CIS 422 Project 2: *Freedge Tracker*
Project Plan

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1. Project Plan Revision History

Date	Author	Description
2-8-2022	ljr	Created initial document.
2-8-2022	ljr	Modified Work Breakdown Schedule.
2-12-2022	ljr	Added record of group meetings.
2-14-2022	ljr	Modified Management Plan section.
2-15-2022	ljr	Updated sections 2 and 4.
2-16-2022	ljr	Updated section 5.
2-16-2022	ljr	Added interview notes to section 8 and reporting spreadsheet to section 7.
2-16-2022	ljr	Finished initial project plan document to be submitted.
3-2-2022	ljr	Updated second version of document with instructor comments.
3-3-2022	ljr	Updated section 5 with newer build plan.

2. Management Plan

2.1. Organization and Roles

Each group member is assigned the following role which includes the outlined responsibilities:

- **Writing lead: Liza Richards**
    - The writing lead will verify the quality and completion of the writing in project documents such as the SRS, SDS, Project Plan, User Documentation, Programmer Documentation, Installation Instructions, and the README..
    - The writing lead will assign writing related work to other members while monitoring progress.
    - The writing lead will make sure that all documentation work is reviewed and approved by other team members
- **Record keeping: Ellie Kobak**
    - The record keeper will check that task assignment and completion is being recorded in a complete and timely fashion.
    - The record keeper will summarize any decisions made or issues brought up during group meetings.
    - The record keeper will validate that any revisions to records, documents, or files are properly noted and archived.
- **GUI lead: Kalyn Koyanagi**
    - The GUI lead will monitor progress and verify completion of assigned implementation tasks pertaining to visual and user interface components
    - The GUI lead will routinely check the quality of the GUI code such as performance, style, maintainability etc.
    - The GUI lead will be referred to when any minor design decisions pertaining to visual and user interface components need to be made.
- **Data management lead: Madison Werries**
    - The data management lead will be in charge of obtaining all the databases/files necessary for the system.
    - The data management lead will be responsible for making sure that the data travels between all the components correctly.
    - The data management lead ensures that all implementation tasks are assigned to team members and will verify their completion.
- **Testing lead: Ginni Gallagher**
    - The testing lead will write necessary test cases used to ensure system completion.
    - The testing lead will test that all the components perform correctly together in a completed executable system.
    - The testing lead will create test files (i.e. csv, txt, xlsx) to be used in system testing.

To evenly distribute the workload amongst all team members, our group decided to split up project tasks and components into different roles to be assigned to each member. That being said, if there is a decision that must be made that may impact other parts of the development process, the most relevant lead will decide on a course of action individually and then propose their verdict to the group. The group can then discuss any concerns or potential alternatives that may be preferred over the decision made. Decisions that will not have an impact on other parts of the development process will be left up to the appropriate lead.

Despite each team member having their own lead, all members are expected to contribute to each task as to continuously ensure a balance of work amongst the group. Group members are expected to be flexible and accommodate any issues and unforeseen circumstances that may arise throughout the development process. Each member will participate in routine meetings and have frequent communication with each other outside of meetings to make decisions, be assigned tasks, and track progress as development proceeds.

2.2. Meetings and Communication

Group members will attend regular formal meetings at the following times:

- Sundays @ 4:30 pm on Zoom
- Thursdays @ 4:30 pm on Zoom
- Record of meetings is located here
- *Additional meetings will be scheduled as needed*

Meetings will take place either over Zoom or in the Price Science Commons depending on the health status of each individual. It is possible that group check-ins may occur after the class period on Mondays and Wednesdays at 11:30 depending on the project status. There will be meetings scheduled as needed for interviewing potential stakeholders for this project. Each meeting will last 30-80 minutes depending on agenda items and as time permits for individual members. In each meeting, members will discuss the progress made on the project, what is planned to be done by the next meeting, and what challenges each member has either faced or is anticipating. All group members are expected to provide assistance on such potential challenges.

Group members will have discussions and report their progress outside of meetings via the following communication methods:

- Group SMS messaging
- Discord

All members are expected to read such messages to stay up to date on any updates or issues that might arise during development. This is to ensure that all members have the same understanding when making key decisions about the software system.

3. Work Breakdown Schedule

- Week 1 (2/6 – 2/12)
    - Create build plan
    - Create a working draft of the project plan, SRS, and SDS
    - Create Github repository
    - Begin assigning tasks to group members
    - (Initial project documents due on Wednesday, Feb. 9 at 10 am)
- Week 2 (2/13 – 2/19)
    - Gather food expiration databases and any other databases necessary from the internet
    - Confirm the assignments of implementation tasks with all members

    - Begin building the shopper account database/manager with user accounts
    - Incorporate the grocery shopping list to store the user's grocery shopping list
    - Make sure the user can interact with the grocery shopping list
    - Build the grocery user input system to accept user input like grocery info, expiration dates, etc.
    - Build the user GUI components dealing with the application's visual output for users
    - Create test files
    - Conduct 1-2 interviews with relevant stakeholders
    - Combine all current components to have an initial executable system ready for testing
    - Complete first SRS, SDS, and Project Plan due on Tuesday, Feb. 15, at 8 pm.
    - Project presentation in class on Wednesday, Feb. 16, at 10 am.
- Week 3 (2/20 – 2/26)
    - Meet with Professor Anthony Hornof for discussion of overall project
    - Solidify the databases
    - Conduct remaining interviews with relevant stakeholders
    - Complete the grocery shopping list, grocery input system
    - Incorporate/ensure the food database querier to interact with users
    - Incorporate the expiration notifications to inform the user when food is about to expire/is expired.
    - Include the user food waste statistics summary for the user to view and edit.
    - Begin debugging phase on individual files
    - Make updates to visual aesthetics
    - Combine all components to have new the executable system ready for testing
    - If on or ahead of schedule, consider implementation of 'nice to have' requirements or improvement to required implementation
    - Review and update technical documentation
    - Complete SRS and SDS
- Week 4 (2/27 - 2/5)
    - Complete expiration notifications and food waste statistics components.
    - Complete visual components (application GUI)
    - Combine all components to have an improved executable system ready for testing
    - Continue testing using the test files created
    - Have all documentation fully updated
    - Have a stable and complete program to release by March 4. *(Project due on March 6, at 8pm)*
    - In-class presentation on Monday, March 7, at 10 am

The responsibility for monitoring progress of each milestone will be in accordance with the roles outlined under the Management Plan section. Members will likely have roughly equal distribution of implementation tasks.

4. Monitoring and Reporting

Task updates and task completion will be recorded in a shared spreadsheet. This spreadsheet will also note the group member in charge of completing this task, the dates progress on the task was made or the task

was completed, and how much time (in minutes) each task took. The spreadsheet will be frequently updated as the project progresses to show every self-reported task completion. When new tasks are assigned, it will be added to the spreadsheet, and the person assigned to the task will be notified over the shared Discord messaging or through SMS messaging. Once this task is completed, this group member must notify other team members using the same messaging methods.

Changes made to code programs will also be monitored over Github. With every update made to a file, the associated person will commit and push their changes to the Github repository with a message relevant to what changes were made to the system. When members are making changes to files in the Github repository, they are expected to notify other team members when they start such changes, and when they are completed. While one person is working on the files and pushing the changes to the repository, no other team member must be working on it or pushing their changes at the same time. One member must be working on the files at a time in order to avoid any potential merge conflicts.

