Business Model Development Capstone Project

Team- 5 Project Proposal

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Project Name: Voice-guided and Visual Safety Alert System(Baby Monitoring)

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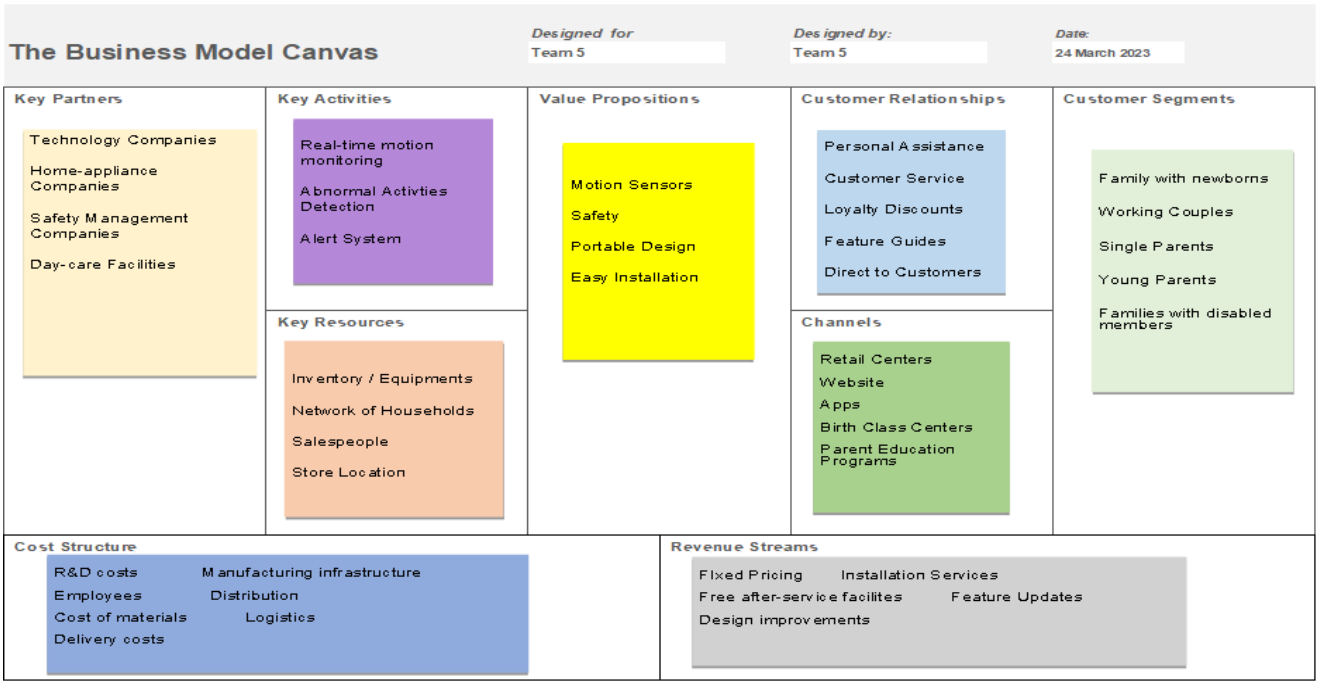


The business model canvas helps to get the core business idea of our project idea and the key components are explained through the model itself. The overall product is a combination of engineering and business aspects. The business model canvas describes in detail the business aspect and hence the engineering aspects of the components used, and the tasks the product deals with, their architectures are shown with a flowchart and a block diagram for the architecture.

