WEEKLY MEETING AGENDA

**Please bring:** Schedules, phones and laptops

|  |  |  |
| --- | --- | --- |
| **Meeting 1:**  **Monday, August 31**  2:30pm-4:00pm | **Decide on**   * Which areas to focus preliminary research * Who to reach out to? * Important work to do | Zoom |
| **Meeting 2: Wednesday, September 2**  3:15pm-4:20pm | **Work on**   * Go over questions for Red feather * Start customer needs table * Questions detailed in relevant document | Microsoft Teams |
| **Meeting 3: Friday, September 4**  2:00pm-4:00pm | **Meet with Red Feather**   * Answer questions * Plan for next week | Phonecall |

Upcoming requirements:

1. Action items on Monday, 9/7
2. Customer needs on Monday, 9/7

Tasks to be completed prior to meeting:

|  |  |  |  |
| --- | --- | --- | --- |
| Group Member | Task | Start Date | End Date |
| All Members | Customer Needs | 9/2/20 | 9/9/20 |
| Brittney Rogers | Action Item | 8/31/20 | 9/7/20 |
| Randall Holgate | Action Item | 8/31/20 | 9/7/20 |
| Jessie Russell | Action Item | 8/31/20 | 9/7/20 |
| Noah Kincheloe | Action Item | 8/31/20 | 9/7/20 |
| Wesley Garcia | Action Item | 8/31/20 | 9/7/20 |

# Meeting 1 Topic: Project discussion from last week and looking at this week’s objectives

## Monday, August 31, 2020

## 2:30 pm – 4:00pm pm

**Minutes recorded by Jessie Russell**

**Meeting called by** Jessie Russell

Attendees: Brittney Rogers, Noah Kincheloe, Wesley Garcia, Randall Holgate, Dr. Trevas (2:30-3:02pm)

Please bring: Notes

Table 1. Record of meeting.

|  |  |  |
| --- | --- | --- |
| 2:30 pm to 2:45 pm | **Discussion of Previous week**  Discussion led by Dr. Trevas   * Brittney noted that many of the materials suggested by Chuck Vallance, our client, which included sand and rocks, had too high of a temperature to be heated for us to work with. She believed solid materials as a medium were impractical, and we should use water. * Noah looked at governmental housing, and standard residential housing. He noted that although water is scare on the reservation, and people need to travel up to 40 minutes one way to get water, it is still very possible. He believed water would be the best medium to use for our device. Dr. Trevas noted that the water would only need to be replaced once a year at most, and can be recycled through the device. * Randall looked into heat exchangers last week, and he believed that a radiator would be the best choice of heat exchanger, because it is affordable. * Wesley also looked into heat exchangers and believed that water would be the most useful medium for the device. | Zoom |
| 2:45 pm to 2:55 pm | Discussion of Self-Learning Assignment Choice  * Discussion led by Dr. Trevas * Randall will be learning about heat exchangers. * Noah will be learning about FEA. * Brittney will be looking into solar resource data, such as SAM and NREL. * Wesley will be learning about FEA and CFD. * Jessie will be learning about Arduino. | Zoom |
| 2:55 pm to 3:02 pm | Action Items for this week  * Jessie will be quantifying Energy data from last week. Specifically, work with Noah to find out how much volume of water is needed to heat a home. * Wesley will be looking at what storage tank to use, as well as insulation. * Randall will be further looking into Heat exchangers. * Brittney will look into energy data resources. * Noah will continue to look into housing plans. | MS Teams |
| 3:02 pm to 4:00 pm | The team discussed a conflict between the client Chuck Vallance’s and Dr. Trevas’s suggestion for the team to develop a solar heating device in addition to the thermal storage device. We are planning on designing our own solar heating device as well for now, but we are looking for clarification from Red Feather.  * Wesley will contact Red Feather again to receive clarification. * The team will work on talking to Chuck Vallance about creating a Gant chart within the next week to organize a timeline for the project. * The team will try to develop customer needs from our meetings with the clients Chuck Vallance and Red Feather by the end of the week. * The team determined the zone of operation for our device and where we will take heating data from. We want to base this off the entire Navajo Nation, or at least the parts that are coldest and take an average of that data for our device. | MS Teams |

Table 2. Tasks Assigned.

