



Final Report

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Features:

- Guide to add narrative and help player along their journey
 - Created a story dialogue for when the player wakes up, for immersion purposes
 - Created a wizard mentor who adds comic relief and more of a story.
 - On the first two levels, and on the test level. Want to add him to every level in the future
- Test Level at the end of the game
 - Multiple choice questions for quizzing player
 - Player has to complete all signs to win.
 - Has to complete 6 levels in order for player to play there.
- Exported successfully to web using Grace's AlterVista account
- Randomized all levels so player cannot memorize
 - Player will not play consecutive levels for each playthrough to avoid memorization.
 - Player sometimes plays same room twice.
 - Created and used variables that randomizes rooms whenever the player solves the gate correctly for each room.
- Fixed major bugs
 - Player spawning into water.
 - When reaching rm_5, the player cannot access the next area or go back to previous area.
 - Fixed inventory that kept removing items or storing items in certain rooms.
- Improved a lot of the User Interface for more accurate Chemistry references
 - Electrons added to molecules
 - Lewis Structures implemented within the Gates.

- Fixed some previous code implemented such as the confirm button and the gate UI.
 - Simplified code of the player object.
- Improved a lot of the Sprites used in game
 - Improved coding and sprite of player object.
 - Redesigned molecule sprites.
 - Came up with using one sprite sheet with all the player directions rather than creating separate sprites for each direction. That way the game does not store too much data, especially when exporting the project.
 - Deleted most unused sprites and organized them in folders (player, items, mechanisms, etc.).

Features to be completed:

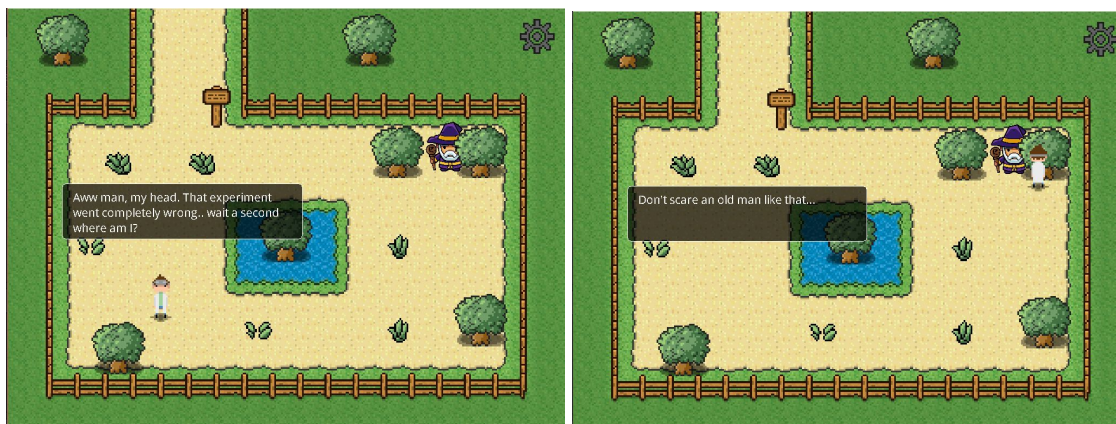
- Continue to fix levels, Gate UI, and Inventory UI
- Feedback for player when incorrectly answering a question
- Implement a hidden testing room for debug options
- Remove all debug features
- Update Boss Level to be more interactive
- Create a lot more levels with teleportation after 6 completed attempts
- Create more structures to add to new levels
- If possible, randomize lewis structures, so the player won't repeat the same structure. Results in, less room objects and more gate lewis structures in each room.
- Adding names of Structures to the Gate User Interface so the player can reference what molecular geometry they are creating without have to return to the sign
- Improve confirm button object with less hard-coded/repetitive code

Known Issues:

