

**Jose Rizal University
College of Computer Studies and Engineering
Computer Engineering Department Mandaluyong
City**

**PT6 - Submission of Complete Business/Project Documentation
OBJECT DETECTION SUNGLASS
In Partial Fulfillment
Of the Requirements for CPE C313 and EGR C204
Required for the degree in Bachelor of Science in Computer Engineering**

Group: Skyline pi Jun Fly

**Submitted by:
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EXECUTIVE SUMMARY

1. Brief Description of the Project

Our project Object Detection Sunglass a wearable device that can detect an object using ultrasonic sensors, earphones, raspberry pi with voice feedback. assisting a visually impaired person, allowing a visually impaired to walk safely. Detecting objects and also helps give the distance of an object to the impaired person using ultra sonic sensor.

2. Brief Profile of the Entrepreneur

Bermas, Dave Harley, Garcia, Jonathan, Inopia, Jeminteza, Loyola, Jasmine Mae - the entrepreneurs are all third-year college students majoring in computer engineering.

3. Project's Contributions to the Economy

Our Project's Contributions to the Economy is increase productivity, sustain income earning potential, enhance learning, and make people safer on the roads and in their homes.

Section1 - Organizational Plan

Form of Business

To have a successful business, first it starts with ourselves. We should act as a professional one, like focus on our product, increase our productivity and creativity, so that we can come up with an organized plan on how our business will be successful.

Organizational Structure

Our business will be managed and operated by the four of us, we will work as one and have unity. Every one of us will be given a chance to talk and speak their ideas and later on we will have our agreement. Jonathan Garcia and Dave Bermas will be in charge of engineering while Jeminteza and Jasmine Mae will help them to manage, develop, and increase creativity for the product.

Business Experience and Qualifications of the Entrepreneur

There are essential skills that is required to succeed as an entrepreneur and as a student, we would like to enhance and improve our skills in order to have a successful business. We are an engineering student and all of us have our qualifications, it requires critical thinking especially for making our product, strong communication skills, creativity and productivity, conceptual, and many more to consider. We can apply all our learnings and experiences in this matter.

Pre-Operating Activities

Activities included are market research and everything within and visitation of possible deployment sites of our project. Before the business can operate, we will conduct a Market research and explore things especially in the internet that has potential to help us in our project.

Pre-Operating Expenses

Expenses could come up in the form of travel expenses, though they would be variable in each of the member's commute, ranging from 50 pesos to 100 in a non-round-trip commute. Food expenses would range from 200 above. Internet access would be variable.

Office Equipment

Office equipment would vary greatly depending on our agreed-upon components of choice - a Raspberry Pi 3 model B for estimating cost of 2500 pesos above and. We would also need the other components such as a ultrasonic sensor, earphone, breadboard and the tools that would be needed in assembling the project device.

Administrative Expenses

Similar to the costs listed within the pre-operating costs, we just will have to spend more depending on what we do as a group.

Section 2 - Marketing Plan

A. Target Market

Object Detection Sunglass aims to catch the interest of a customer especially children, teens, students, and adults whose blind or completely lost their vision. Being at an affordable price, the customers would allow it to be purchasable to low medium and high-income earners. It is very helpful for many people that encounter difficulties in vision or a person that unable to see things.

B. Market Description

Our business plan is to sell our product to bring help for those people who doesn't see, have eye problems, lost their vision, or in short blind people. We will make these people feel awake from their sadness, anxiousness, and depression so that they have their guide to detect objects from the distance towards them. Technically, our product is open for everyone who needs it. Meanwhile, to those people who are not really into our products, can still avail it. We will make our customer feel satisfied with our product but also with the quality of service.

C. Marketing Strategies

Our product "Object Detection Sunglass" will be available in market and online shop. These platforms are the heavily populated or visited by most people who is looking for their needs to buy. Thus, we will much focus on blind persons. According to our observation, it seems that these are the potential consumers most likely to avail the products we are selling. The company will use social media such as Facebook and Shopee. Brochures will also be distributed for those people who are not into social media, for them to know more about our product.