5. Build Plan

5.1. Plan Details

As further outlined in the SDS, the program will consist of 3 components implemented through 9 files. These files are: freedge_database.db, freedge_database.py, freedge_data_entry, contact_info_parser, notificationMgmt, notificationGUI, administrator_interface, freedge_tracker, and database_constants.

Freedge Database Components
The first components that will be written are contact_info_parser, freedge_data_entry, freedge_database.py and freedge_database.db. The contact_info_parser will be the module responsible for parsing through imported csv files and sending the parsed information into the freedge_database.py component and the freedge_database.py component. This csv file is obtained through the Freedge Organization's website. The freedge_database.py module will create a new SQLite database called freedge_database.db that is loaded with the information obtained from the contact_info_parser module. The freedge_data_entry component is responsible for obtaining all of the information associated with each freedge from the database for it to be usable by the system. This information will be the freedge ID, freedge project name, network name, caretaker name, freedge location, the date of freedge installation, whether the caretaker allowed the system to notify them, the caretaker's preferred contact method, the caretaker's phone number or email address, the freedge activity status, and the date of the freedge's last status update. An additional module is the freedge_constants.py file which contains all of the global constants that are used by all of the other system components.

Notification Components
After the components concerned with the organization and storing of data are implemented, then work begins on the notificationMgmt and notificationGUI module. The notificationMgmt module calls to the freedge_database and freedge_data_entry components to use their functions in order to obtain the list of freedges from the database that are considered to be out of date as well are their caretaker's name, the project name, and the time since they were last updated. For a freedge to be considered out of date, they must not have updated their freedge status in the last 90 days. Then the notificationGUI module will use

this information to craft a message to each caretaker asking them to choose whether or not their freedge is still active or not. From this user response, the freedge status in the database will be updated.

Freedge Administrator Component
Once each of these previously mentioned components can execute its individual functionality and have been tested for appropriate requirements, the last component to be built will be the administrator_interface and freedge_tracker.py. These modules will be responsible for the visual display portion of the system. They will also be responsible for calling all the other modules and combining them to work as a complete and working executable system. The freedge_tracker component will be the main driver for the executable system.

After reaching this buildable and executable state, any remaining 'must have' requirements will be implemented and the remaining "should have" or "could have" requirements will be considered for implementation. All resources should be focusing on testing and debugging to reach a stable release candidate by the project deadline.

5.2. Rationale

Our group started to think about our build plan by identifying the main goals we wanted our system to achieve. These goals became our "must have" requirements which we then broke down into manageable pieces and became our 8 major modules. The separation of the components is to ensure that we can test the important individual modules before attempting to combine the system. It also ensures that each member has a different, yet important, technical task to work on in order to have an equal division of work. Development of the non-GUI and GUI components have been separated to allow group members to work in areas within their expertise or that they find interesting.

It is expected that team members will have more difficulty in creating the GUI element related to the formation of a notification and administrator window. We will have to discuss as a team any difficulties that arise with the implementation of this visual component and reallocate team members as needed. Members who are not part of initial development of any component are still required to make themselves familiar with the relevant functionality of each module. All members are expected to make themselves familiar with unknown GUI components to ensure they may contribute if problems arise.

6. Record of Group Meetings

Whole Team Meeting on Zoom at 4:30pm
Attended By: Liza Richards, Madison Werries, Kalyn Koyanagi, Ginni Gallagher, and Ellie Kobak

1. Agenda:
    a. Establish regular meeting times
    b. Go over build plan and different components necessary
    c. Divide work on initial build plan
2. Notes:

a. Started meeting at 4:30pm
b. “What’s in my fridge”, put in what you have and what you need with expiration date
c. Database for expiration dates for each food so the user does not have to enter them
d. Different sections for each type of food and drink
e. Default if an expiration date is not in the database, or have user manually enter
f. Include prices and include a budgeting aspect
g. Use a phone camera to get an expiration date?
h. Different components
    i. Food and drink database
    ii. File reader which would accept a file to be imported. This file imported would be a text or csv or excel file that is the grocery list of the user, indicates what they have/what they don’t have
    iii. Build list type of file? Takes the user input and parses it into a list?
i. Find articles on food waste/grocery waste to back up our reasoning
    i. https://www.sciencedirect.com/science/article/abs/pii/S0019850119308600?casa_token=ypQVze3Xjz4AAAAA:t--0CWDgXs49KIqQckDcxSv5uFsN5upKlDSbodw2NSmYenVVBz8x6CYiFQeVS-XPoZxTBuGciQ
j. Recommends a suggestion as the user types a food into a search bar
k. App?
l. Notification/warning when the user does not give an expiration date
m. Statistic section, this is what you always eat, this is what you spend the most money on, this is what has expired, this is what’s still good
n. Establish meeting times
    i. Meeting on Sunday, big work days, start at 12 or 1, try to be in person
    ii. Meeting on Thursdays at 5pm, remote on Zoom
    iii. Other meetings scheduled as needed
o. Divided Initial plan tasks:
    i. Maddison working on SDS diagram
    ii. Ginni working on SDS along with contributing to each portion
    iii. Ellie on SRS
    iv. Liza on project plan
    v. Kalyn contributing on SDS technologies used along with contributing to each portion
p. Ended meeting at 5:30

Whole Team Meeting on Zoom at 4pm:
Attended By: Liza Richards, Madison Werries, Kalyn Koyanagi, Ginni Gallagher, and Ellie Kobak

1. Agenda:
    a. Review main points to go over with teacher
    b. Talk about ideas to incorporate into project
2. Notes:
    a. Start meeting at 4pm

b. We don't have time to make a decent app, could we make a python program similar to how we did the cold call project but it was a mock up of what the app would look like if we were to implement it
c. Concerned about planning for scope, how big the project should and can be, make something simple that works well and is well tested and well documented as opposed to taking on something too big in too short of a time period.
    i. For example, we liked your suggested project idea but we are worried that it is too heavy of a topic to take on in three weeks
    ii. Would have to rely on a response from those people in order to proceed
d. Should we proceed with our original idea, can he help us come up with something a little smaller scope?
e. Talk to Galen Martin in the university of Oregon,
f. Keep track of what you do or do not use, what you normally eat, and give notification when you usually let a certain type of food go bad.
g. Money component? If you didn't buy something so much that you let go bad, this is how much money you save
h. Ask if he knows about any cross platform development things for apps
i. Worried about learning a new type of development within the time frame, we all want to contribute to it but we would all have to learn something new
j. Work on a desktop app and then send it to the phone, text from python to phone
k. Look into what language we can use to get a more aesthetically pleasing visual
l. Multi-language? Front-end and back-end team?
m. Ended meeting at 4:30

Whole Team Meeting with Instructor on Zoom at 4:30pm:
Attended By: Liza Richards, Madison Werries, Kalyn Koyanagi, Ginni Gallagher, and Ellie Kobak

