Didactic Dating Sim:
Design and Development Document

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Introduction

The following document will describe my plans for the dating simulator game, *Didactic Dating Sim*. In particular, it will describe the world of the game, the visuals for the game, the tools chosen for creating the game, and some potential problems I could run into during development.

Didactic Dating Sim is based on two of Hugo Gernsback's rules for science fiction:

1. Science fiction should be didactic.
2. Science fiction should be 75% romance and 25% science.

At the time, Gernsback used the term "romance" to refer to action and drama in a story, but for the purposes of this game I thought it would be interesting to interpret the word literally, creating a science fiction story that revolves around romance and dating.

Didactic Dating Sim is, as inferred by its name, a game of the dating simulator genre. Games in this genre typically involve a single protagonist, the player, who goes through an interactive story and can date or romance other characters along the way. Often, the player's choice of who to pursue can influence the game's story and change the game experience.

Story

Setting

The story takes place in a somewhat near future in a universe parallel to our own. It is the year 2074; robots and artificial intelligence have been perfected and pervade every area of human industry. Because of their prevalence, the robots were successful in peacefully protesting to gain civil rights equal to those of humans.

Premise

The story takes place soon after the successful protest, when many nonprofit organizations have popped up to help the robots better integrate into human society. As full time industry robots, many do not have social skills, and it is through participating in a robot dating class ("Rusty Romance: Love and Dating as a Robot") that the player meets and may romance each of the robot characters.

Characters

The protagonist is meant to be a sort of player-insert character, who doesn't have a lot of pre-scripted personality. However, I plan to offset this by offering ways for the player to make decisions that sort of shape the protagonist's personality and may affect how the other characters view them (in effect also changing the relationships between the characters). The protagonist is the teacher of the dating class, but doesn't have much dating experience and has been single their entire life.

Each of the robots is based on a sort of character stereotype, which has been used to create their looks, name, personality, and job. The robots designed for a particular job will likely not be designed with a lot of nuance in mind, meaning that working off of stereotypes can be effective. This also leaves a lot of room for breaking the stereotypes throughout gameplay, and letting the robots show the player their own unique senses of self.

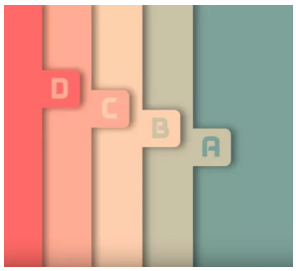
Basic descriptions of the robot characters:

- Debbie (Girl Next Door)
    - Personality: Very bubbly, easy to get along with, optimistic
    - Robot Type: Service Robot (Waitress)
    - Additional Notes: Debbie is one of the few robots that has been designed to have more "human" features than other robots do, in service of her job as a waitress.
- Steve (Jock)
    - Personality: Epitome of stereotypical manliness, likes sports, enjoys competition, doesn't like to appear weak (especially physically)
    - Robot Type: Warehouse Freight Robot
- Archibald (Rich Kid)
    - Personality: Sophisticated, very concerned with appearance, dislikes dirt, careful with choice of words, judgmental of others' choices
    - Robot Type: Butler Robot
- Alan (Nerd)
    - Personality: Intelligent and knowledgeable, specific interests in numbers and data, dislikes abstract ideas, can be dismissive of others due to lack of knowledge or intellect
    - Robot Type: Rentable Supercomputer Robot
- Axle (Punk)
    - Personality: Dislikes authority, likes to push buttons, very sarcastic, overly confident, feels like robots are better than humans, on probation for various infractions
    - Robot Type: Philosophy Research Robot
    - Additional Notes: This robot was created by a researcher who wanted to experiment with AI that was rebellious, unlike most all other robots created primarily to serve humans.
- Willow (Hippie)
    - Personality: Calm, peace-loving, enjoys art, wants people to get along, likes to daydream, feels very strongly about environmental issues
    - Robot Type: Wilderness Preservation Robot
- CL2301B, Oneby for short (Shy Loner)
    - Personality: Quiet, but kind. Doesn't like to be center of attention. Just wants to be included, and to feel understood.
    - Robot Type: Assembly Line Claw Robot
    - Additional Notes: This robot is the only one without a speaking voice, but through time and attention to this robot it will eventually open up to the player and learn to draw with its claw to communicate.

