CarDDS: An Exploratory Attempt at Team Game Development

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Abstract

In the Fall 2024 semester, employees at the DDS voted to make Spring's semester project an exercise in collaborative video game development. The resulting project, CarDDS, is a card game loosely based off of our experiences working at the Digital Design Studio, with the appropriate creative liberties taken. We developed our game by splitting into 4 teams; design team, sound team, art team, and programming team, which each contributed to the project in their own unique way. Design created the fundamental gameplay concepts, sound developed music and sound effects, art created the visuals, and programming combined and implemented these elements using the open-source Godot game engine. We hope that our game will serve as an example of what can be accomplished with the resources available, and that we will inspire other students to follow in our footsteps and create more games in a collaborative setting. on campus

Design Team

Design Team's responsibility was to come up with the original concept for the game, and then to specify all of the gameplay details. The beginning stage was a very disorganized brainstorming process in the DDS Discord server where any ideas could be put forward. One common thread in this phase was that many staff members wanted to see themselves in the game, and one staff member proposed a simulation-style game based on working in the DDS. This idea eventually evolved into CarDDS.

The second phase of design involved a more in-depth plan for the game. A text document was created to organize the brainstormed ideas, outline the core gameplay mechanics, and specify stats, items, characters, and other details. The resulting document was used as an important reference throughout the rest of development, and contained details for all the game's systems, as well as the stats and descriptions of all 24 cards in game.

As the workload gradually shifted away from design and towards implementation, design team began to take on different responsibilities. While most of design team focused on their work as part of another team, Christopher (CJ) became the game's quality assurance manager, making balance changes and playtesting in the later stages of development.

CJ's Remarks: Work on this game, from design all the way to play testing, has been a very fun experience. After the initial design process was complete, I started to work with the programming team on troubleshooting the game as development progressed. That was the best part of this whole project for me, because I got to see and polish the idea that I helped develop start to become their final form.

Sound Team

Sound Team's responsibility was to create all of the sound effects and music heard in game. This was done using a variety of free software, such as Bandlab, Pixabay, and Freesound, as well as the podcast studio in the DDS.

Raelyn and Sunset spearheaded most of the work on sound effects. They utilized a number of items around the space to create noises to be implemented into the game. They edited the recordings using Soundtrap, a free editing program, to change the speed and pitch of different tracks to create the right sound for each action and fit the game's atmosphere. They also worked individually with DDS employees to record personalized voice lines to use as catchphrases that accompany each character's special abilities. The team's biggest challenges were discovering what objects could be used to develop the desired soundscape, as well as adapting to each worker's schedule to record the voice lines.

Mica and Brent, meanwhile, handled the creation of the game's music. This was done using a free digital audio workstation named Bandlab. Royalty-free sample tracks were found and edited, with permission from the tracks' creators, to suit the needs of this project.


Art Team

Art Team's responsibility was to create all of the visual artwork seen in the game, including the designs of the cards. Olly was the primary artist with Greg and Chloe offering support.

Olly's Remarks: For the art, I mostly used Ibis Paint and my iPad with Apple Pencil. It's what I use to make most art, and despite it not being a fancy or special software, it works really well! You don't need special tools to make art in my opinion. For the art itself, I was inspired by TCG games such as Pokémon, using that to create the card designs. I've had a fun time collaborating with members of the DDS to come up with ways to portray them in the game! It has been a bit challenging doing so much art, especially as I struggle with chronic illness and artblock. But it's been a very fun and wonderful experience!

Programming Team

Programming Team's responsibility was to implement the game's functionality and to incorporate the sound and art elements from the other teams into the game. This was done using the free, open-source game engine Godot. Programming Team faced two main challenges. The first was the size of the team, with Jonathan as the primary programmer and Wesley offering support by developing the support card system. The second was that neither of them had used Godot before, and they would be learning how the software worked as they developed the game.