1. Agenda:
    a. Go over concerns with professor
    b. Potentially go over alternative project ideas
    c. Solidify project idea
2. Notes:
    a. Mentioned our concerns with project size, technologies
    b. Want to do something that is smaller in size in order to be able to have something that is more complete and well tested, scope planning
    c. At a loss of where to start and what is actually obtainable
    d. Stick with technologies that you already know, do not try to really learn something new
    e. Try to stay away from apps, seems like minimal work was put into them
    f. Carefully navigate the use of a bunch of technologies that they happen to stumble across, have to download lots of packages in order to get the program to work but then it's not helpful for the user
    g. JavaScript for web based, python, C,

h. Development environments: pycharm,
i. Come out with a good well documented prototype that demonstrates the implementation/building of a system that does something that is truly useful and for which there are not already systems that do that
    i. Project that puts two databases together in a way that shows the easiest way to get through grade requirements while getting the easiest A possible in every class
j. Combine databases
k. Remember to write down the constraints, what the data is available in
l. Three project suggestions:
    i. Something new
    ii. Computing with a purpose
    iii. Designing for something else
m. Use the data to make something new and easier
    i. Technical solution
n. Build something that you can't download from the internet hence the community fridge

Whole Team Meeting on Zoom at 4:15pm - 2/13/2022:
Attended By: Liza Richards, Madison Werries, Kalyn Koyanagi, Ginni Gallagher, and Ellie Kobak

1. Agenda:
    a. Share questions to ask during interview
    b. Who is doing what during the interview (who is asking the questions and who is keeping notes of it, someone recording the meeting?)
    c. Split documentation tasks
2. Notes:
    a. Start meeting at 4:15pm
    b. Security for freedge? Inventory for freedge?
    c. Freedge helps people around the country help people set up community fridges, not exactly all branded as freedge
    d. Main idea for interview, identify current problems and help there
    e. Made a list of interview questions to ask
    f. Text people that things are about to expire
    g. Automating process to create a community fridge in eugene, make the steps easier for freedge?
    h. Local artists decorate them, have a host so that they have electricity and such,
    i. Ended meeting at 5:00pm

Whole Team Meeting with Interviewee Ernst Bertone Oehninger on Zoom at 11:45am:
Attended By: Liza Richards, Madison Werries, Kalyn Koyanagi, Ginni Gallagher, and Ellie Kobak

1. Agenda:
    a. Introduce ourselves to interviewee
    b. Go through interview, ask important questions and fill in as we go
    c. Thank interviewee and say goodbye
2. Notes:
    a. Started meeting at 11:45am.
    b. Notes attached in the Appendix A: Interview Notes section.
    c. Ended meeting at 12:45pm.

Ellie, Liza, and Madison Meeting on Zoom at 5:30pm - 2/14/2022:

1. Agenda:
    a. Solidify project idea
    b. Discuss components of project idea
    c. Divide documentation work up
2. Notes:
    a. Started meeting at 5:30pm
    b. Made notes about the most important problems that Freedge volunteer pointed out to us and which ones seemed the most doable within our time frame
        i. Notification system for which fridges are still active and which aren't
        ii. Three notifications overall sent out, first one is the basic one that is sent out every month or so the owner of the fridge, asks them to reply with "YES" or "NO" based on if the fridge is active or not
        iii. If owner responds with "YES" fridge stays active, response with "NO" leads to automated system where the fridge will be removed from map containing all the fridges and their locations
        iv. If response on initial text, new text sent to owner a week after the first, asking the owner again to respond with "YES" or "NO", either of these responses will lead to same action as before. This notification will mention that the owner has another week to respond, and if there is no response then the fridge will be automatically removed from the map.
        v. If no response again, then fridge will be removed from map and owner will receive a notification saying that the fridge was automatically removed from the map.
    c. Overall working with google mapping?
    d. Keep counter of days between notifications and reponses
    e. Sheet that contains the fridges and their owners and their contact information that we can use to extract from and send text to owner using their phone number
    f. Have graphs for how often the fridges are accessed? Keep track of how often fridges accessed
    g. Ended meeting at 6:00pm

Ellie, Liza, and Kalyn Meeting on Zoom at 7:00pm - 2/16/2022:

1. Agenda:
    a. Go over remaining work
    b. Answer questions on SRS
    c. Solidify build plan
    d. Make sure all members know what work to do on remaining documentation
2. Notes:
    a. Started meeting at 7:00 pm
    b. Answered Ellie's questions on the SRS and provided clarification on requirements analysis
    c. Most of the work left to be done on the SDS, what is holding us back?
        i. Mainly held back by not having a completely solidified build plan and list of components and how they interact
    d. Solidified build plan

i. buildGraph: One component for creating graphs (can be done in pandas, numpy)
ii. notificationManagement: component for sending and receiving SMS messages or emails, keeps track of timestamps
iii. contactReader: reading from a database, want to obtain frequency of fridge opening (for graph) and fridge owner phone number/email from this
iv. sensorReader: obtains frequency of fridge opening for the graph
v. freedgeUI: visual component, using tkinter, interacts with everything
1. Notify all, select specific fridge, view last notification (only contains fridges that are still active, if active is true, keep send notifications), builds graph

e. Interactions:
i. buildGraph interacts with the sensorReader, calls sensorReader and uses the frequency of times a fridge is opened from the sensor data file to build the graph
ii. notificationManagement interacts with contactReader, contactReader called by notificationMangament to obtain all fridge owner data used to send SMS messages
1. Class that has getName, getLocation, getNumber, getEmail, getStatus, sendNotification
iii. freedgeUI interacts with all the components, acts as a main in which it calls all of the modules in order for a working system in the visual

f. SDS work divided amongst all members, Madison doing diagrams
g. Ended Meeting at 9:00 pm

Whole Team Meeting on Zoom at 5:30pm - 2/22/22
Attended By: Liza Richards, Madison Werries, Kalyn Koyanagi, Ginni Gallagher, and Ellie Kobak

1. Agenda:
a. Check in with team members, what is done?
b. Divide implementation tasks
c. Make goals that are to be completed by the end of the week
d. Ask for concerns
2. Notes:
a. Started meeting at 5:30 pm
b. Make it for user to decide which fields to store in internal database
i. Choose between phone or email for contact
ii. Fridge status
c. Make files not very hard coded, instead use standard python to read into a dictionary, make keys first row in the csv file
d. In database constants, they can specify what the name of the column is for certain fields so that if they change how csv data is stored, they only have to make sure column names match with information
e. Madison working on creating SQL database
i. Alternative version to use a csv for testing?
f. Ellie task:
i. Fridge sensor data (confirm with Ellie)

g. Kalyn Task:
    i. Starts on GUI
        1. What do we want this to look like? Madison willing to help out with this
        2. Each member draw out what you think the window should look like and then put in alternative design section of SDS
    ii. Secondary task is to get the graphs?
    iii. GUI main driver for now, if it gets too big then use a main
    iv. Update data, last update of everything marked
h. Ginni task:
    i. Help with notification management or fridge sensor (whichever needs it)
i. Liza task:
    i. Notification system
        1. You run it once a day, updates everything and then informs the user, add to SRS of daily maintenance
j. Madison task:
    i. Finish database
    ii. Contact parser?
    iii. Include sensor data from fridge into database
k. Loading in csv file once, gonna turn into database, function in fridge data entry, time since last update, retrieves last status update and tells how long its been, no need for new data, call this time since last update, creates out of date list (the people that need to be modified),
l. Out of date list not being made in fridge data entry, being made in notification management
m. Write something like status out of data and how long do you want it to take before notifications sent
    i. Database easier to modify, easier to talk to other systems that they may want to include in the future
n. Alternative idea is if we can't figure out how the system receives messages, then have a reply file to send into system to mimic responses from people
o. Already csv in the system, and want to update the file with fridges
    i. Upload new csv file
p. First start up, no csv file, prompt for user to input a file
q. View data through test data folder
r. Notification reading from fridge database
s. Reply to Sabrina about interview
t. Ended meeting at 6:30pm