Visuals

Art Style

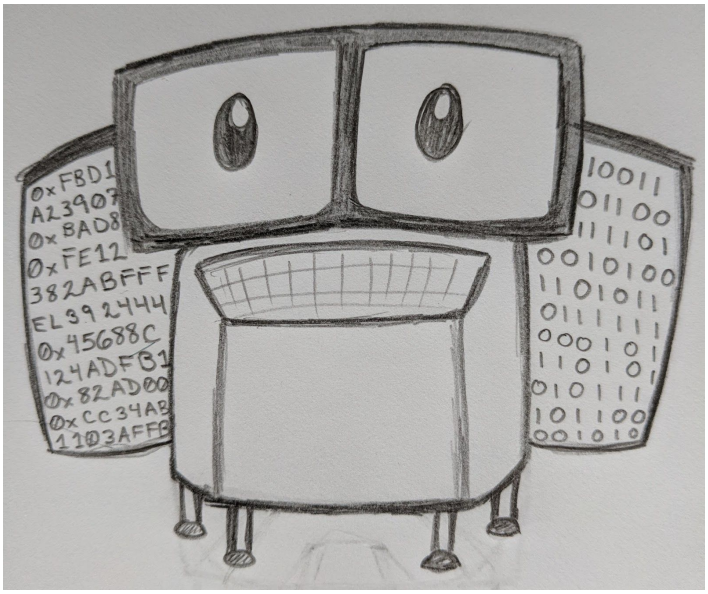
In general, I want the feel of the game to be very happy and friendly, and mostly stay on the upbeat side. I don't want the game to be dark and brooding, but of course it can have some emotional moments which help the story feel more impactful. To aid this philosophy, I want the color scheme to be bright and rosy, to help drive home the romantic themes. Below is a sample color scheme that gets at these points.



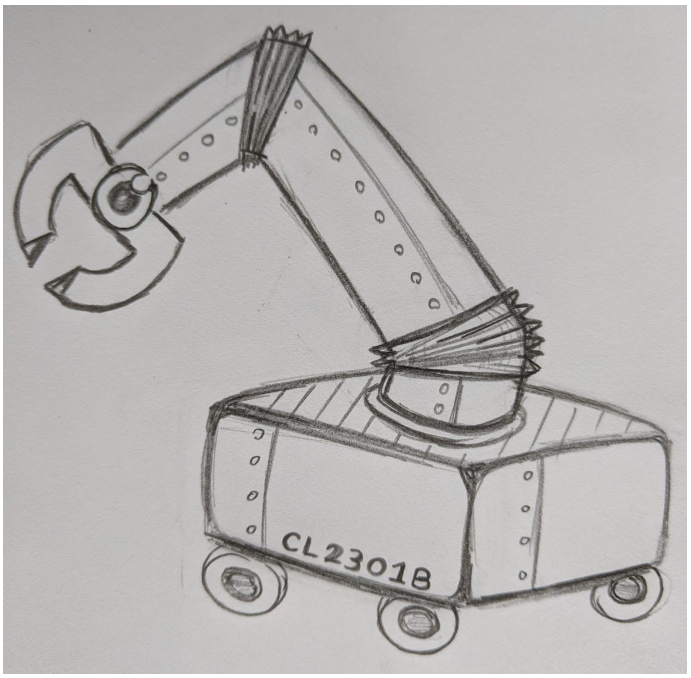
Additionally, I want the visuals to be very detailed, but there will likely be little animation overall. Visual novels are much more focused on the story rather than what is happening on screen, but clean art to accompany the dialogue and well-done backgrounds will help immerse the player. So in general, I'd like to invest in some high quality key visuals, like art of the characters and backdrops, but not spend as much time trying to create full models that can walk around or do much moving on their own.

Sample Character Designs

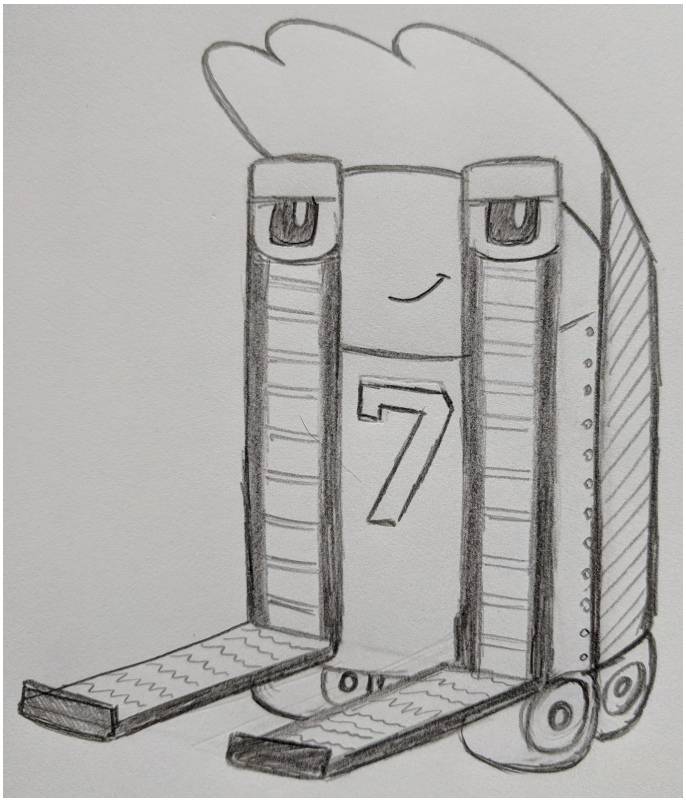
I drew some initial character designs for a few of the robots, which I will include below.



