9/30/21 Meeting Minutes  
Topics to discuss

What we will have on the project  
Optional things to have

**8:30 PM - Meeting Started - 10:48 PM Meeting End**

**Team Name -** Cold Fries

**Location met -** Discord

5/5 Attendance - Everyone Present

**8:30 PM - Meeting Started**

All members went onto the shared powerpoint slides. Each member starts listing their own 3D model mockups.   
  
We start discussing a bit of our research and problematic topics.

**9:11 PM - What we want on the project**

Software side:

Website based, It will be easier for everyone to connect to ARF if it is website based as we would not have to mess with app specific development, anything with an internet connection will be able to access the website (mobile, computer, console, etc).

Scheduling, We want it to have the option to schedule a certain time in which it can dispense food. One thing to note is that time zones differ, we want to have the option to link to current time zones, where they can dispense the food based on the time of the time zone

Built in buffer for the button, We want the button to have a buffer just in case someone accidentally tries to dispense too much food. This can be done by adding a buffer such as cannot press a button after already pressing for 10 seconds. In addition to that, We will have multiple prompts to help prevent feeding

Manual dispense button

Hardware Side:

-An auger dispenser in a hopper or

- a spinning compartmentalized cup portion feeder that, once spun, will dispense at a certain interval of rotation; could be controlled by a solenoid. One shaft will include a drop down for a dispenser and could eliminate the need of the actuator altogether.

-Raspberry pi or arduino or some other microcontroller? We need to decide as a team which one has more pros and cons for connectivity, control and inputs/ outputs

-When looking at how we can have the hatch opened and closed, we can use a mechanical air piston (similar to that on the automatic trash cans). This also means that if there is a leak or a jam, since it is air based, it will not completely destroy the product, and it will still be functional.

***NEED TO HAVE HARDWARE ORDERED AT THE END OF OCTOBER. NO EXCEPTIONS KEVIN*** - by Kevin. Hopefully sooner… by week 3 would be ideal or earlier if possible

-Discussed with Andy and coworkers about relays and implementations to use less power.

**-It is okay to not have some components be electrical, especially since it will increase the consumption of power and raise the prices of the product**

**-The water dispenser for the pet will be the gravity based approach, no need for a water pump**

**9:11 PM - Optional things to consider as we go**

Software side:

Accounts, Everyone has to create an account in order for them to link their feeders

Hardware Side:

Camera, We might want a camera to work, similar to RING doorbell, where we can check in on our pet while away, and even have a way to talk to the pet. Or a picture taker?

Water pump to filter water if time allows and is applicable or worth the effort.

Possible LCD screen with programmable buttons that will also connect to the app

**9:30** **PM -** Start discussing the ideas of how to make the mechanisms work. We discuss rotary methods to dispense the food. Discussion or learning resources for wifi connectivity.

Looked up and reviewed devices like ESP32 documentation and various applications it is compatible with

Decided to go to the engineering lab tdo get an arduino and other materials like wires and solder tools next time on campus

**10:48 PM - Ended meeting of 9/30**

**Summary of Meeting (1 to 2 paragraphs)-**

The meeting today focused on creating and finishing the midterm requirements presentation. While working on the meeting, the specifics of the device were discussed. The discussions included the suggested mechanical design of the device such as what mechanism the ARF would use to dispense food. The use of an ESP32 was also considered when looking at what kind of microcontroller that could possibly be used to operate the device. The possible issues that could arise from connecting the device to the internet and accessing it from outside the local network the devices connected to were also discussed. We also discussed possible implementations of hardware and electrical components and various design ideas that would work with them.

**Total Meeting Time - 2 hour 18 mins**

**Individual Contributions (1-3 sentences)**

**Kenny -** Worked on the powerpoint slide, helped research as to what it is that is needed for the devices to work, Looking further into what electronics are needed, went to the lab with Kevin to grab equipment needed (Arduino, breadboard, wires, etc)

**Khai -** Contributed to the first slide of pro/con and worked on the website aspect within the presentation. Researched and modeled with portions of the ARF

**Kevin -** Helped with requirements for presentation and set up some of the first slides and pros/cons. Worked on hardware aspects. Zoning in on priority parts and electrical mechanisms that need to be decided on

**Michael -** Came up with devices such as the ESP32 and beaglebone as resources we could use. Did research on the types of adapters for wifi that are needed for our device.

**Davin -** Helped with creating the requirements presentation. Discussed with the group the issue with the connectivity between the device and website.

**Team accomplishments for the week (1 to 2 paragraphs)-**

Team made progress on the implementation of hardware to software interface. The ideas and implementation for the project were also discussed in depth, figuring out what we would be using for it, awaiting any advice that would come from the midterm presentation. For the project midterm, the presentation was done well and ideas and advice were given to the electrical side on how to deal with various problems that arose through research. Advice was also given on how to more easily implement certain parts instead of working from scratch for the ideas. Team took note of the professors recommendations and will discuss in the next meeting the most viable option for the team project as a whole. Team received an arduino mega to work within the project.

By reducing the size of the components (in terms of electrical consumption) and also not implementing unnecessary electrical aspects, this will help reduce cost.

**Issues -**

Power requirements and how to tone those down, this is a large issue. Possible mechanical implementations.

Looking at the budget, we find that with the electrical aspects, the price that may be needed may quickly add up since we may have too many electrical components.\*

**Tasks that were assigned/ Plan:**

Order all parts by the end of the month. Sooner hopefully

Kenny and Kevin - Decide on parts used and agree with the software side on which microcontroller to use to enact the HW/SW interactions.

Kenny - Possibly creating and starting up a server so that people can remote in

Davin - Looking into the microcontroller aspect and seeing how to connect it from website to device

Michael - Looking more in depth as to making the offline domain/remote login

Khai - Looking more in depth as to making the offline domain/remote login

**Next Meeting Date & Time - Monday 10/4/21 3:30PM**

**Meeting Location -** Discord