Whole Team Meeting in Person at 5:00pm - 2/24/2022
Attended By: Liza Richards, Madison Werries, Kalyn Koyanagi, Ginni Gallagher, and Ellie Kobak

1. Agenda:
    a. Interview Sabrina
    b. Work Session
2. Notes:

a. Started meeting at 5:00 pm
b. Decided to put the sensor info for each fridge on hold for now. Focus on getting the notification system functioning.
c. Looking into how to send texts and emails from python, Twilio application?
d. Drafted out images for what display will look like
e. Kalyn continuing to work on GUI
f. Madison continuing to work on database
g. Liza, Ellie and Ginni continuing to work on/brainstorm about notification interface
h. Interviewed Sabrina at 6:30 pm.
i. Ended meeting at 7:00 pm

Whole Team Meeting in Person at 3:00pm - 2/28/2022
Attended By: Liza Richards, Madison Werries, Kalyn Koyanagi, Ginni Gallagher, and Ellie Kobak

1. Agenda:
    a. Go over what tasks are left
    b. Answer questions in areas of confusion, clarifying how everything will be built
    c. Work session
2. Notes:
    a. Start Meeting at 3:00pm
    b. Updated technical documentation, specifically the installation instructions, user documentation, programmer documentation.
    c. Decided for testing purposes to instead have a pop up window that prompts for user input to mimic the notification popping up on a phone. This way it is easier for the developers to test, and for the instructor to test.
    d. Option to select individual fridges comes later
    e. Out of date retrieves a brand new list and displays that list
    f. Keep the notification code there that actually sends texts/emails, but comment it out. Just say that if you wanted to invest in Twilio to be able to notify people
    g. Notify all now opens up a pop up window with the text and a button on this window prompting for a reply. Selecting reply prompts for user input in another window which interacts with the system.
        i. Exiting window is considered ignoring the message
    h. Notification manager receives message, then changes last status update = date.today.
        i. Call database.update fridge to update the internal database
    i. Ginni working on coding documentation
    j. Liza working on programmers documentation and user documentation
    k. Madison working on administrator interface, updating it
    l. Kalyn working on updating GUI visual window
    m. Ellie and Liza working on notification management file logisitics
    n. Ended meeting at 6:30 pm

Ellie Kobak, Kalyn Koyanagi, and Liza Richards Meeting in person at 11:30am - 3/2/2022

1. Agenda:
    a. Go over notification management components

    b. Test notification system
    c. List things that need to be modified
2. Notes:
    a. Started meeting at 11:30am
    b. Bugs found in notificationMgmtEmail and notificationMgmtSMS
    c. Docstrings added to files
    d. Removed redundant code from notificationMgmt file.
    e. For the next few days, communicate via discord regarding system updates and task assignments
        i. Mainly due to teammates being out of town
    f. Ended meeting at 12:00

Whole Team Meeting on Zoom at 7pm - 3/6/2022
Attended By: Liza Richards, Madison Werries, Kalyn Koyanagi, Ginni Gallagher, and Ellie Kobak

1. Agenda:
    a. Create and go over presentation
    b. Make final adjustments to final software submission
    c. Make final adjustments to documentation
2. Notes:
    a. Started meeting at 7pm
    b. Most of the work left is on the SDS and programmers documentation
        i. Mainly SDS diagrams
    c. Worked together to clarify points of confusion on documents
        i. Mainly minor adjustments to documents
    d. Went over who is assigned which parts during the presentation
    e. Practiced presentation
    f. Assigned who will be doing the live demonstration of software during presentation
    g. Ended meeting at 8:30pm

7. Monitoring and Reporting Spreadsheet

The Monitoring and Reporting spreadsheet was created using Google Sheets. To view this spreadsheet on google sheets, please follow this link.

Date	Task	Who	Expected Start	Actual Start	Expected Completion	Actual Completion
Week 1 (2/6-2/12)						
2/7/2022	Team for project 2 formed	Entire Team	2/7/2022	2/7/2022	03/06/2022	03/06/2022
2/8/2022	Team meeting at 4:30	Entire Team	2/8/2022	2/8/2022	2/8/2022	2/8/2022

2/8/2022	Modified SRS portion of Initial Project Plan	Ellie Kobak	2/8/2022	2/8/2022	2/8/2022	2/9/2022
2/8/2022	Modified Project Plan portion of Initial Project Plan	Liza Richards	2/8/2022	2/8/2022	2/8/2022	2/9/2022
2/8/2022	Found databases, modified SDS portion of inital project plan	Madison Werries, Ginni Gallagher, Kalyn Koyanagi	2/8/2022	2/8/2022	2/8/2022	2/8/2022
2/8/2022	Created Github	Kalyn Koyanagi	2/8/2022	2/8/2022	2/8/2022	2/8/2022
2/9/2022	Initial Project Plan Submission at 10am	Whole Team	2/9/2022	2/9/2022	2/9/2022	2/9/2022
2/11/2022	Contacted Freedge to schedule and interview for the next week	Whole Team	2/11/2022	2/11/2022	2/11/2022	2/11/2022
Week 2 (2/13-2/19)						
2/13/2022	Team meeting at 4:00pm	Whole Team	2/13/2022	2/13/2022	2/13/2022	2/13/2022
2/14/2022	Interview Freedge volunteer Ernst	Whole Team and Freedge Volunteer	2/14/2022	2/14/2022	2/14/2022	2/14/2022
2/14/2022	Meeting at 5:30 to solidify project idea	Ellie Kobak, Liza Richards, Madison Werries	2/14/2022	2/14/2022	2/14/2022	2/14/2022
2/15/2022	Updated SRS	Ellie Kobak	2/15/2022	2/15/2022	2/15/2022	2/15/2022
2/15/2022	Updated Project Plan	Liza Richards	2/15/2022	2/15/2022	2/16/2022	2/16/2022
2/16/2022	Updated SDS	Kalyn Koyanagi, Ginni Gallagher, Madison Werries	2/16/2022	2/16/2022	2/16/2022	2/16/2022

2/16/2022	Updated SRS	Madison Werries	2/16/2022	2/16/2022	2/16/2022	2/16/2022
2/16/2022	Meeting in which we updated the SRS and Project Plan, solidified build plan	Kalyn Koyanagi, Ellie Kobak, Liza Richards	2/16/2022	2/16/2022	2/16/2022	2/16/2022
2/16/2022	Updated SDS	Kalyn Koyanagi	2/16/2022	2/16/2022	2/16/2022	2/16/2022
2/16/2022	Completed Project Plan	Liza Richards	2/9/2022	2/14/2022	2/15/2022	2/17/2022
2/16/2022	Finished SRS	Ellie Kobak	2/9/2022	2/14/2022	2/15/2022	2/17/2022
2/17/2022	Made diagrams for SDS	Madison Werries	2/9/2022	2/14/2022	2/15/2022	2/17/2022
2/17/2022	Worked on and finished SDS	Liza Richards, Kalyn Koyanagi, Madison Werries, and Ginni Gallagher	2/9/2022	2/14/2022	2/15/2022	2/17/2022
2/17/2022	Assign implementation tasks	Liza Richards	2/15/2022	2/17/2022	2/15/2022	2/17/2022
2/17/2022	Submission of Initial Documentation at 8pm	Whole Team	2/10/2022	2/13/2022	2/15/2022	2/17/2022
Week 3 (2/20-2/26)						
2/22/2022	Team Meeting	Whole Team	2/22/22	2/22/22	2/22/22	2/22/22
2/23/2022	Finish up initial database code, get it working so that a database is able to be created	Whole Team	2/23/2022	2/23/2022	2/23/2022	2/25/2022
2/23/2022	Assign remaining implementation tasks	Whole Team	2/22/2022	2/23/2022	2/23/2022	2/24/2022

