BIRD DETECTION AND REPEL

BMC REPORT

Submitted by

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In fulfilment for the Semester 8 project

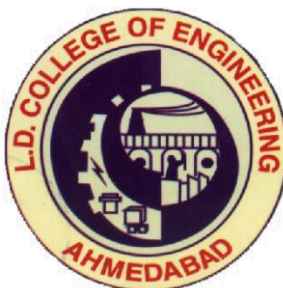**of**

BACHELOR OF ENGINEERING

in

Electronics & Communication Engineering

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L. D. College of Engineering

Department of Electronics & Communication Engineering

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CERTIFICATE

Date: 1-4-2020

This is to certify that the report entitled "Bird detection & Repel" has been carried out by Jeimin Kachhadiya, Het Pandya and Adil Mansuri under my guidance in fulfilment of the degree of Bachelor of Engineering in Electronics & Communication Engineering (8th Semester) of Gujarat Technological University, Ahmedabad during the academic year 2019-20.

Guide   **Head of the Department**

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LIST OF FIGURES

Chapter 1

Introduction

This project is totally based on saving the environment. We are trying for saving especially birds, which are killed because of the windmills, or the crop of the farmers which is destroyed because of the birds. Because of the bird-hits in aeroplanes, because of the windmills so many birds are killed every year so we are planning to save the birds.

Basic Objectives

- We are using the renewable sources of energy.
- The device save birds can work in many conditions.
- We are going to use it in windfarms, farms etc.
- The device is totally eco-friendly.
- Less maintenance.
- Secured as well as can be operated in any conditions.

Through Business Model Canvas or BMC model we give graphic representation of a number of variables that show the values of an organization. The Business Model Canvas can be deployed as a strategy tool for the development of a new organization. Furthermore, we also analyses the (business) situation of an existing business

The Business Model Canvas

Key Partners
Who are our Key Partners?
Who are our key suppliers?
Which Key Resources are we acquiring from partners?
Which Key Activities do partners perform?

- Caffe
- Airlines
- Farmers
- University of California

Key Activities
What Key Activities do our Value Propositions require?
Our Distribution Channels?
Customer Relationships?
Revenue streams?

- Less bird hitting to plane
- Get rid of crops

Key Resources
- Camera
- Arduino
- Servo Motor

Value Propositions
What value do we deliver to the customer?
Which one of our customer's problems are we helping to solve?
What bundles of products and services are we offering to each Customer Segment?
Which customer needs are we satisfying?

- We gave our product to airport maintenance team to solve bird hitting problem
- Farmers can get rid of crops damage cause of birds
- Actually we can detect multiple thing rather than bird so there is scope for it

Customer Relationships
What type of relationship does each of our Customer

- Costly but more accurate
- Easy to use
- Contact us

Channels
- Digital marketing
- Airport spot
- Farmers

Customer Segments
For whom are we creating value?
Who are our most important customers?

- Airport Officers
- Farmers
- Company Offices
- Home Foreground
- Windmill Spot

Cost Structure
- Camera
- Microcontroller and high performance processor
- Servomotor and laser diode

Revenue Streams
- Fund raising
- Sell as add on
- On this protype

Chapter 2: Contents

2.1 Key Partners

➢ Government and if the airports are owned by private companies or authorities the them.
➢ Farmers
➢ The people who are working in and owners of the windmills.

2.2 Key Activities

Here we discuss how we will represent the product to customers. Following can be used for marketing of products

● To keep away birds from aeroplanes.
● To keep away birds from the crop in the farms and fields.
● To keep away birds from the windmills.

2.3 Key Resources

Here we talk about what resources are needed for the development of the product.

➢ Airport authority of india

➢ Private companies who are managing the airports

➢ Farmers who tell us that how the birds damage their crops

➢ People who working at windmill

2.4 Value Proposition

Here we directly come in contact with the customer. We will aware the customer about the product. How it is useful to them and what support we give them.

1.We gave our product to politicians so that they can make decision about any particular topics and make decisions.

2. We can give this product to government officials so that they can take decisions about how people thinking about services.

3. News anchor can use this product for making news more attractive.

4. Researchers can see how much effect of any topics on people so that they can decide new things about any topic.

5. we are also giving this to the engineers who are worked in windmills and also the aeronautical engineers who are build the planes.

2.5 Customer Realationship

In this section it is given that how relationship with customer will be managed by our services.

- We are talking with the farmers and asked them after using our prototype that how it works and they find it easy or not and what about the costs and other things.
- We are talking with the aeronautical engineers and who are working in the windmills and asked about so many topics.
- We are talking about this to the persons who are working and managing the airport like airports authority of india.

2.6 Channels

In this section it is given how we will reach the customer. The marketing mediums we are using to promote the product

1. Social Media
    a. We have used social media for sharing it to all over Gujarat for better userbase.
2. Digital marketing
    a. We have done many advertisement for our product.
3. Gave to researcher for review
4. Give to government officials
5. Research Fellows

2.7 Customer Segment

- Aeronautical engineers
- Farmers
- Mechanical engineers
- Electrical engineers
- Persons of airport authority of india
- Government officials

2.8 Cost Structure

Here we discuss the cost that has been inherited in business modal. Before that first some assumption need to be made. According to COCOMO modal it takes approx. 8 months to complete the project. All the calculations are done approximately.

1. Costing for train model can't be predict cause it's one time investment on graphics card and high level microprocessor or we can use Google Collaboratry for train model with high computation power.

2. Harware like Arduino worth Rs. 500, Camera worth Rs. 1000, Computer system for processing video like raspberry pie Rs. 3000, High level servo motor Rs. 600 for 2 servo, laser lights Rs. 100 approx. Total Cost: Rs.5200

3. So basically product cost around 5500Rs. Approx. For market launch.

4. Extra charges like: Office Rent, Office rent will be around Rs. 15,000 in Ahmedabad.

5. Electricity Bill, Wi-Fi Charges Electricity bill of the office will be around Rs. 500/month. So for 8 months it will be Rs. 4,000. Wi-Fi plan will be Rs. 5,000 for 12 months for 6 Mbps speed.

2.8 Revenue Stream

Here we discuss the main source of income from the system

1. Advertisement Ads in the product are one of the source of income.

2. This product can be sell to the government officials and the airports authority of india.

3. If the windmills are owned by private companies then to them.