Jon's Remarks: At first, I was pretty intimidated at the prospect of developing a game with such a small programming team. I didn't think we could do it. As I started working, though, I learned how to use Godot and started building the game one system at a time. It was very gratifying to see the progress, and it came along much faster than I expected.
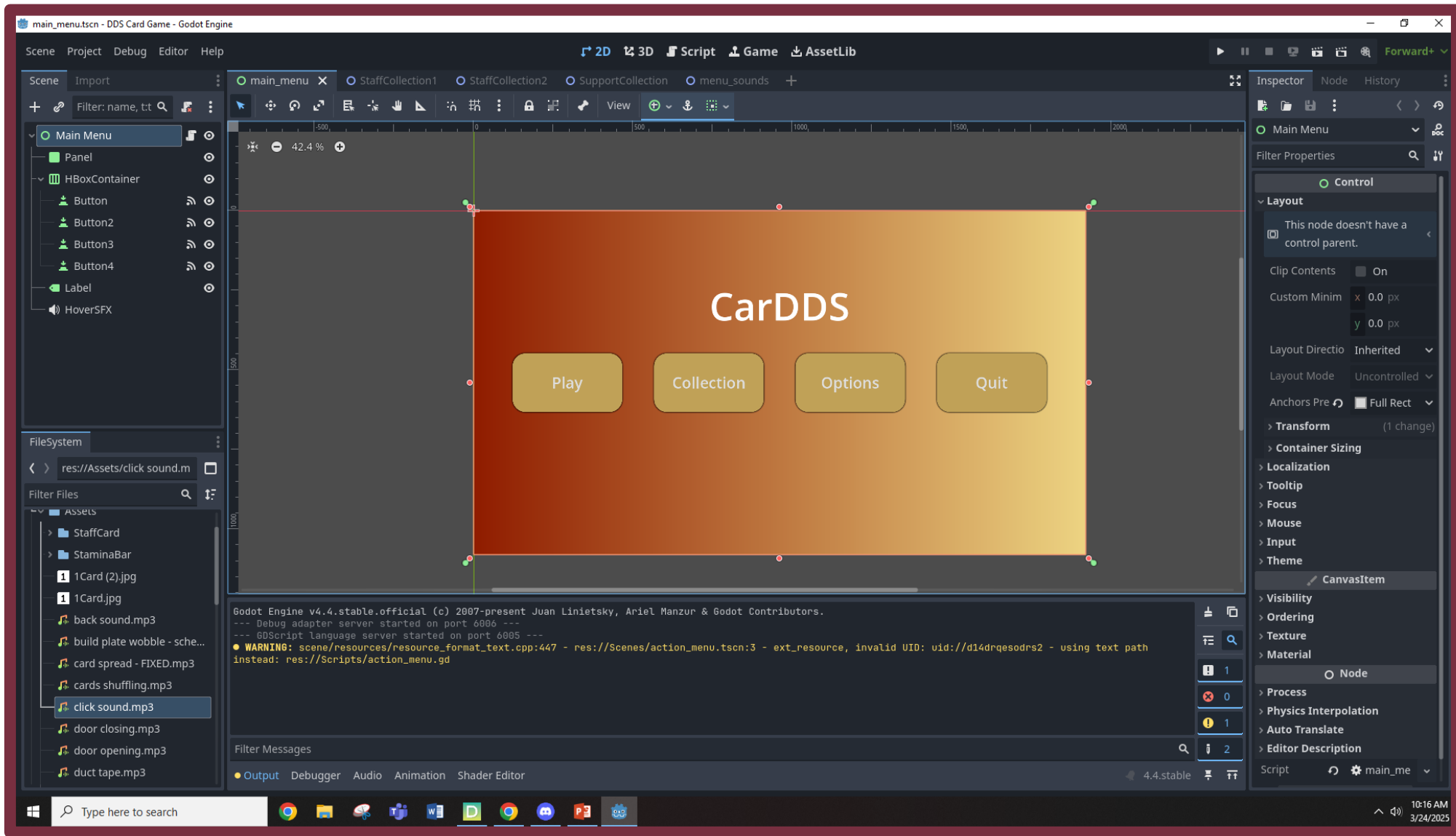
Concluding Remarks

Developing CarDDS has been an engaging and educational experience for the DDS staff. It has been useful in improving our planning and cooperation, and it has pushed many of us outside our comfort zones by forcing us to improve our skills or develop new ones entirely. We hope that our project will highlight the benefits of collaborative game development, and demonstrate how many useful on-campus resources we have that are useful for projects of this nature. Finally, we would like to highlight all of our staff and ensure everyone receives credit for their contributions.

List of contributors: Jonathan Whelan, Brent Cerney, Jaiden Smith, Olly Crawford, Timothy Peagler, Wesley Williams, Christopher Upton Jr, Raelyn Rogish, Mica McCown, Gregory Shakes, Sunset John, Chloe Currie