**Roles.**

Team Multi-Tech is a collaborative team that works hands on as a group. Throughout the project, we have come together to achieve our goals as a team. Therefore, we split tasks amongst ourselves in a hierarchical manner where we work in collaboration to relating topics. We chose this method as it gets easier to keep track of tasks and we don’t miss on tasks.

We have had standard roles where a few individuals in the team have always been best described as conductors or pioneers. In our case we have all come together to ensure we have achieved all tasks as a team. We decided not to assign roles to team members as we have always been good in communication and have proved to collaborate. As a team we always look forward to learn and achieve goals and targets as a team. To our understanding, we perform best when we consider all ourselves as equal. Therefore, we have not had the need to assign roles.

Our team usually works as implementers best known amongst ourselves for forming ideas into accomplishment together. When the ideas are presented, we ensure that it has been implemented and coordinate with each other which also makes cooperation skills better and form a presentable solution as a team.

This is why we call ourselves as “Team Multi-Tech.”

**Risks.**

There are always advantages accompanied with disadvantages and vice versa. Therefore, related to our scenario of the robot that cleans the ocean, there are many risks. These are the risks below:

Natural disasters – besides any other risks, nature has its own law therefore it cannot be controlled by humans. An example of a natural threat to the project is wild weather conditions in the ocean such as tides or storms. This can devastate the robot which could be a huge loss.

Human generated – because the device is human made, there are human errors that can occur. Such as, a mistake in programing or a mistake in any developmental process of the robot. E.g. a situation where the robot can malfunction and can harm the marine life. At times, marine life can be accompanied with trash as sometimes they get tangled in the trash so this can be a reason why marine biologists and protecting bodies might not allow to implement the robot for the solution as at this stage we have not come up with a proper plan on how it can actually be assembled and implemented. This can be considered under mechanical failures.

The main risk from our side as a team is not having the right knowledge or experience despite having the idea. This is the major negative impact for us as we still need to work on our developmental skills. Despite having that, there is no experience. Meaning authorities wouldn’t allow us to even test our product in the ocean as it is not trusted and there is no support for the project.

Funds – coming up with the project material is a very expensive process. To achieve this, we need to have enough funds which we don’t have even to gather the most basic or level one equipment. This is also a major factor of risks as we cannot proceed to bring our product to the market.

In a scenario where the above can be eliminated from risks other risks might arise such as, when the garbage has been collected, we do not have contacts for processing the waste.

Not having the right team – as information technology students we can come up with computing input but we also need team members from other fields who can help us succeed e.g. a marine biologist or scuba diving team. They would be very helpful in some aspects such as diving for routine checks, or even engineers to make a working robot that is risk calculated in engineering terms so that it can withstand for its purpose.

There are many more risks but the above are the key risks to which if solved we can really come up with an industrial output and a working robot and put it to work as soon as possible and save mother nature from threats.

However, if the above risks are not eliminated, we would look forward to devise plan B which would be raising awareness so that we get the right people to form a team and can sell our idea but still give in input for computing aspects where needed. We could also arrange collaborations with existing projects like this but help by imputing further knowledge and professional practice so that we can help solve a problem.

**Group processes and communication.**

The fact being group communication is one of the major reasons for project failures. In the past assignments we had all worked equally as stated in the roles section. However, in the past we have not experienced any breakdowns in the team towards working on any project, but this can be prevented for our team this can be ensured if the following aspects are taken to consideration:

1. To record meetings held in real time at a specific location at a specific time, it is easier to assign tasks and team members to it so that if there is a failure it only affects a part of the project which can be fixed later or even solution can be implemented to fix the problem. For this situation where we need to capture communication that has not been recoded formally, contracts can be implemented so when the team is assigned tasks they have to take responsibility to the discussed information otherwise there are consequences to that. This will always be beneficial as individuals know that there are consequences so they will ensure they put their best
2. Another solution to ensure the project is successful is conducting meetings can be conducted frequently such as weekly so we can keep track of the process and work with dates so that the solution is ready within the time frame. These meetings can be conducted virtually and recorded for future minutes references
3. When group members don’t respond to communications, they can be given a maximum of 3 warning stages. Where stage one consists of soft reminder, stage 2 consists of a moderate warning reminding the consequences and stage 3 where a high level warning is placed failure to which can result to legal action. I n as scenario an individual still doesn’t show interest, they can be kicked out of the team and get replaced and actions can be taken based on contracts signed.

**Overview**

Topic – As the project idea its self is self-descriptive, being a robot that cleans trash in the ocean. If given a chance and proper support, we as a team look forward to get it working in action to save the marine life from difficulties. Our first move would be constructing the robot and try it out in phases e.g. phase one would be to test the robot in a tank with trash where would train the robot to identify various types of trash and marine life so it only picks waste instead of the marine life. Once the robot is able to identify we can move on to the real world problem solving. This is then phase 2, where we look forward to test it in ponds, rivers or lakes so that we can train it again on real or actual trash on how to identify the garbage and differ it from the fishes. If the robot can sustain those climates and can evacuate the trash in that situation, then it has higher chances of sustaining in the ocean where the major problem is and our interest.

At the ocean implementing stage, we look forward to contact local authorities here in Melbourne to know if there have been past projects. If yes, what were the barriers so we can make an effort for solving those in addition. If not, then they can observe the technology for themselves. With their permission we can put it to perform its task and if it is worth it then we can look forward to sit with larger bodies and work together to expand.

Motivation – The motivation behind this project rose amongst ourselves when we were doing class activities and one of our team mates mentioned the problem. Us being animal lovers and environmental friendly, we thought of coming up with a product where ideas and points of view of every individual in the team were considered. We then conducted some research and came up with rough ideas on how to go about it. In the coming days, we look forward to implement the robot.

The main reason for the importance of this project is to keep marine environment safe and eliminate the human caused threats to the marine life. We are responsible. Thus, we must fix it. Being IT techies, which we love being called by our Tutor Ivan Sun we can make it and prove that we are capable of such.

Robotics is a top trending field in the IT industry. It has been used in various situations such as security e.g. Drones, industries e.g. machinery in factories and even to perform basic tasks like house helping. If employed the idea and dedication to make it a working project that would lead us to the implementation stage would of course attract the employer’s attention that we as a team can make it and could be employed to master the art of robotics and we can even be funded to perform other better projects. E.g. shark tank.

We are the change!

Landscape – Currently, there have been efforts made by various organizations and university research students. Some of these had technologies like harnessing where the waste is gathered by nets attached to 2 ends upon which the waves or the tide push the waste towards the net which is then collected. However, this is slightly more manual however we are looking forward to a digital trend where the robot looks for the trash and puts it where it has to be e.g. when collected, recyclable materials can be separated from total waste.

Similarly, some projects were carried out but were not successful because of various reasons we assume which built barriers to it. Therefore, there are no institutions or companies that have these robotic projects running so we have no competition. Therefore, we are looking forward to be victorious and save mother nature from our own created disaster