Card Wars & Card Drive

Created by Ben Morris

Intro

Card wars is a simple card battling game, draw your unique cards and battle your way to victory. The card drive offers an extra layer of immersion, now the player can bring their physical Card Wars cards into the digital world, just place them on the portal and watch them come to life and battle.

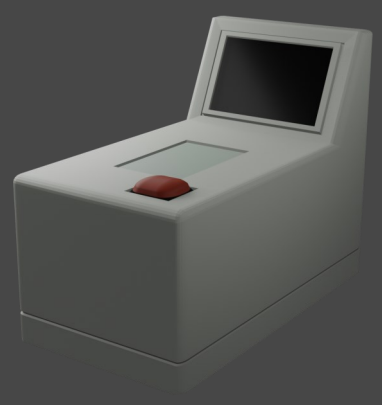
The Controller Concept

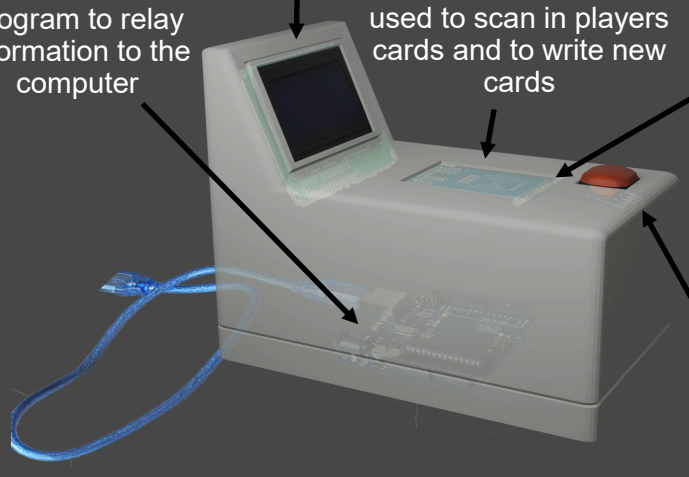
Initial

Issues:

A few issues that this initial idea had was that the card area took up most of the design meaning that the scale was off completely and I would be unable to fit anything inside it, this meant that I would have to enlarge the entire casing so that it will be able to store all of the required components. Another issue is that the button was in a strange location that wasn't very easily accessible, this is important as we want the player to be able to easily use the controller without having to move into strange positions, I solved this by moving it to the top of the controller

final





User experience and game design

This controller allows me to extend a basic card game to create a more immersive and interactive feel, you will be able to play the game as a regular card game but once you use the controller with the game you can bring the cards to life. The game will begin by choosing a player 1 & 2 at random, player ones portal will light up and the screen will ask to lock in a card, once the card is in the card slot they will press the lock in button to scan it once the scan is successful player too will do the same. Once both cards are scanned they will appear on the screen and play out their moves and the players health will be updated. The first player who's health gets to 0 loses.

The Hardware

* An assortment of male to male jumper wires
* Arduino Uno
* MFRC522 RFID Module
* LED Light strip
* 20X4 character LCD Display
* IIC/I2C
* Breadboard
* Button

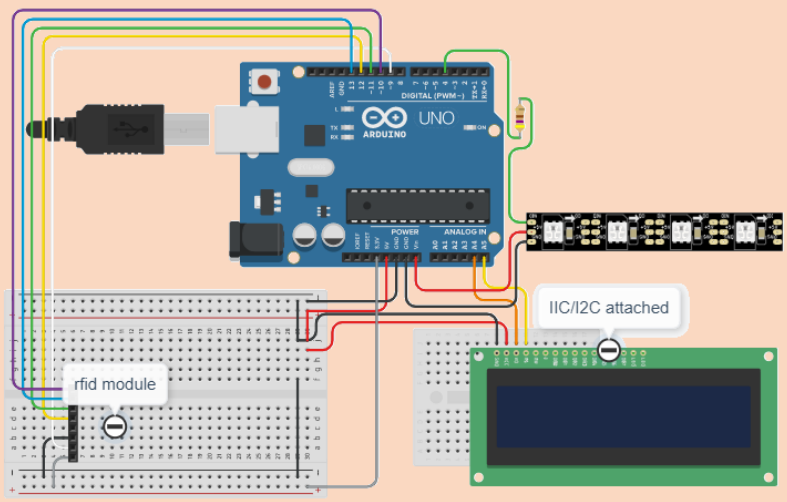
All hardware is doubled as 2 controllers are used