2/23/2022	Work on the notification system	Liza Richards, Ellie Kobak	2/23/2022	2/24/2022	2/25/2022	3/3/2022
2/23/2022	Meeting/Work session in the library at 5:00	Whole Team	2/23/2022	2/23/2022	2/23/2022	2/23/2022
2/24/2022	Interview with Sabrina	Whole Team	2/24/2022	2/24/2022	2/24/2022	2/24/2022
2/24/2022	Meeting/Work session in the library at 5:00	Whole Team	2/24/2022	2/24/2022	2/24/2022	2/24/2022
2/24/2022	Work on the administrator interface	Kalyn Koyanagi, Madison Werries	2/24/2022	2/26/2022	3/4/2022	3/6/2022
2/24/2022	Worked on contact info parses and freedge database	Madison Werries	2/24/2022	2/24/2022	2/27/2022	3/4/2022
2/25/2022	Meeting/Work session in the library at 5:00	Whole Team	2/25/2022	2/25/2022	2/25/2022	2/25/2022
Week4 (2/27-3/5)						
2/27/2022	Added notification GUI, updated it	Kalyn Koyanagi	2/27/2022	2/27/2022	3/2/2022	3/4/2022
2/27/2022	Created SMS and Emalil notification files	Ellie Kobak	2/27/2022	2/27/2022	3/1/2022	3/2/2022
2/28/2022	Meeting/Work session in the library at 3:00	Whole Team	2/28/2022	2/28/2022	2/28/2022	2/28/2022
2/28/2022	Updated the notification management file	Liza Richards, Ellie Kobak	2/28/2022	2/28/2022	2/28/2022	2/28/2022
2/28/2022	Created the notificaiton GUI component, reworked GUI visuals for overal interface window.	Kalyn Koyanagi	2/28/2022	2/28/2022	2/28/2022	2/28/2022

2/28/2022	Updated the coding documentation	Ginni Gallagher	2/28/2022	2/28/2022	2/28/2022	2/28/2022
2/28/2022	Updated the administrator interface	Madison Werries	2/28/2022	2/28/2022	2/28/2022	2/28/2022
2/28/2022	Updated Programmers Documentation and user documentation	Liza Richards, Ellie Kobak	2/28/2022	2/28/2022	2/28/2022	2/28/2022
03/01/2022	Meeting for a group work session	Whole Team	03/01/2022	03/01/2022	03/01/2022	03/01/2022
03/01/2022	Updating SDS	Ginni Gallagher	03/01/2022	03/01/2022	03/01/2022	03/06/2022
03/01/2022	Updating programmers documentation and user documentation	Liza Richards	03/01/2022	03/01/2022	03/01/2022	03/05/2022
03/01/2022	Created README	Ellie Kobak	03/01/2022	03/04/2022	03/01/2022	03/06/2022
03/01/2022	Finish notification system	Liza Richards	03/01/2022	03/01/2022	3/2/2022	03/04/2022
03/01/2022	Started and created first drafts of user documentation and programmers documentation	Liza Richards	03/01/2022	03/01/2022	03/02/2022	03/03/2022
03/02/2022	Meeting about Notification System	Liza Richards, Ellie Kobak, Kalyn Koyanagi	03/02/2022	03/02/2022	03/02/2022	03/02/2022
03/02/2022	Have new finished draft of SRS	Ellie Kobak	2/28/2022	2/28/2022	03/02/2022	03/06/2022
03/02/2022	Revise other documentation like installation instructions and README	Liza Richards, Ginni Gallagher, Ellie Kobak	03/02/3022	03/02/2022	03/03/2022	03/04/2022

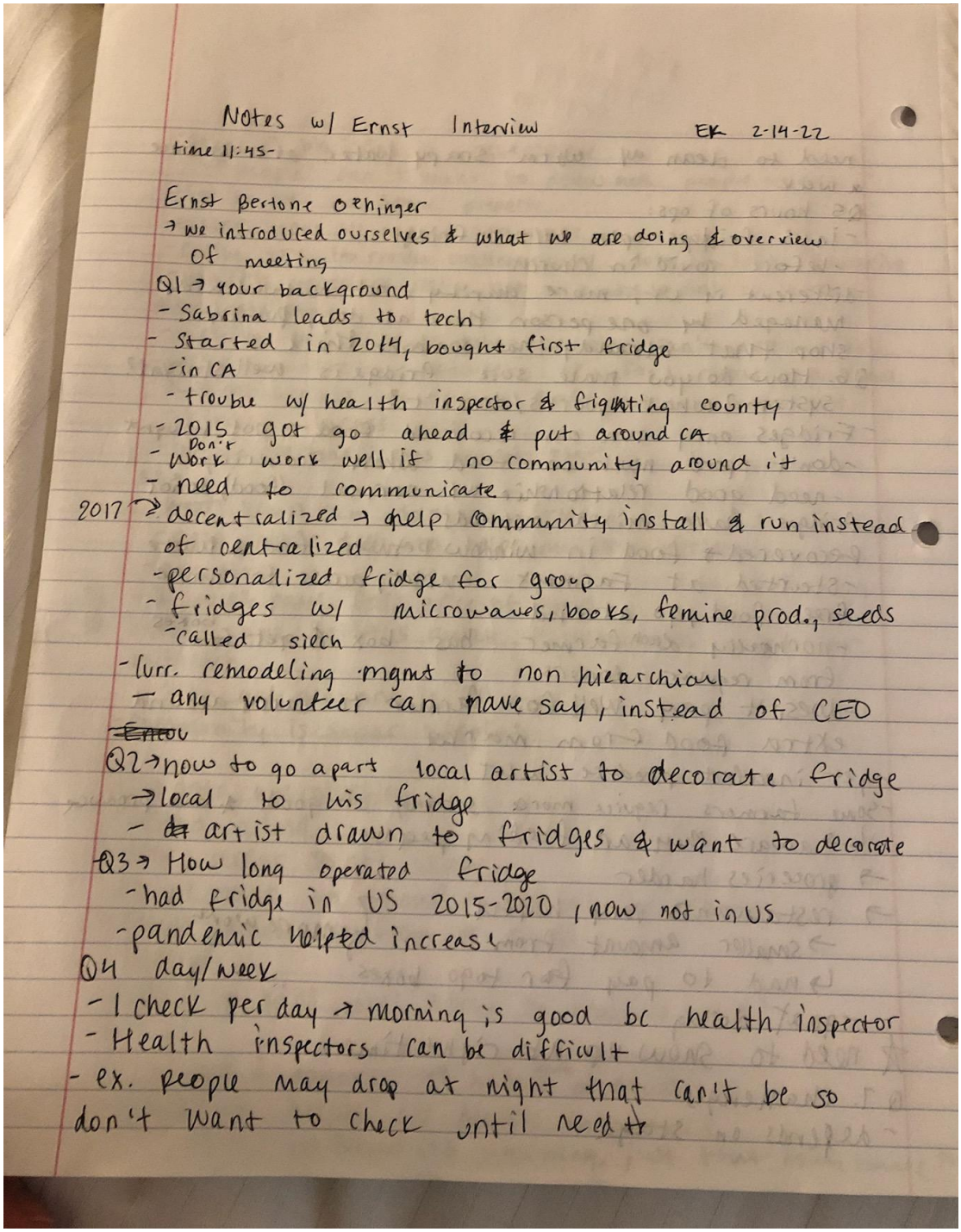
03/03/2022	Finalize notification GUI and notification system	Liza Richards, Ellie Kobak, Kalyn Koyanagi, Madison Werries	2/27/2022	2/27/2022	03/01/2022	03/04/2022
03/04/2022	Finalize administrator interface	Madison Werries, Kalyn Koyanagi	2/24/2022	2/24/2022	03/04/2022	03/06/2022
03/05/2022	Make final adjustments to executable system	Whole Team	03/03/2022	03/05/2022	03/04/2022	03/06/2022
03/06/2022	Have final executable system ready	Whole Team	02/22/2022	02/02/2022	03/04/2022	03/06/2022
03/06/2022	Have all documentation finalized and verified by team members	Whole Team	03/02/2022	03/02/2022	03/05/2022	03/06/2022
03/06/2022	Made and practiced presentation	Whole Team	03/06/2022	03/06/2022	03/06/2022	03/06/2022
03/06/2022	Meeting to complete presentation	Whole Team	03/06/2022	03/06/2022	03/06/2022	03/06/2022