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Person Assigned** | **Due Date** | **Date Complete** |
| Action item: Look into storage devices | Wesley Garcia | 9/7/20 |  |
| Action item: Quantify energy data, understand units | Jessie Russell | 9/7/20 |  |
| Action item: Look further into housing plans | Noah Kincheloe | 9/7/20 |  |
| Action item: Look further into heat exchangers | Randall Holgate | 9/7/20 |  |
| Action item: Look into Energy data resources. | Brittney Rogers | 9/7/20 |  |

**Next formal meeting: 9/2/20, MS Teams, at 3:15 pm.**

# Meeting 2 Topic: Client questions for Red Feather on Friday, generating customer needs

## Wednesday, September 2, 2020

## 3:15pm – 4:20pm

**Minutes recorded by Jessie Russell**

**Meeting called by** **Jessie Russell**

Attendees: Brittney Rogers, Noah Kincheloe, Wesley Garcia, Randall Holgate

Please bring: Notes

Table 1. Record of meeting.

|  |  |  |
| --- | --- | --- |
| 3:15 pm-3:45 pm | **Revision and updating of customer questions**  Discussion led by Jessie   * Jessie added the question, “Are there any areas or locations that are significantly colder or warmer than others that we should be aware of for building around?” to look for outliers. * Wesley added the question, “Where, as a company, do you primarily work on the reservation?” to see where our basis for design should be primarily located. * The team condensed, revised, and reordered questions to fit Red Feather better and ensure the most important questions are asked first. | Zoom |
| 3:45 pm to 4:10 pm | Creation of Customer needs table  * Discussion led by Brittney * The team filled out a customer needs table with available questions and information. This included a question/prompt, customer statement, and interpretation/need section within the table. | Zoom |
| 4:10 pm to 4:20 pm | Discussion of Items to Do before next meeting  * Discussion led by Jessie * Thus, there are no items to do before the client meeting with Red Feather on Friday. | MS Teams |

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| --- | --- | --- | --- |
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| Action item: Quantify energy data, understand units | Jessie Russell | 9/7/20 |  |
| Action item: Look further into housing plans | Noah Kincheloe | 9/7/20 |  |
| Action item: Look further into heat exchangers | Randall Holgate | 9/7/20 |  |
| Action item: Look into Energy data resources. | Brittney Rogers | 9/7/20 |  |

**Next formal meeting: 9/4/20, Freebridge, at 2:00 pm with Red Feather client, Terry Smith.**

# Meeting 3 Topic: Client meeting with Terry from Red Feather

## Wednesday, September 2, 2020

## 2:00pm – 4:00pm

**Minutes recorded by Jessie Russell**

**Meeting called by** **Jessie Russell**

Attendees: Brittney Rogers, Noah Kincheloe, Wesley Garcia, Randall Holgate, Terry Smith (until 3:15pm)

Please bring: Notes

Table 1. Record of meeting.

|  |  |  |
| --- | --- | --- |
| 2:00 pm-3:15 pm | **Addressing need, scope, and questions regarding the project**  Discussion led by Terry where each team member asks him different, prepared client questions   * Terry expressed a strong desire and need in the reservations for a heating device at night. There are many health issues related to wood-burning stoves, and most do not have access to many sufficient and healthful devices. * There are limitations to how devices can be implemented into homes because of the complication of housing designs. Need a device easily-adapted between different types of homes. * The current solar furnace that works well is from Arctica solar. * Heat drops to the 30’s in the fall and the 20’s in the winter, but it remains warm during the day (good for solar). * Terry believes it would be good for us to visit second Mesa. * Terry expressed an urgency to create a presentation of our design in a much earlier timeline – specifically by 9/14 in order to send the presentation to donators and tribal councils to receive funding through the Covid care act. The presentation needs to be easily understood by these donators. * Terry will ask Arctica solar if they will donate a solar furnace to us to help us work on our thermal storage device in conjunction with it. These units project to cost $500 once they are produced by Red Feather themselves. * Terry told us that the budget is flexible, but expect $2,000 for two prototypes and a range of $1,000-$1,500 as a budget for a singular device. | Freebridge |
| 3:15 pm to 3:55 pm | Team Discussion of the Client Meeting with Terry, addition and revisions made toward Customer Needs table  * Discussion led by Brittney * The team used information from the client meeting to fill out the rest of the customer needs table. * The team decided to schedule a team meeting for Monday, 9/7, as well as a team meeting with Dr. Trevas Wednesday, 9/9. | MS Teams |
| 3:55 pm to 4:00 pm | Discussion of Items to Do before next meeting  * Discussion led by Jessie * The team needs to work on action items, think of ideas for the device and the presentation for Red Feather, and to finish the customer needs table and move onto the engineering requirements table. | MS Teams |

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| Action item: Look further into heat exchangers | Randall Holgate | 9/7/20 |  |
| Action item: Look into Energy data resources. | Brittney Rogers | 9/7/20 |  |

**Next formal meeting: Monday, 9/7/20, MS Teams, at 2:30 pm with team**