FAMU – FSU College of Engineering

Department of Computer & Electrical Engineering
Department of Mechanical Engineering

Project Charter - Code of Conduct

Team # 311
Project Title: Robotic Trash Can

Names:
Jacob Emerson
Bishoy Morkos
John Williams
Oscar Flores

Date
09/12/2018

Project Description:

The Robotic Trash Cart (RTC) will hold and carry both waste containers from the home base to the curb for waste disposal. The RTC design is focused on senior citizens, the disabled community, and people with limited mobility and strength in their extremities. The RTC will relieve the hassle, stress, and alleviate the physical labor involved in taking out the trash bins to the curb. The device needs to be inexpensive, easy to use, and durable. Its purpose is to limit human interaction in the chore of taking out the trash.

Key Goals:

- Limit human interaction and minimize the effort made when taking out the trash
- Prevents the waste bins from tipping over or falling out User Friendly
- Get waste bins to and from the curbside

Assumptions:

- Largest gradient that will be traversed is 5 degrees of incline (ADA)
- The RTC will need to operate in South Florida Weather: rain, humidity, and wind
- RTC will be stored outside on the side of the house
- Pathway is paved
- Waste Engineer will return the bins into the RTC

Markets:

1. Primary Market – Residential
    a. Senior living communities
    b. Disabled communities
    c. Homeowners

2. Secondary Markets – Industrial and commercial
    a. Waste management companies
    b. Amusement parks
    c. Local, state, and national parks
    d. Locales with dense foot traffic, such as outlet malls and transportation hubs
    e. Anywhere with large amounts of waste being produced

The RTC can be used to hold waste bins in commercial settings, such as amusement parks, shopping centers, and any location with dense foot traffic.

Stakeholders:

Table 1 lists specific stakeholders and their contact information.

- Team 311
- Dean’s Office of the FAMU-FSU College of Engineering

- Senior Citizens
- Waste Management Companies (Waste Pro, Waste Management)
- FSU Jim Moran School of Entrepreneurship

Table 1 *RTC Stakeholders*

Priority	Full Name	Email	Notes
1	Mike Devine	mdevine@fsu.edu	Sponsor
1	Chris Edrington	edrinch@eng.famu.fsu.edu	Adviser
1	Jerris Hooker	hooker@eng.famu.fsu	Reviewer
2	Jim Zheng	zheng@eng.famu.edu	Reviewer
2	Pedro Moss	pmoss@eng.famu.edu	Reviewer
3	Becky Hall	demerson1280@comcast.net	Customer

Mission Statement

Team 311 is committed to ensuring a positive work environment that supports professionalism, integrity, respect, and trust. Every member of this team will contribute a full effort to the creation and maintenance of such an environment in order to bring out the best in all of us as well as this project.

Roles

The team consists of two mechanical engineering (ME) students, an electrical engineering (EE) student, and a dual-computer and electrical engineering (CpE/EE) student. The roles of the CpE and EE students will focus on the electrical and coding portion of the project. They will assist the MEs as needed. The roles of the MEs will focus on the mechanical components of this project and will assist the CpE/EEs as needed. Each team member is delegated a specific role based on their experience and skill sets. They are responsible for all here-within:

Team members:

Project Manager - Oscar Flores

Oscar Flores is a senior undergraduate computer and electrical engineering student at Florida State University. He is responsible for managing the team. He develops the plan and timeline for the project, delegates tasks among group members according to their skill sets, finalizes all documents and provides input on other positions where needed. He is responsible for promoting a positive work environment and teamwork. If a problem arises, he will act in the best interest of the project. He is responsible for keeping communications between the sponsor and the technical advisor. He is responsible for organizing, planning, and setting up of meetings and recording the meeting minutes. He works together with other leads to keep the project on track. He manages the budget and maintains a record of all purchases. Any product or expenditure requests must be presented to the advisor for approval. Once approved, he will then relay the information to the team and order the product. If a task arises that does not fall under a specific role, he is responsible for delegating the task to the team member with the best skill set needed to complete the task and assist when needed.

Lead ME - Jacob Emerson

Jacob is a senior undergraduate mechanical engineering student at Florida State University. He is responsible for the mechanical design drawings of the project and communicating with the lead ECE. He is also responsible for the details of the project design and presenting design ideas to the team for a final design to be chosen. He is responsible for logging all the mechanical reports and drawings. He coordinates all communication and projects done through the machine shop.

Lead ECE - John Williams

John is a senior undergraduate electrical engineering student at Florida State University. He is responsible of the EE or CE design portion of the project. He maintains communication with the lead ME. He keeps a log of all electrical designs and coding files. He is responsible for the power system and control system of the RTC.

Assembly Engineer - Bishoy Morkos

Bishoy is a senior undergraduate mechanical engineering student at Florida State University. He works in unison with the Lead ME on the mechanical portiona and designs of the project. He is responsible for the assembly of the frame for the RTC.

All Team Members:

- Work on some parts of the project
- Buy into the project goals and success
- Deliver on commitments

- Adopt team spirit
- Listen and contribute constructively (feedback)
- Be effective in trying to get messages across
- Be open minded to other's ideas
- Respect other's ideas

Communication

The main form of communication will be over phone and text-messaging among the group, as well as through regular meetings of the team. Email will be a secondary form of communication for issues not being time-sensitive. For the passing of information, i.e. files and presentations, email and Google Drive will be used for file transfer and proliferation.