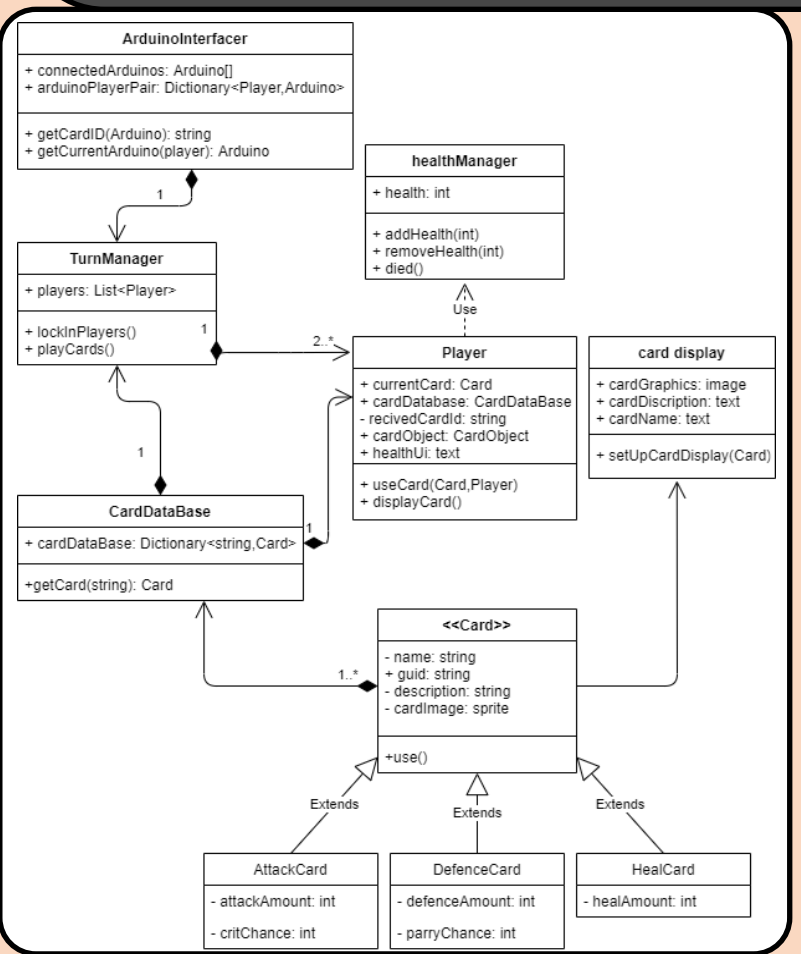
Controller Size

Card space (85.5 X 54 X0.84mm)

Card size (90 X 70 X 0.5 mm)

Base size (255 X 135 X 121.5 mm)





The Software

The logic for the controller itself if quite simple. To begin unity randomly chooses the player that will be player 1 and sends a request to 'start lock in' this will prompt the controller to turn its lights on and display on the screen the "lock in" once a card is placed in the card slot and the button is pressed it will attempts to read the card, if this fails it will ask for you to lock in again, if it is successful however then it will send the cards id back to unity causing unity to prompt player 2 to do the same. Once both card id's are received they are checked against a dictionary containing all card id pairs, a card will be selected based on these id's for each player, they will then use their Use() functions, this will cause the cards to carry out whatever function they have such as attacking healing. Then then unity will prompt for cards again. This is repeated until one players health goes below 1 which will mark their defeat. The cards themselves are scriptable objects that store all art as well as a name, id, description and other stats. All cards inherit from an abstract card class that contains the basic attributes as well as an abstract Use() function. This means that all inheriting card objects must have their own function for Use() which will be called when the card is drawn.

Industry inspiration

This controller was inspired by many popular trends in the game industry. The main one being Skylanders and similar games such as Disney infinity. The portal systems in these games were addictive as well as giving kids toys that could be played with and even traded without the need for the game. This physical element to the game was also important as I wanted the cards to be designed in a way so that they can be used independently from the controller allowing the game to be played anywhere. The gameplay is heavily inspired from existing card games such as magic the gathering and more simple games such as Pokémon cards and top trumps.