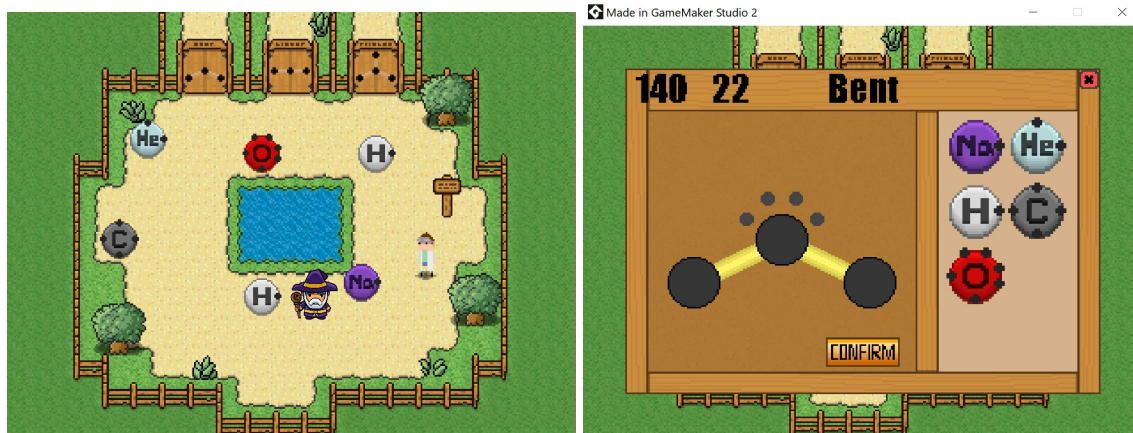
- Game crashes when incorrect gate is chosen
- No access to the final test level
- Inventory is not functioning the way it is intended to.

Functionality:

- This game is used to supplement learning materials such as study guides, to help students with a more interactive game.
- To include game elements, so the player has fun, we've introduced a backstory, and a helpful mentor:



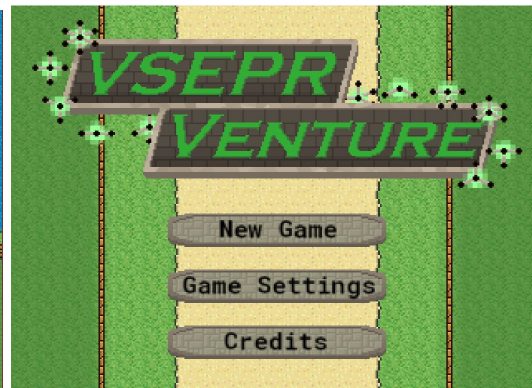
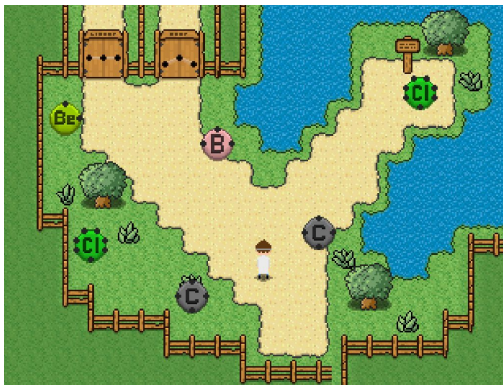
- For the student to practice, the game has atoms for a player to pick up, and place in the correct spots according to the VSEPR theory. For this, we've revamped the atoms and the gates to include electrons, detrimental to the understanding of the VSEPR theory.



- For players that have completed 6 levels of gameplay, a test level is generated to help further test the player, possibly in place of a study guide, or outline.



- We've added reset buttons in case of bugs by using R
Level 2 , maybe you want to restart → Pressing "R" takes you back to home screen



Video Screencast:

- [VSEPR Venture Demo](#)

The Team:



Grace Ongchangco - I am a student at Georgia Gwinnett College and will be graduating in Spring 2019. I currently work as a Web Developer in a small business company that sells tools for auto workshops and maintenance. I plan on getting my master degree in Alpharetta, and continue as a web developer until I find a better job, hopefully nearby my area. In the meantime, I progressively learn new programming languages to build a foundation of skills to keep up with the constant changes in technology.

Jeremiah Anderson - I am a Senior at Georgia Gwinnett College and will be graduating in Fall 2019. I am currently not working in industry, and work in an administrative role. I plan on going to GA Tech for my Master's for Artificial Intelligence. I'd like to work as an AI tech for a large company.

Lindsey Wade - I am graduating this semester with my degree in Software Development. Currently interning at Adult Swim Games in Quality Assurance, with a full time position available for me as soon as I get my degree. I plan on staying in QA for games until I eventually find a development position in Atlanta.