D. Product Description

Object Detection Sunglass is a wearable device that can detect an object using ultrasonic, earphones, raspberry pi with voice feedback. assisting a visually impaired person, allowing a visually impaired to walk safely. Detecting objects and also helps give the distance of an object to the impaired person using ultra sonic sensor.

Section 3 - Production Plan

Production Process

Our production process is installing the materials to made an object detection sunglass

Fixed Capital

The customer will pay the total amount of materials plus the labor.

Life of Fixed Capital

The life of our object detection sunglass will used for a long time.

Maintenance and Repairs

We will give a 3 to 5 days warranty to the customer to repairs the defective product.

Sources of Equipment

They can obtain or get our product from our Facebook page and from the market.

Capacity

The capacity of our product will be depended to the demands of the customer and to be considered the materials that we are going to use.

Future Capacity

Upgraded production space, machinery, and motor that will handle the product's capacity in the future. The spare capacity will be use to another product but, it will be depending to the demands of the customer.

Terms and Conditions of Purchase of Equipment

The customer will sign a form to our fb page about the details about the purchase of our product. We will give option to the customer the mode of payment.

- Gcash
- Bank

- Cash on delivery

Factory Location and Layout

Located in Taytay, it will be arranged by one of our members who are located in Taytay.

Raw Materials

EQUIPMENT	QUANTITY
RPI 4 8GB KIT	1
Case Box	1
Earphone	1
SR04 Ultrasonic Sensor	1
Camera	1
Breadboard	1
Power Bank	1
Resistor	5
Connecting Wires	2 Bundles

Cost of Raw Materials

EQUIPMENT	ESTIMATED COST
RPI 4 8GB KIT	7000
Sunglass	150
Case Box	200
Earphone	150
SR04 Ultrasonic Sensor	58
Camera	240
Breadboard	45
Power Bank	199
Resistor	10
Connecting Wires	240
Total	8292

Raw Materials Availability

Our source materials are market lab located in manila and also available in the online shop.

Labour

We guarantee the efficiency of the workers and the cost of the labour will considerate by production process.

Cost of Labour

The efficiency of the product and the materials will cost the labour 2000.

Labour Availability

The worker will still create the product if it has huge demands and will upgrade the product if necessary.

Labour Productivity

The worker will be motivated by huge demand of customer and increase income of the worker.

Factory Overhead Expenses

The factory overhead expenses will consider the facility and the rent of the location that will be rented.

Production Cost

Production Cost	Per Unit
Materials	8292
Labor	2000
Total	10,292

Section 4

FINANCIAL PLAN

4.1 Project Cost

The total capital requirement for our project is 10,000 pesos to build this product. We accumulated this much money because of the RPI 4 that serves as a brain in our product. Also, in 10,000 pesos, we have other expenses like food and vehicle expenses.

4.2 Financing Plan and Loan Requirement

We didn't try to take a loan to have budget in creating our product, because we divided the total amount and we have our own contributions.

4.3 Security for Loan

If ever that we take a loan, as a technopreneur we will be using debit card as security collateral.

4.4 Profit and Loss Statement

Income	15,000
Cost of Goods Sold	10,000
Gross Profit	5,000
Expenses	1,000
Net Operating Income	2,000
Other Income	0
Other Expenses	0
Net Other Income	0
Net Income	2,000

4.5 Cash Flow Statement

Operating Cash Flow	
Net Income	3,500
Depreciation	250
Increase in Accounts Receivable	200
Decrease in inventory	200
	3,700
Investing Cash Flow	
Equipment Purchases	8,500
Change in Cash	5,000
Beginning Cash	10,000
Ending Cash	15,000

4.6 Balance Sheet

Balance Sheet	
Assets	
Cash	9500
Total Current Assets	9500
Property & Equipment	2000
Total Current Assets	11500
Liabilities	
Accounts Payable	0
Accrued Expenses	9500
Unearned Revenue	12000
Total Current Liabilities	21500
Long-term Liabilities	1500
Total Liabilities	33500

