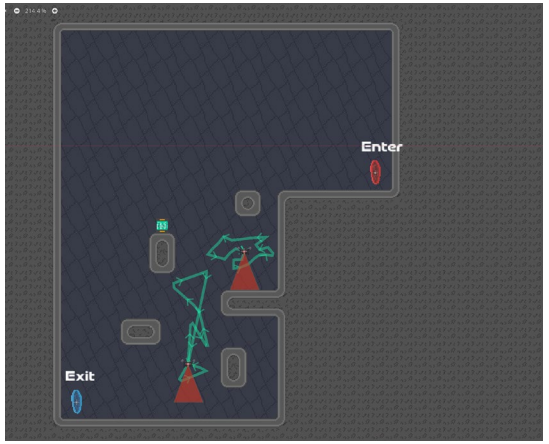
- The player will be looking out for portals and energy capsules. They will need to hide from drones who will attack if they spot you.
- We chose drones because they were seen as super futuristic in the 1980's. We also chose them because they add a stealth element to the game, which would be less possible with other enemies.



Visual design

- The theme was inspired by space exploration and industrialism, and “what the future of the year 2000 used to look like”.
- The graphics and theme is all the same theme throughout the tutorial and levels for consistency.
- We chose pixel art because it was used for game art in 1980 (ties into the theme of what the future of the year 2000 used to look like back then).
- The sprites and animations were made from scratch in Aseprite. The title screen, win screen and game over screen were made in Godot. The futuristic font is from dafont.com.





Audio elements

- The sound effects are player dash, player dance, drone patrolling, drone attack, portal, laser shot, player hit, energy capsule, game over, and music. They are all futuristic and sci fi.
- The sounds happen when the corresponding actions happen in the game, and are triggered in the game code.
- The sounds were found online, and then edited, and the music was made via GarageBand. The volume and distance was edited in Godot.
- We wanted the sound design to have a similar futuristic style like the visuals to maintain consistency. We explored lots of different samples as starting points and chose the final sounds because it fits with the game feel really well.

Artificial Intelligence

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- The code was all written by us, but we used ChatGPT to find out how to make the health bar fix to the screen and how to use canvas layers to add a font we found online.
- We spent a long time trying to get the fade screen which goes red after being hit to work, and we couldn't, so we asked ChatGPT to write this function as it was too complicated.
- We built the drone and its attacking behaviour, however we couldn't get the drone to return to its location and it was disappearing instead. So we asked ChatGPT to help us with the code and have different drone states of patrolling and player detected. We didn't come up with the two functions ourselves, however we understand how it all worked and added to it ourselves such as adding lasers, damage and sound effects.
- On the final day we had a **disaster** exporting the game because some of the files were corrupted because it was saved on Dropbox. My dad had to get an older backup off of Dropbox and he used CatGPT to help restore the files for us so it could be exported.

Reminder: Steps to success!

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- I checked these things often while I was building my game to make sure they worked the way I wanted them to:

✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
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✓	✓	✓	✓	✓

The game opens and closes
Timers and scoring
The controls
The objects
The sounds
The levels
Not too difficult to play

Testing

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- Our game works as planned and we think we have fixed all the bugs.
- Five people tested our game = Riley/Harrison/Hayley/Dean/Alan
- One of the testers suggested new mechanics such as dashing which we added.
- Hayley didn’t know the controls so we decided to add a tutorial to let them learn, and also let players skip the tutorial if they already know how to play.
- After some of the tester’s feedback, we decided having a 2nd dimension (which was what we were going to do originally) wasn’t necessary as it wouldn’t add enough new things to the game.
- We also made some of the jumps easier after feedback as some players were getting frustrated doing a ‘combo jump’(jump + dash).

Reflecting

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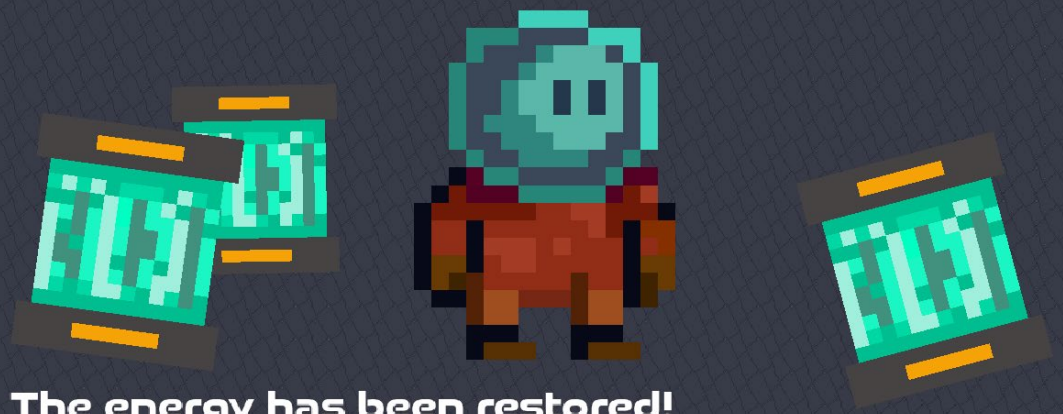
- After our game was tested, we added new mechanics, which made the game much more fun, such as dashing and energy capsules. We removed the wall jump because we couldn’t get it to work with the double jump.
- If we could do something differently, we would probably manage working with multiple people better. We found it difficult to both work on the same Godot file at the same time, so we took it in turns, which slowed things down, and made us have problems with understanding each other’s code and inheriting the files.
- We are both proud of learning how to code in Godot/Gdscript, and we both got a lot better at programming.
- Harrison says he could only use python before, so that was an advancement.
- Riley says he learnt how to create pixel art from scratch and how to differentiate between scenes and instances. (for example: I didn’t realise it was possible to edit properties of an instance without changing all other instances, so this was great)

Congratulations!



The energy has been restored!

Game Over

Better luck next time!