Project Deliverable F - Prototype I and Customer Feedback
GNG 1103 – Engineering Design
Faculty of Engineering – University of Ottawa

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Introduction:

Our first physical prototype for a seed dispenser was made with the intention of clearly communicating how the seeds will be dispersed under Bowie. Of all the aspects of our seed disperser, the only controversial topic was *how* we were going to get the seeds to get from the hopper to the ground at a controlled rate. With this first prototype we found that our original plan of using a gear and motor to carry the seed from the hopper to the ground was going to be very difficult to implement. Realising our first model simply would not work, we brainstormed ideas as a team in order to figure out the best solution to our newly-encountered problem. This was the first problem encountered with Prototype I, and it shows the general process our team will go through when we encounter other problems with later designs and prototypes. The subject of this document is to clearly plot out how our team has, and will continue to analyse our prototypes for the seed dispenser attachment.

Test objectives description:

Our specific test objectives were to get a basic proof of concept of our idea. This will allow us to visualize our idea and see what problems we did not think of before. Furthermore, it will give us a base on which to build our further improved prototypes.

This prototype allows us and the customer to learn what problems the concept may face so that we may work on said problems to fix them. Also this prototype allows us to more easily communicate our idea to the customer to allow more accurate and useful feedback.

The types of results we expect from our prototypes are : “Good”, “To be Improved” and “Bad”. The good results are ones that are fine and work as intended and can remain the same. The “To be Improved” results are ones that can be made better using our knowledge and skills so that they may work as intended. The bad results are ones that cannot be fixed or improved and must be scrapped and remade so that they may work as intended.

These results will allow us to know what aspects of the prototype must be improved so that the prototype can be functional and which aspects must be completely re-worked because they are impossible to improve. Overall these will allow us to make sure that our final prototype can be as functional as possible.

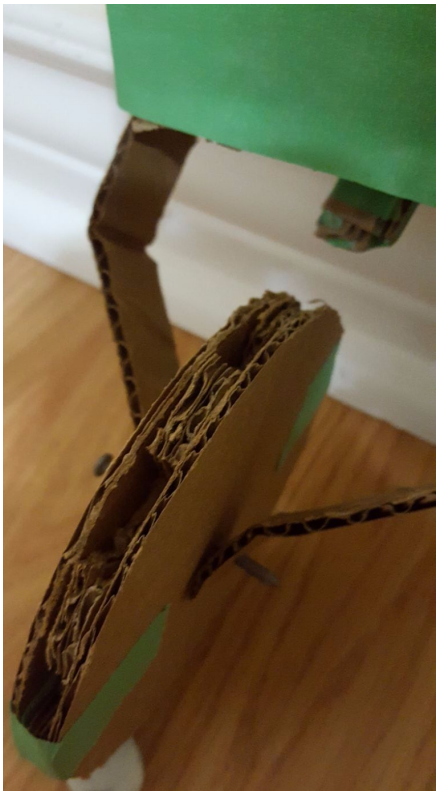
What is going on and how is it being done?

We are using a general prototype of our idea so that we are able to gauge how good our idea is in the physical world. We are using this type of prototyping because it allows us to be less attached emotionally to our prototype so that we are more easily capable of bringing modifications and improvement and taking constructive criticism. It also allows us to see which aspects of our concept need to be improved or changed. We achieved this by using simple and cheap material so that we could easily mold the prototype and change it as we go to fix any problems that arise.

When is it happening?

It is being done on a week to week basis to make proper adjustments and assure the final prototype is fully functional.

Prototype 1 Pictures :



This is the prototype 1 that was produced using simple and cheap materials. It includes the seed hopper, the gear to disperse the seeds, the tube leading from the hopper to the gear and the handles to attach the gear to the hopper. We must develop and program a motor which will allow the gear to turn and disperse the seeds that will be fed via the tube and hopper.