Faculty of Engineering

University of Ottawa

GNG 1103 C04 – Engineering Design

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Project Deliverable I: Design Day Presentation Material

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Abstract

This document presents the 3-minute pitch for the Design Day, including a 2-line project summary, problem statement, target audience, unique differentiation, and product demonstration. The pitch will be delivered by the available team members, supported by presentation materials. Additionally, it addresses potential questions and answers related to the project.

Table of Contents

1 Introduction 5

2 Project Summary 5

3 Pitch Content 5

3.1 Problem Statement ("So What?") 5

3.2 Target Audience/Users ("Who Cares?") 5

3.3 Differentiation ("Why You?" and "Why Now?") 5

4 Demonstration 6

5 Presentation Materials 6

6 Member Availability for the Presentation 6

7 Questions and Answers 6

8 Conclusion 7

9 Appendices 7

1 Introduction

This deliverable presents a 3-minute pitch for a Design Day presentation, that will be delivered to students, professors, potential users, and anyone visiting the showcase and that will include the core aspects of our final prototype, the problem we aim to solve, our innovative solution, target audience identification, and differentiation of our solution. In addition, the available team members will be there to demonstrate the working prototype and to answer questions about the project's design, development, and potential improvements, with the help of our presentation materials.

2 Project Summary

In summary, a bat box was designed to provide bats a safe place to live and to roost. In addition, without interfering with the bats' movement, a tracking device was built to help bat conservationists in Canada to track the number of bat visits to that box and to determine the efficacity of that box.

3 Pitch Content

3.1 Problem Statement ("So What?")

Having meetings with our client revealed bats' crucial role in pest control and ecological balance. However, climate change and infrastructure projects in Canada are causing habitat loss and population declines. To address these issues, safe and warm roosting sites were provided and monitored to determine if they offset habitat loss.

3.2 Target Audience/Users ("Who Cares?")

To start, bats play a crucial role by providing important control of agricultural and forest insect pests and even promote our existence. So, if no actions were taken, habitat loss and degradation from climate change and pollution will endanger them, especially those species in Canada. That's why bat conservationists, in our nation, need a device to track bat activity and monitor the effectiveness of their bat boxes.

3.3 Differentiation ("Why You?" and "Why Now?")

Our bat box stands out as our best solution, because not only does it provide a safe space for bats to live but it also tracks their visits, helping bat conservationists understand the efficacity of their bat boxes. This is something that traditional bat boxes don't have. In addition, due to bat population declines and habitat loss, bat conservationists considered it as urgent and employed us to build a device that monitors their efficacity.

4 Demonstration

We will begin the demonstration by outlining our bat box's design. The laser sensor on the tracking device will then be activated by our hand. We'll do it about four times. To obtain the results, we will then press the button twice. Finally, to view the outcomes, we will take the microSD card and put it inside the computer.

5 Presentation Materials

In the Appendices section, there will be an image of the poster that will be displayed during the Design Day at our table space. In addition, there will be a video in case our tracking system doesn't work during the Design Day.

6 Member Availability for the Presentation

During Design Day, our member, Jordan, will be there available to deliver a 3 min pitch to fellow students, professors, potential users/customers and anyone else who may stop by the showcase to check out our work.

7 Questions and Answers

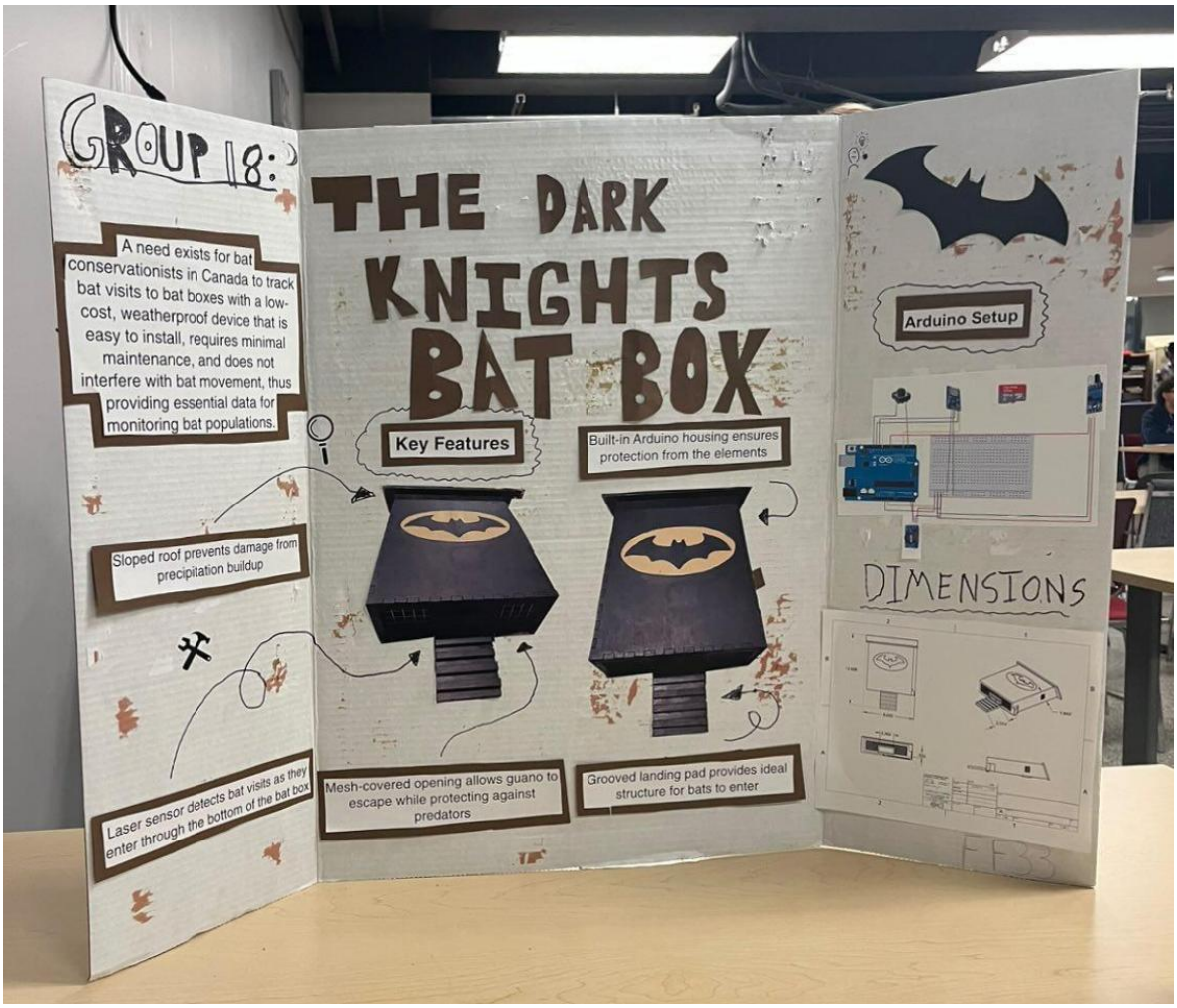
Questions	Answers
How accurate is the tracking system?	The entrance/exit of the slit is narrow, which condenses all bats to one lane. Each bat should count for 2: 1 for entrance and 1 for exit. The push button is used once all bats left and once you want to take off the bat box. It divides by 2 and gives the accurate number of bats that used that bat box.
Can this bat box be used in different environments or locations?	It can only be used in places that have power. You just don't need to go very far. You can hang it on the wall directly outside your home or apartment. In addition, due to its proximity, you can install the bat box, remove the bat box, do some maintenance or get some results.
What happens if there's a power failure?	There is a backup power, which is the power bank, that will turn on, once there is power failure.
What is the expected lifespan of the bat box?	The expected lifespan of the bat box would be 8 years.
How much does the bat box cost?	The bat box cost around 120$.