Each group member must have a working email for the purposes of communication and file transference. Members must check their emails at least twice a day to check for important information and updates from the group. Although members will be initially informed via a phone calls or text messaging, meeting dates and pertinent information from the sponsor will additionally be sent over email so it is very important that each group member checks their email frequently.

If a meeting must be canceled, the group must be notified through either phone, text messaging, or email ASAP. Any team member that cannot attend a meeting must give advance notice ASAP informing the group of his absence. The reason for the absence will be appreciated but not required if personal. Repeated absences in violation with this agreement will not be tolerated.

Team Dynamics

The students will work as a team while allowing one another to feel free to make any suggestions or constructive criticisms without fear of being ridiculed and/or embarrassed. If any member on this team finds a task to be too difficult, it is expected that the member should ask for help from the other teammates. If any member of the team feel they are not being respected or taken seriously, that member must bring it to the attention of the team in order for the issue to be resolved. We shall NOT let emotions dictate our actions. Everything done is for the benefit of the project and together everyone achieves more.

Ethics

Team members are required to be familiar with the NSPE Engineering Code of ethics as they are responsible for their obligations to the public, the client, the employer, and the profession. There will be stringent following of the NSPE Engineering Code of Ethics.

Dress Code

Team meetings and sponsor/adviser meetings will be held in casual attire. Group presentations will be formal as decided by the team per the event.

Weekly and biweekly Tasks

Team members will participate in all meetings with the sponsor, adviser and instructor. During said meeting, ideas, project progress, budget, conflicts, timelines and due dates will be discussed. In addition, tasks will be delegated to team members during these meetings. Repeat absences will not be tolerated.

Decision Making

The decision making is conducted by consensus and the majority of the team members. Should ethical/moral reasons be cited for dissenting reason, then the ethics/morals shall be evaluated as a group and the majority will decide on the plan of action. Individuals with conflicts of interest should not participate in decision-making processes but do not need to announce said conflict. It is up to each individual to act ethically and for the interests of the group and the goals of the project. Achieving the goal of the project will be the top priority for each group member. When a conflict cannot be resolved amongst the team, the advisor/sponsor or instructor will act as the tiebreaker. Each member needs to support their solution to the instructor. Below are the steps to be followed for each decision-making process:

· Problem Definition – Define the problem and understand it. Discuss among the group.

· Tentative Solutions – Brainstorms possible solutions. Discuss among group most plausible.

· Data/History Gathering and Analyses – Gather necessary data required for implementing Tentative Solution. Re-evaluate Tentative Solution for plausibility and effectiveness.

· Design – Design the Tentative Solution product and construct it. Re-evaluate for plausibility and effectiveness.

· Test and Simulation/Observation – Test design for Tentative Solution and gather data. Re-evaluate for plausibility and effectiveness.

· Final Evaluation – Evaluate the testing phase and determine its level of success. Decide if design can be improved and if time/budget allows for it.

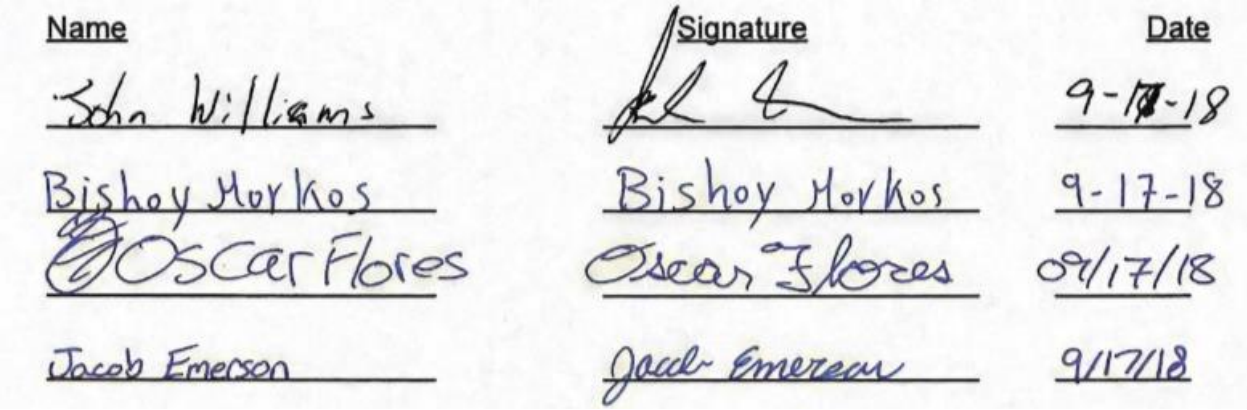
Conflict Resolution

In the event of discord amongst team members the following steps shall be respectfully employed:

- Communication of points of interest from both parties which may include demonstration of active listening by both parties through paraphrasing or other tool acknowledging clear understanding.
- Administration of a vote, if needed, favoring majority rule.
- Team Leader intervention.
- Instructor will facilitate the resolution of conflicts.

Statement of Understanding

By signing this document, the members of Team 311 agree to all of the above and will abide by the code of conduct set forth by the group.



Name	Signature	Date
John Williams		9-17-18
Bishoy Morkos	Bishoy Morkos	9-17-18
Oscar Flores	Oscar Flores	09/17/18
Jacob Emerson	Jacob Emerson	9/17/18