

***ENGINEERING DESIGN PROJECT
DELIVERABLE G – PROTOTYPE II & CUSTOMER
FEEDBACK***

***Jonathan Augustine Soliman, Rowan Kovacs, Ben Olaveson,
Rotimi Akalusi
Group A04-13***

***GNG 1103 – Engineering Design
Professor Muslim Majeed***

1. Abstract

This deliverable is focused on creating a second Prototype, based on the feedback that we received on our first Prototype. This is the second Prototyping Deliverable, aiming to improve our design to fit our clients’ needs.

Table of Contents

1. Abstract..... 2

2. Introduction 3

3. Background on the Deliverable’s Objectives 3

4. Client Feedback II Outline 3

5. Prototype I Test Plan Results..... 4

6. Prototype II Justification & Reasoning 5

7. Prototype III Testing Plan..... 5

8. Conclusion 5

9. Wrike Snapshot..... 5

2. Introduction

This deliverable is the last one that we, as a team, can receive feedback on before Design Day, and is the last one that we can improve on in a future deliverable, in order to optimize our design solution to meet our clients' needs to the best of our ability. There were many issues that hindered our successful and timely completion of the deliverable, but the challenge made many concepts clear to our team, and made us a stronger and more resilient team, through the many setbacks that we experienced and had to resolve before Design Day.

3. Background on the Deliverable's Objectives

This deliverable's completion has been offset by many setbacks and challenges, most of which translated to a complete lack of inactivity on completing the deliverable on-time.

The first of these factors is the extensions that were given to our class, first with Deliverable D (due to confusion on what to include in the deliverable), then Deliverable E (due to the fact that we had not been taught how to create a Prototyping Test Plan in class), and with Deliverable F (due to the extensions we had received as a class for the previous Deliverables). The extension we received for the deadline of Deliverable F was about a week, which bled into the time our group would need to work on completing this Deliverable (G). This factor of not having the time to work on completing Deliverable G objectives led to a delay in its completion.

This completion was delayed even further with the challenges that we faced, as a team, in receiving feedback from our clients on our first Prototype. For more 5 days after the Deliverable was due, our team struggled to receive timely feedback from our Client's, and their thoughts on our first prototype, especially pertaining to what should be improved upon. The crux of Deliverable G's objectives was to improve our design to better reflect an optimal solution for our clients' benefit (as outlined in the abstract above). Without the proper feedback (or any feedback, as was our case), we could not work at all towards completing our design in time for the next deliverable. This would also mean that our commencement of work on Deliverable H (which is also feedback-dependent) could not be focused on, and neither could work towards ensuring that our feedback was received on time, since our work on improving our design was just beginning.

The work on our second prototype was slow and uninspired, especially from the work that our team members were doing on other course work and Midterm Examinations that consumed the time and effort that we put into completing this deliverable, and specifically the work on the second prototype. We decided that, to save both time and money on this prototype, we were going to design an analytical one that would eliminate the amount of time needed to physically make the prototype through a machine or other mechanical means. Slowly but surely, we were able to finally complete our prototype and have it ready for testing and feedback ahead of the next deliverable.

4. Client Feedback II Outline

The feedback we received from our clients' (once finally received) was mostly inapplicable to where our design was. Most of the feedback we received was focused on systems and elements to include in our prototype; these were all elements and systems that we had already

implemented into our prototype, and had even included these specifications in our both our Initial Design and Final Decided Design after our second Client Meeting. In fact, elements such as including a Dehydrator and Electric Furnace, and clarifications pertaining to what chemicals would be utilized in the lab (which is none) were all made clear to our team during the very first client meeting. As well, the answers to the clarifying questions that we had, as a team, on the appropriateness of adding the four colours of the medicine wheel to the four “quadrants” of the circular building, was not addressed in the feedback we received.

5. Prototype I Test Plan Results

The only appropriate and implementable feedback that we received from our clients was that they liked the Garden Centre and Green Room that we had designed. Deduction and extrapolation from this favourable response to the choices we made concerning those sub-systems was to focus our attention more on making them more complex and central to the theme of the building’s design, and therefore a more central part of the solution to our clients’ solution.

The next implementable area of the feedback was a comment on the design’s implementation feasibility. To quote our clients, “the design's feasibility in terms of construction and maintenance costs needs to be assessed, especially considering the unique elements like cubicles, a central garden, and green space. Custom elements often lead to higher costs.” This feedback was ultimately not applicable to any improvements we aimed to implement in our design of our second prototype, because our cost estimate with all of these specifications and elements was an appropriate investment to a building that would need to meet the needs that our clients laid out for us.

To conclude, the feedback that we received from our clients was not very useful, and was mostly inapplicable to the improvements and additions that we aimed to include in our next prototype, and in preparation for our final submission that would present an optimized solution to our client’s feedback.

6. Prototype II Justification & Reasoning

As outlined in the background information section, our team decided that an analytical prototype would be the most appropriate for the time that we had to work on completing this deliverable. We also decided that a comprehensive prototype would be appropriate, due to the fact that the sub-systems in the building that we were designing were very general, and did not have any specific elements or mechanisms that would warrant a focused prototype on any singular one. Even the Garden Centre & Green Room that we chose to pay more attention to, based on our clients' feedback, was not enough of a detailed and intricate sub-system or element to warrant a focused prototype for its improvement, since the spaces were just areas that would be subject to the utilization and customization of our clients (for example, the Garden Room will be just an outdoor area that would be filled with whatever plants or greenery that our clients would want in it). Therefore, our team's conclusion was to procure an Analytical, Comprehensive Prototype that would emphasize the Garden Centre & Green Room of the building.

7. Prototype III Testing Plan

Our team has come to the conclusion that the feedback our clients offer us on our designs have been slow, and have hindered our work on commencing or continuing work on deliverables in the past. We have decided to continue on the route of receiving feedback for our testing, but will instead focus on receiving feedback from external clients, such as family and friends, who will be surveyed, interviewed, and consulted in order to receive overall feedback on their critiques of our prototype and overall solution design. This feedback, although not professional or focused (as it is not from our clients, who are the ones with the problem that we have been tasked with creating a solution for), will be the only feedback we can receive for the improvement of our design in a timely manner that is in line with the deadlines of future deliverables, and ahead of Design Day. It is therefore the most feasible and optimal course of action regarding our Prototype Testing Plan for Prototype III.

8. Conclusion

This deliverable's focus was to generate a prototype that reflected a more optimal solution to our clients' problem in a more elaborate way. The feedback that we received from our clients was used to perform this feat, and we conclude that, based on the time taken for us to receive feedback for implementation in this deliverable, our feedback will be received from external sources for our completion of the last Prototyping Deliverable, Deliverable H.

9. Wrike Snapshot

Our Wrike Snapshot after completion of this Deliverable is available through this link:
<https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=z73WIe36kvUhuBX9UDrfVJDeuN5DMYFu%7CIE2DSNZVHA2DELSTGIYA>