4.7 Loan Repayment Schedule

4.8 Break-even Point (BEP)

1	Units	Variable Costs	Total Costs	Total Revenue	Net Profit
2	0	0	9500	0	-9500
3	1	12000	21500	12000	2500
4	2	24000	33500	41500	14500
5	3	36000	45500	61500	26500
6	4	48000	57500	81500	38500
7	5	60000	69500	101500	50500
8	6	72000	81500	121500	62500
9	7	84000	93500	141500	74500
10	8	96000	105500	161500	86500
11	9	108000	117500	181500	98500
12	10	120000	129500	201500	110500

4.9 Return on Investment (ROI)

As technopreneurs, we believe that after investing a total of 9,500 pesos over the course of one to two months, we will see a return on investment after selling two units. The desired number of units to sell is 10, and we'll make a profit of 110500 pesos if we sell all 10.

4.10 Financial Analysis

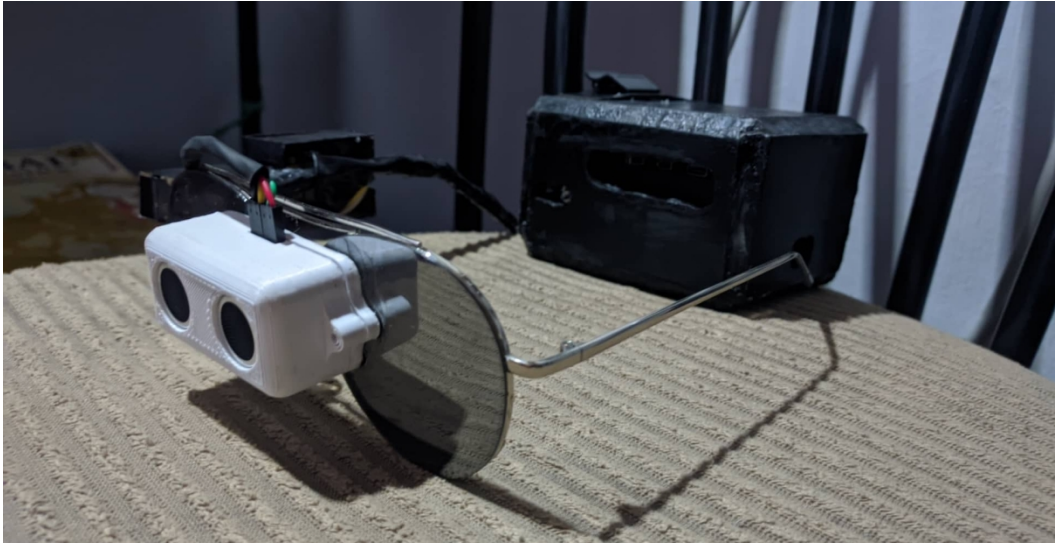
The feasibility of our project is depending on the project's cost and return on investment, so that, our project might be feasible because it includes the revenue from our consumers.

2. Complete Documentation of Exhibit (Video/Livestream/Pictures/Video of Product Operation)

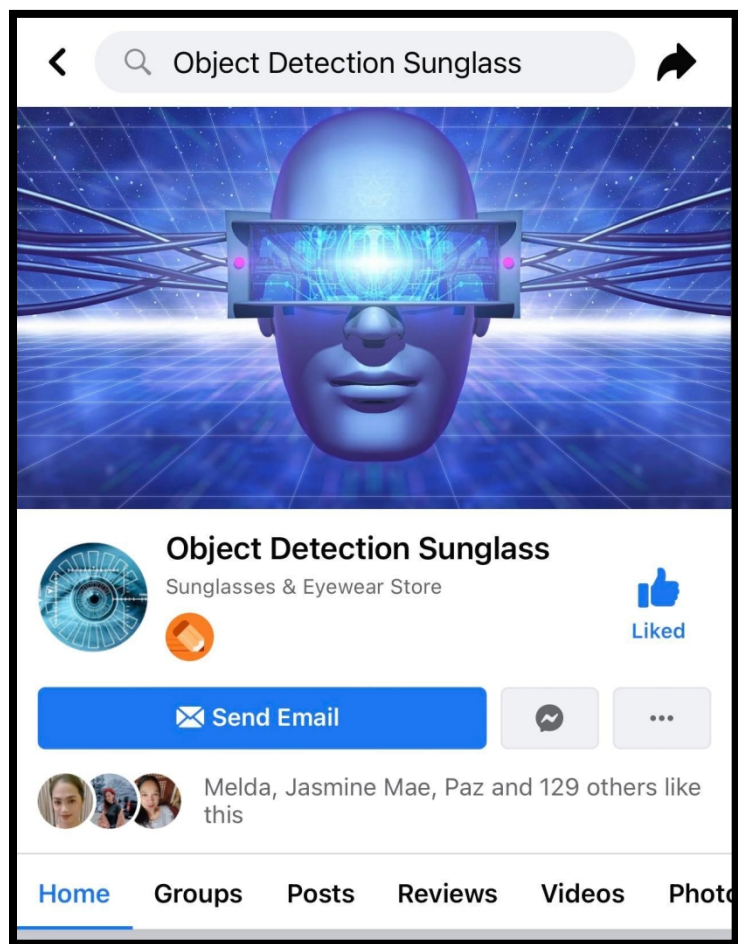
a. Marketing Materials (including Ads)