8. Acknowledgements

This template was given to the UO CIS 422 class by Anthony Hornof. This template is similar to a document produced by Stuart Faulk in 2017, and uses publications cited within the document, such as IEEE Std 1362-1998 and ISO/IEC/IEEE Intl Std 29148:2018.

8. Appendix A: Interview Notes

Ellie Kobak: 2-14-22 Interview notes page 1



Notes w/ Ernst Interview EK 2-14-22
time 11:45-

Ernst Bertone Oehinger
→ we introduced ourselves & what we are doing & overview of meeting
Q1 → your background
- Sabrina leads to tech
- started in 2014, bought first fridge
- in CA
- trouble w/ health inspector & fighting county
- 2015 got go ahead & put around CA
- Don't work work well if no community around it
- need to communicate
2017 → decentralized → help community install & run instead of centralized
- personalized fridge for group
- fridges w/ microwaves, books, femine prod., seeds
- called siech
- curr. remodeling mgmt to non hierarchical
- any volunteer can have say, instead of CEO
~~Enov~~
Q2 → how to go apart local artist to decorate fridge
→ local to his fridge
- ~~de~~ artist drawn to fridges & want to decorate
Q3 → How long operated fridge
- had fridge in US 2015-2020, now not in US
- pandemic helped increase
Q4 day/week
- 1 check per day → morning is good bc health inspector
- Health inspectors can be difficult
- ex. people may drop at night that can't be so don't want to check until need to

need to clean w/ warm soapy water at least once a week

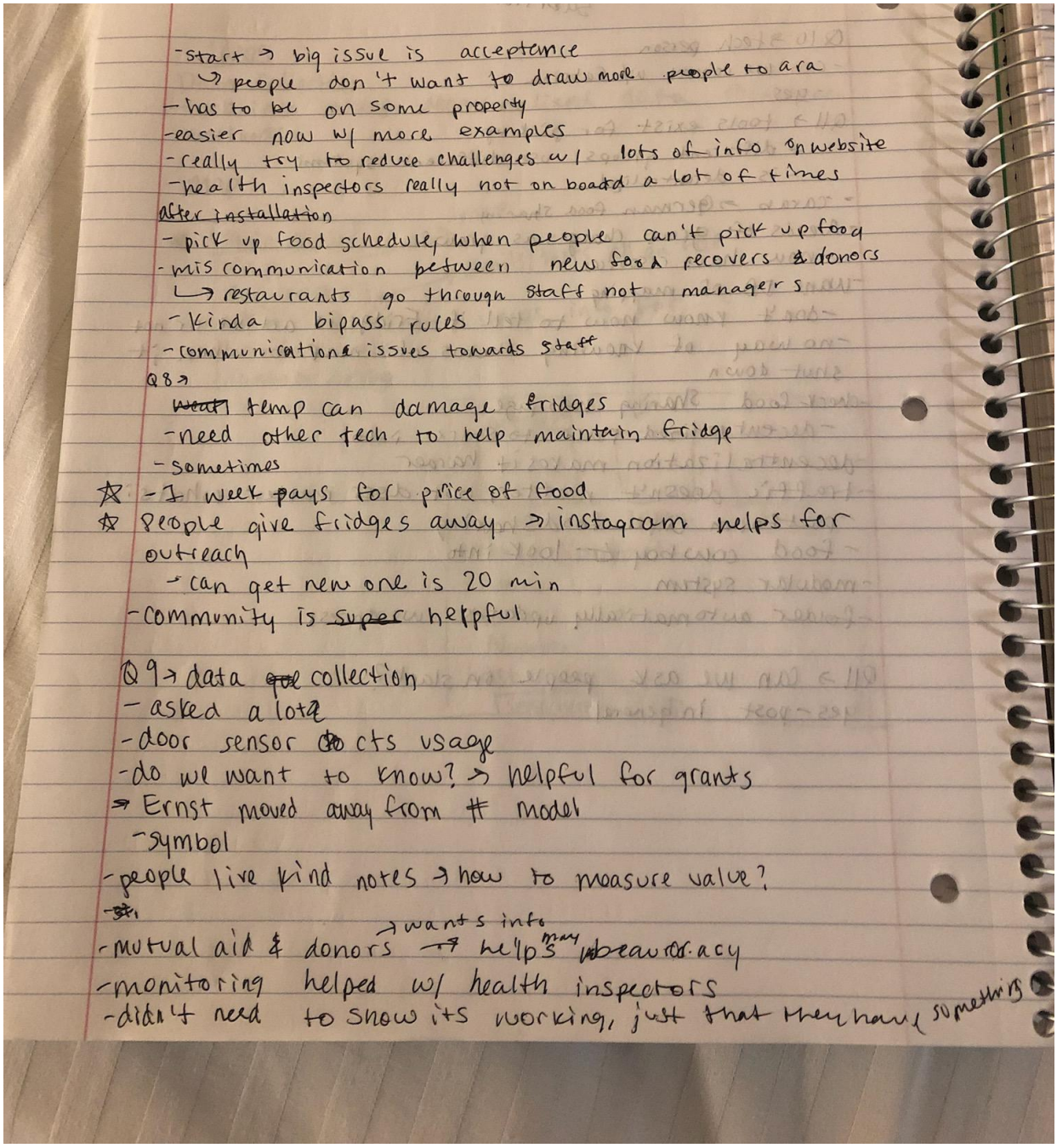
Q5 hours of ops:
- in US fridges open 24/7 on fridge
- before covid in church
- different in UK, more charity, not mutual aid, managed by one person there all day, put in shop that already has someone there