8 Conclusion

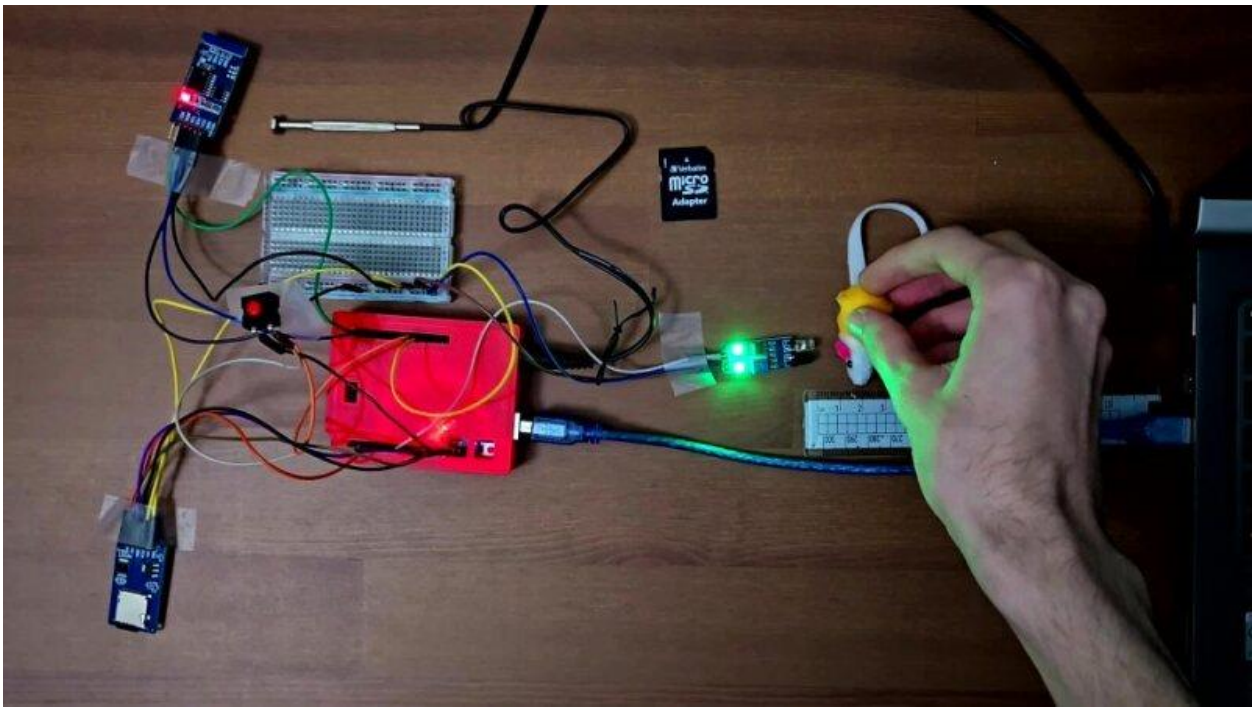
In conclusion, this deliverable presents a 3-minute Design Day presentation showcasing the core aspects of our final prototype, problem we aim to solve, innovative solution, target audience identification, and differentiation. Team members will demonstrate the prototype and answer questions about the project's design, development, and potential improvements using presentation materials.

9 Appendices

Image 1: The Poster that will be Presented During the Design Day



Video 1: Video that will be Presented During the Design Day in Case of a Problem within the Tracking Device*



*__Note:__ **Just Click on the Image to Watch the Whole Video**