Kaiser Smith - I am a Senior at Georgia Gwinnett College. Currently I am not working in the industry. I hope to find a job with a Video Game Developer as a tester.

Dr Gluick - Chemistry professor here at GGC. He is very interested in helping students at GGC understand chemistry. He appreciates mature cartoon humor, and wants to tour the Adult Swim building. He practices some coding on the side, and is enthusiastic about a good well created game.



Testing:

- A major problem in testing with Game Maker is automated testing. The program does not have an inherent testing class. We had to search the internet for code to help with this and then integrate it into our program. Most testing was done by us by playing the game.
- We were able to determine a few problems such as repeating rooms, game crashes, and collider errors. We did not resolve all of them as they were discovered late in the development process. With the automated testing we determined if sprites were loading in the right places and that the player was moving like we wished.
- Player testing was not performed outside of those that played during CREATE. We tried to set up testing with students from our clients class, but were unable to set an appointment with our client.

Usability Testing and Survey results:

12 responses



SUMMARY

INDIVIDUAL

Accepting responses

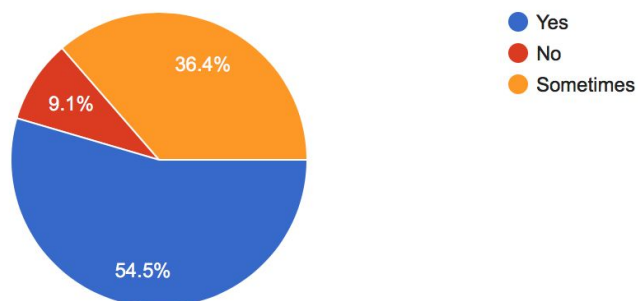


Who has responded?

Email
smitrovic@ggc.edu
mcoker@ggc.edu
swilliams21@ggc.edu
raugustin@ggc.edu
jhouseman@ggc.edu
pcardenas@ggc.edu
jwind@ggc.edu
bjackson14@ggc.edu
tetheridge@ggc.edu
tetheridge@ggc.edu (1)
echua@ggc.edu
mmorton1@ggc.edu

Do you enjoy Chemistry?

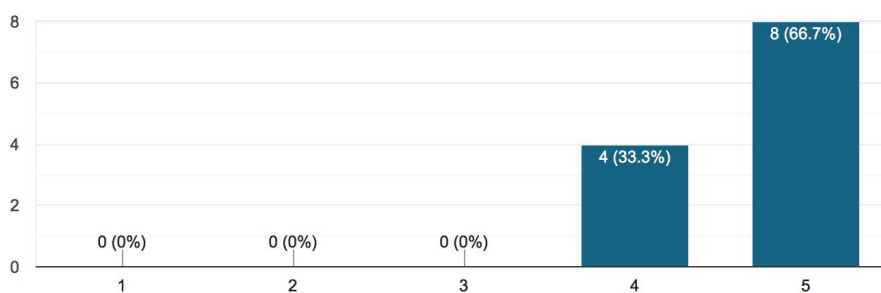
11 responses



Please Rate your Overall Experience with the Game



12 responses



What did you like the most in the game?

12 responses

The look, feel, ease of it makes me interested in chemistry.

It is better than last semester's version

Control and input methods were intuitive

They added moving arms from last semester's iteration

the sound

Fluid movements

The art style

I love the animations of the game and the purpose of it.

Making the molecules and trying to remember the shape.

I like the quality and design of the game.

interacting and guides

What did you like the least in the game?

12 responses

nothing

crashes on wrong answer, but that is just a bug fix away

Chemistry is more or less the same but that's how science works

n/a

I have to do chemistry

Two levels

its hard

The fact that it crashed when I was having fun.

Need knowledge of Chemistry

would like more combos but they are coming with time

Additional Feedback:

7 responses

place the status bar that tells you to what keys to use first so users aren't confused.Great!!

genuinely enjoyed the game, but could use another mechanic to keep player involvement and enjoyment high

n/a

It's a really good demo

This is great.

More hints

Game Information:

All Game information and documentation listed within our GitHub Repository. Links are available and updated with the most current information.

[VSEPR Venture Online](#) (*Inventory not working properly*)

[Installation and User Documentation](#)

Licensing Information:

[VSEPR Venture License](#)