Q6. How do you make sure fridge is well stocked? System? what works/doesn't?
- Fridges only run on recovered food — not bought
- don't spend much on food when recovering
- need good relationship w/ normal (food) donor
- fridges have mixed methods
  Recovered → food in window between food & waste
- started at Farmer's market, access to more free food / go at end
- normally each farmer has box & get ~~food~~ boxes from regular donors
- doesn't pay well for farmer to carry around extra food from market
- get imperfect produce a lot
- some farmers require more sorting of good & bad produce
  ↳ award they are feeding people
→ groceries harder
→ restaurants very helpful } more work
  → smaller amount from
  ↳ had to pay for togo boxes
- go at closing

☆ need to show up at right time

Q 7. challenges
- depends on stage

Ellie Kobak: 2-14-22 Interview notes page 3

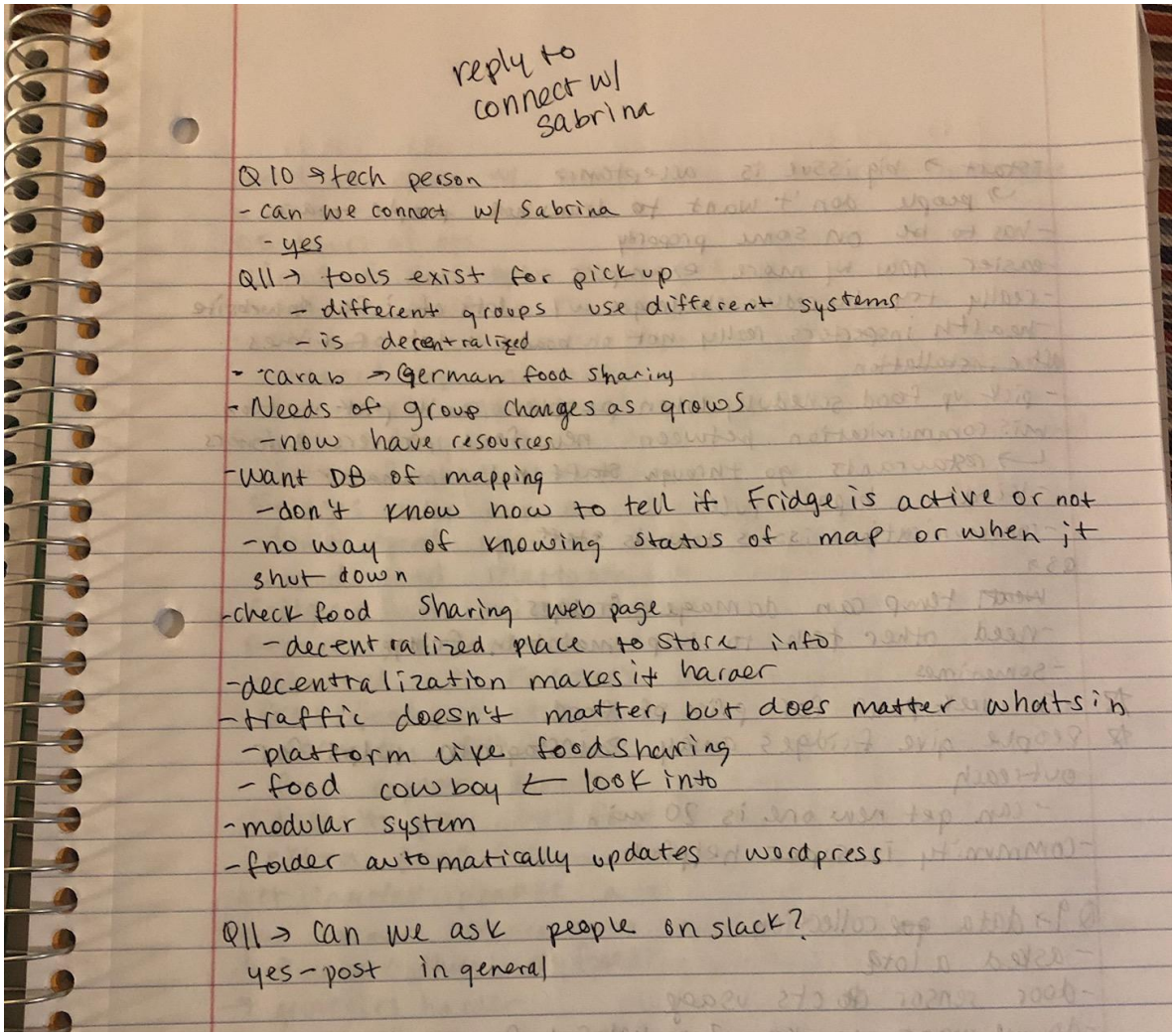


- start → big issue is acceptance
  ↳ people don't want to draw more people to area
- has to be on some property
- easier now w/ more examples
- really try to reduce challenges w/ lots of info on website
- health inspectors really not on board a lot of times after installation
- pick up food schedule, when people can't pick up food
- miscommunication between new food recovers & donors
  ↳ restaurants go through staff not managers
- kinda bipass rules
- communications issues towards staff

Q8 →
- ~~Heat~~ temp can damage fridges
- need other tech to help maintain fridge
- sometimes
- ☆ 1 week pays for price of food
- ☆ people give fridges away → instagram helps for outreach
  - can get new one is 20 min
- community is ~~super~~ helpful

Q9 → data ~~col~~ collection
- asked a lot
- door sensor ~~do~~ cts usage
- do we want to know? → helpful for grants
  → Ernst moved away from # model
  - symbol
- people like kind notes → how to measure value?
- ~~st~~
- mutual aid & donors → wants info → helps ~~bureaucracy~~ may
- monitoring helped w/ health inspectors
- didn't need to show its working, just that they have something

Ellie Kobak: 2-14-22 Interview notes page 4



reply to connect w/ Sabrina

Q10 → tech person
- can we connect w/ Sabrina
  - yes

Q11 → tools exist for pick up
  - different groups use different systems
  - is decentralized
- carab → German food sharing
- Needs of group changes as grows
  - now have resources
- want DB of mapping
  - don't know how to tell if Fridge is active or not
- no way of knowing status of map or when it shut down
- check food sharing web page
  - decentralized place to store info
- decentralization makes it harder
- traffic doesn't matter, but does matter whats in
- platform like foodsharing
- food cowboy ← look into
- modular system
- folder automatically updates wordpress