Initial Design for Alan



Initial Design for Oneby



Initial Design for Steve

Initial Design for Debbie

Development Tools

Unity

Unity is a game development engine which provides an environment to create, test, and publish game projects. It is a development environment which I have a lot of experience with, so I will be using it to develop this game. One great thing about Unity is how easy it makes porting your game to so many different platforms. I plan to develop the game for mobile devices, but once that is finished, I can pretty easily modify the game slightly to work for personal computers and modern game consoles. There are both 2D and 3D frameworks that can be used with Unity, and since my game is a visual novel I will want to use the 2D framework. Luckily, since I have a lot of experience using Unity for other game projects I have worked on in the past, it will be very easy to get started with this project.

Website for the Unity engine: https://unity3d.com/

Visual Novel Framework

Even though I have plenty of experience using Unity for game development, I have never created a visual novel or any sort of story-based game before. Doing this requires me to create some sort of framework for organizing my code and keeping things clean and understandable.

Most arcade style games utilize a sort of system of objects, where each object in the game is represented by an object in the project code which can be edited based on events that happen, and moved in the game environment when reacting to physics and the like. In a visual novel, these sorts of objects don't really exist; instead, it's a medium for telling a story, and creating opportunity for player choice and participation in that story. To make this work with a game engine is tricky, since all of the dialogue has to be able to be separately represented on screen at some point in time. This can be handled through the use of a dialogue parser, which is described in great deal as a concept in the following tutorial:

http://www.indiana.edu/~gamedev/2015/09/27/creating-a-visual-novel-in-unity/

The creators of this visual novel Unity tutorial have a system with which they use to dynamically generate dialogue in-game based on text files that contain said dialogue. The code which parses and populates text boxes with that dialogue remains the same, but the contents of the files can change at any point. This simplifies editing game text tremendously, and the overall modular design of the visual novel framework presented here lends itself to easy expansion of the story as a whole.

The tutorial describes a system in which the game story is divided up into "scenes", which themselves end either in a conclusion of the scene (like the end of a day) or a choice the player must make, which depending on the outcome branches off to different possible continuing scenes. This way, scenes can be developed as individual modules, the entire tree structure of which represents the game story and all of its possible conclusions. Some scenes may appear on multiple paths of this tree, but will only be created in-engine once, with multiple scenes possibly leading to it, or branching off of it.

While I won't be using every single idea presented in this tutorial, it gives me a very good sense of what needs to be focused on when writing a modular framework for this game.

Challenges Anticipated

I anticipate that writing the story, and particularly coming up with alternate endings, will likely be the most challenging part of developing *Didactic Dating Sim*. I do not have much experience with writing stories, and I think that this lack of experience might cause this part to be somewhat painful. It will require a lot of time and effort to create a meaningful plot, and even more to ensure that the characters are fairly treated and each get their turn in the spotlight. I don't just want the story to be fun and entertaining, I also want it to be meaningful and engaging.

Another huge challenge will be finding ways to insert teachable moments into the game. A main part of this game that I want to include is teaching the player about basic concepts in computer science but also about social relationships and why they are important or how to prioritize them. The relationships will be easier to teach about, since that is a clear focus of the gameplay and story. However, finding ways to insert computer science knowledge might prove difficult. As of now, I haven't figured out a reasonable

way to do this inside the game dialogue itself. It's possible that I could incorporate it in some other way, but generally I do see this as a challenge.

Next Steps

Now that I have a general idea of the feeling of *Didactic Dating Sim*, the characters in it, and how I will go about creating it, I need to write the story. This will be crucial. A visual novel game is essentially worthless without a good story, since that is the game's real purpose.

Once the story has been fleshed out, including all possible endings and choices the player must make, I will need to create final artwork for the game. I really enjoy doing art myself, so I will probably purchase some sort of drawing tablet to learn how to create my own digital artwork. This step might take some time simply because digital art can have a steep learning curve, but it is something that I have planned on learning on my own even without the development of this game.

After art is finished, I'll want to actually dive into the coding portion and actually create the final product. There is always more that goes into this than is really reasonable to write out in this initial design document, but generally speaking this part will be fairly straightforward if the story and art are in a final, complete state. It is always possible that edits will need to be made here and there, but overall, this is the order that these pieces will be completed in.