In our marketing materials, we created an advertisement video for our audience, followers on Facebook, and target consumers to promote our product and also to know what its functions and purposes. Also, in our project exhibit, we conducted a Facebook livestream in order to demonstrate the functionalities, the description of our product, and components.

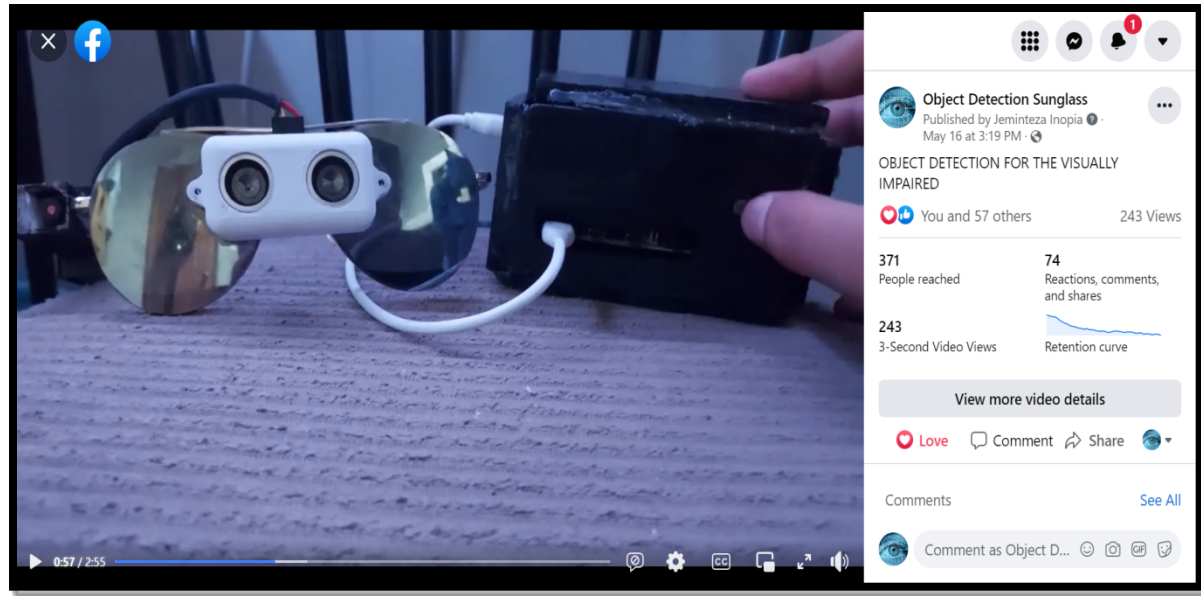





Facebook Page





Facebook Ads:




Facebook Livestream



Object Detection Sunglass's Post




Object Detection Sunglass was live.
Posted by ZOOM Video Livestream - Prod
2d · 




OBJECT DETECTION SUNGLASS FOR THE VISUALLY IMPAIRED

SKYLINE

PLEASE LIKE AND SHARE!!





90 Views

 Love  Comment  Share

65 people reached >

Boost Post

  You and 20 others