Q11 → can we ask people on slack?
yes - post in general

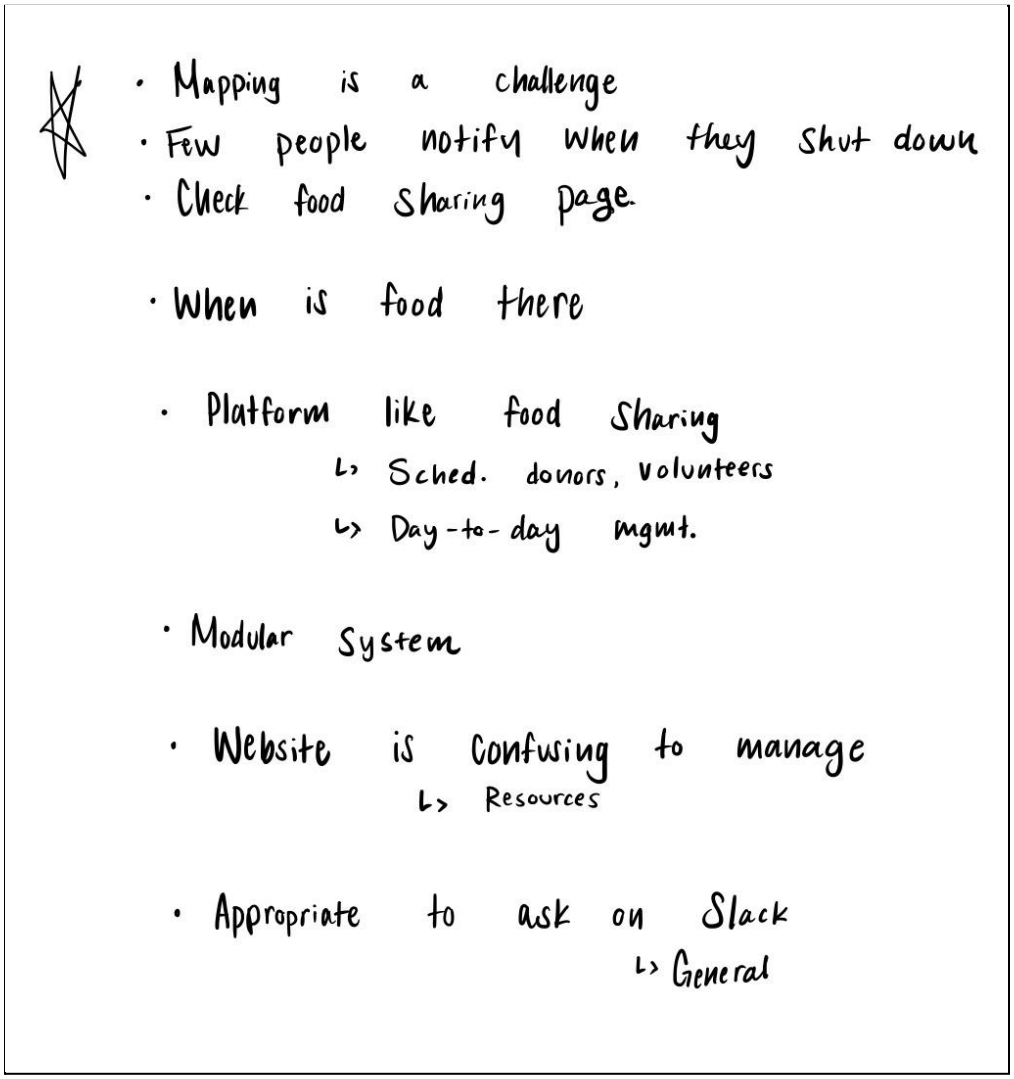
Meeting w/ Ernst from freedge 2/14/22

How Freedge Started:

- Started in 2014, in Cali
- Trouble w/ health inspectors, county
- In DC, France, Colombia etc.
- Need a community around the fridge
- Became more decentralized
  - ↳ Allows to cater to community
- Depends on community
- Remodeling of mgmt.
  - ↳ Heirarchy sys.
  - ↳ mutual aid
- Finding artists - Friends, word of mouth
  - ↳ Go to them
- Had own Freedge for 5 yrs.
- Other Freedges did'nt get attn. prior to Covid
- Typical Day: Morning Check (b/c of inspectors)

- Don't check at night not to lose meals that don't meet health code
- Clean as needed, once a week min
- Freedge hours - usually 24/7
  - Or within charity or business hours
- How to make sure stocked
- Some buy food, some recovered
  - From stores etc.

  Window b/w user and waste. Farmers market leftovers.
- Quality varies (of farmers produce)
  - Sort through bad / rotten food
- Started a relationship w/ restaurants for leftovers
  - Would be given good food


• Mapping is a challenge
• Few people notify when they shut down
• Check food sharing page.
• When is food there
• Platform like food sharing
↳ Sched. donors, volunteers
↳ Day-to-day mgmt.
• Modular System
• Website is confusing to manage
↳ Resources
• Appropriate to ask on Slack
↳ General

Ginni Gallager: 2/24/2022 Interview Notes:

Interview with Sabrina Denton from Freedge
2/24/22 6:30 PM
Members in attendance: Madison, Ginni, Liza, Kalyn
Notes taken by: Ginni Gallagher

Q: We'd love to hear more about your involvement with Freedge. How did you get involved?
A: Enviro Science in college. Ernst taught a class of hers. They got her involved. Liked the idea of community driven solutions to food waste. Food banks are great, but not always adoptable to community needs. Reduces stigma around food insecurity and makes it more accessible. Being outside, people can access the fridge 24/7. More accessible to houseless communities. Freedge is less structured and also helps with legal issues, i.e. Good Summaritan food law.

Q: Why did you decide to make technical contributions?
A: Went to UC Davis, a lot of what they did was going to farmer's market and pick up extra food and take them to fridges around Davis. Hard to tell how much food to put into each fridge. Normally it would work out, but there were times where it would have been better to know so you don't have one fridge too full and one not very full. Code wasn't working perfect, connection to the school wifi was password protected so that was an issue. Uploading photos to google drive was problematic. Dropbox was tried next then had issues with folders. Cameras in fridge to see what food is there serves community so they can check before making a trip that fridge has food. Feeling that fridge is empty when you show up may have a lingering feeling that discourages people from coming back. Putting camera in fridge was more difficult than expected. Positioned camera so that it got the food but did not record photos of fridge users. Legal part of it isn't big consideration. Silly to sue over food. Community making people feel safe and welcome (undocumented people may feel timid around surveillance).

Q: Talking about tech contributions going along with camera. Have you worked on anything else on tech side of things? What are your plans for what you want to do in the future?
A: Have worked on mapping/resource guides that were somewhat connected to technology. Camera side, worked a little on code, some what familiar with Python. More familiar with R. Not a computer scientist.

Q: So are you self taught?
A: Ernst has better grip and step dad has helped a bit

Group working with code side of things. Talked to group about helping and there have been others. Long term goals are reproducibility so people can easily set up using a kit. Hosted on freedge website maybe. One issue was that if the electricity went out it had to be manually restarted-thinks that's been fixed. Kits to send out would be funding based. Wide variety of people have fridges and many don't have any familiarity with code so that's an important focus. Broad scope, talking with someone in AI at the university who wanted to work on image processing to tell what different foods are in the fridge. Having metrics to how often the fridge was accessed and how much food is going in and out is nice. Good to have these metrics sometimes places like to know how much food is moving in and out. Automated process for

tracking food would be a selling point. People who want a fridge will have one, if someone has to be convinced it probably won't be done by them.

It would be nice to have some sort of alert, issue with county regulations, if fridges are monitored. Legally some places are only allowed to have produce, realistically may have other things. County rules not written for fridges.

Q: Could you go more into mapping?
A: Temperature monitor to check fridge. Mapping is done manually. They have the most comprehensive database. Have to go to people instagrams to get info on freedge. Fridges move or get deactivated. Letting people add themselves to the map themselves is nice. That has been recently worked on. Can't get locations on some fridges because of how different addresses are formatted.

Having things that are simple but also contain necessary information because there are a lot of volunteers but also lots of staff turnover. Adaptable things are important.