

New Universal Recreational Device System (N.U.R.D.S.)

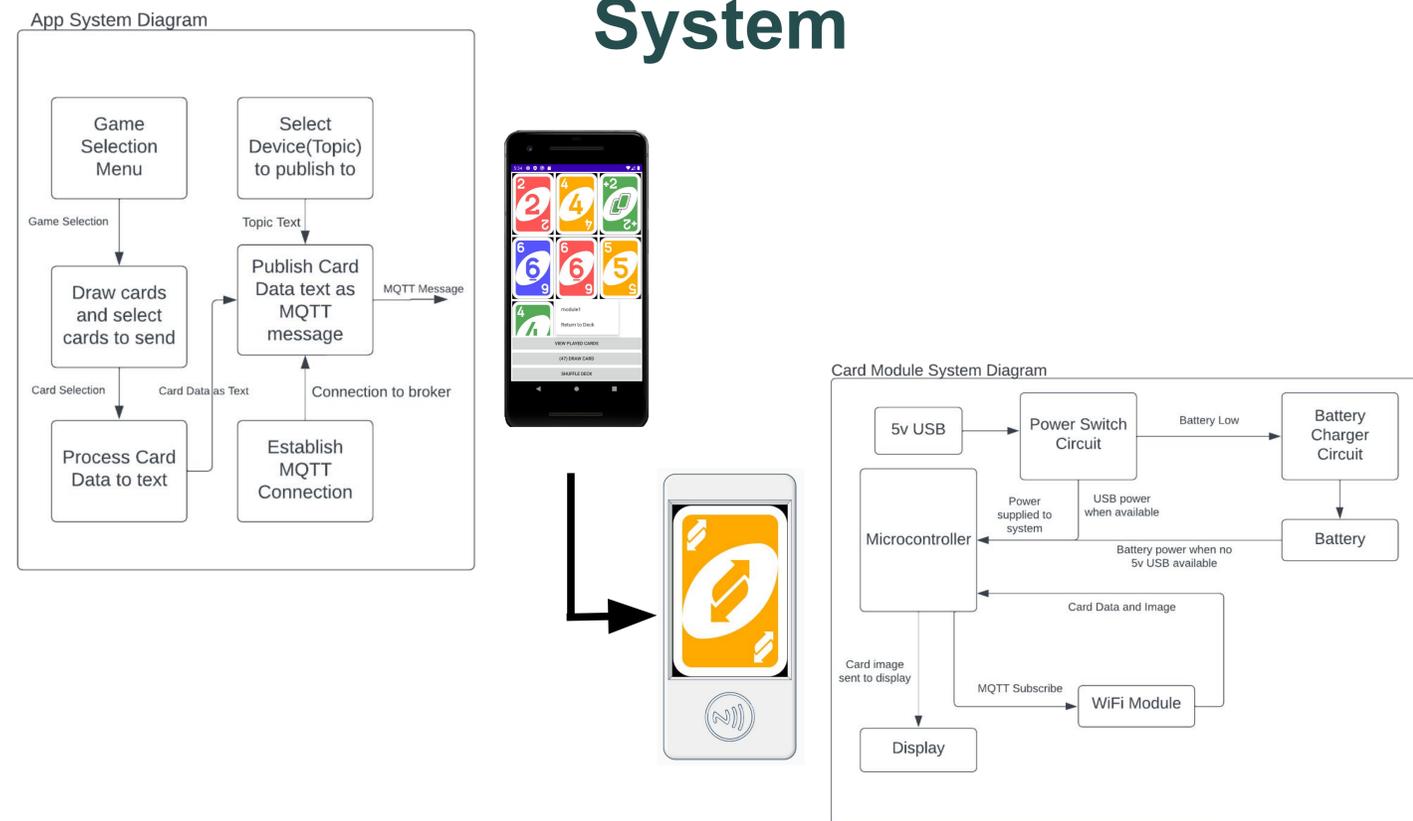
Project

- Intended as a way to organize and play card games in a digital format.
- There are 2 main components: an app, and card modules.
- The app organizes all of the card information and displays deck information to the user. This includes cards available in the deck, the user's "hand", and the discard pile.
- The card modules can hold up to 15 card images and display the desired image that was placed on the playing field. Additional modifier counters are displayed over the image, for example a damage counter.
- This solution is better than a software-only solution because it allows the user to also interact with traditional paper cards in a more natural setting. For example, any user can pick up a card module and examine the details.

Methods

- We approached this project by following the MQTT protocol. The protocol requires 3 things: a publisher, a broker, and a subscriber.
- The publisher is a device that is sending signals to the broker with a specified topic. The broker stores all the messages of each topic and sends the message to any subscribers that are subscribed to a specific topic.
- Our publisher is the Android App, it sends card data wirelessly to the broker.
- The broker is contained by the wifi router. This takes messages from the App and sends them to the correct device.
- The subscriber is the card display. It receives messages from the topic it's subscribed to and displays the card information on its screen.

System



Conclusion

- The MQTT Protocol was the best suited for the scope of this project
- The app was designed to enable adding features in the future.
- The modules were designed to handle multiple users.
- The app was designed to handle multiple modules.
- We would like to add SQL interfacing in the future, to be able to quickly access and add cards and decks to our catalog.