Research Method

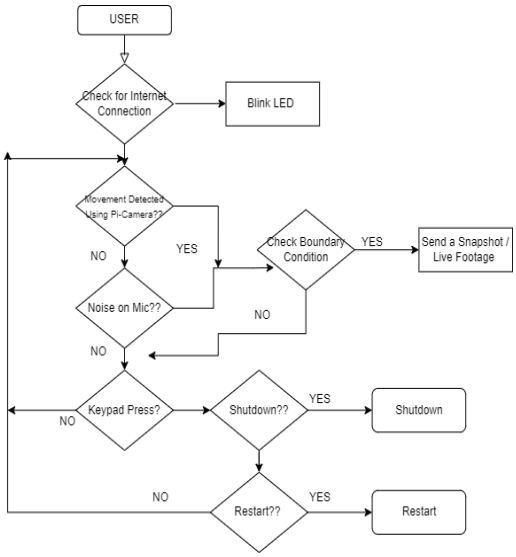
For parents, a baby's safety and well-being are of the greatest importance. Infants are particularly vulnerable to accidents and SIDS. Parents therefore constantly want to make sure that their infants are protected and secure. A cheap and dependable real-time baby monitoring device is therefore required.

Research plan:

As we are developing a new system, we will be using **Exploratory research** and its core function will be the **Applied Research Function** to provide infants with assistance using our newly developing technology. Information will be gathered using **Qualitative research methodology** and findings will be applied to planned needs and practice.

Ideally, **Empirical research classification** will be applied to our research as it supports the development of our new idea through the collection of data, unlike **Theoretical research classification.** We will conduct our research-based **Research process** starting from **defining our research objectives** all the way down to **formulating a conclusion and preparing a report** going through all the six processes of it.

A. Technology



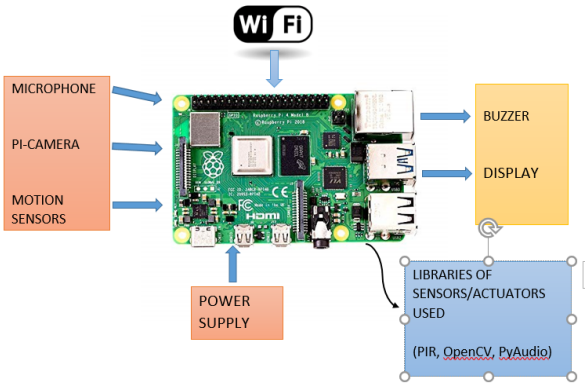


Fig:1 Architecture of the System

B. Management: Production & Service

The Management team would be responsible for creating a design for distribution. This includes Design Development (product screening and analysis), generating ideas, and meeting the demand and wants of the customer, product planning (predicting the probable demand, raw materials required, and production schedule), marketing & sales.

Firm type: Assemble-to-Order

Production process mapping: *Source→Factory→Finalized Product→Delivery*

Product process matrix: *Workcenters(creating technological part) →Manufacturing Cell →Assembly Line →Continuous Process*

Service provided by the company: Customer contact. This service manages the number of queries, complaints, and questions and provides detailed information about the device. Customer contact can be via email, messaging, and phone numbers. As the packaging and instructions are given to make the process easy to follow and implement.

Price:

When it comes to the pricing of our system, there are several pricing models and strategies to be evaluated and considered. Our current proposed pricing model and strategy for the baby monitoring system is a **value-based pricing model** combined with a **penetration pricing strategy** and **psychological pricing**.

A value-based pricing model will allow the team to highlight the unique features of the system like mobile app integration with room for the addition of video capabilities and real-time alerts, and charge the premium price for the product.

For the introduction phase of the product, a penetration pricing strategy will be applied to gain market share and attract customers by setting the price lower than the competitor's price, but enough to cover the production costs and generate a reasonable profit margin. And the price will be set in a way that will make the customers perceive it as more attractive using a psychological strategy.

Distribution and logistics:

For the distribution and logistics of the products, we shall be adopting an **online and retail distribution model** combined with an **outsourced logistics strategy.**

An online distribution model will allow the product to reach a broader audience and cut the cost of marketing and customer acquisition. This model will also allow us to collect customer data and feedback which can be used to improve the product and marketing strategies. And the retail distribution model is a suitable model for providing convenience to customers and expanding customer reach.

Considering the small team size and limited resources, the logistics operations shall be outsourced to a third-party logistics (3PL) provider. The 3PL provider shall be responsible for warehousing, transportation, and order fulfillment allowing the company to focus on product development and marketing.

Technological Innovation

With the improving technological aspects, the expectation to meet the current human requirements has gone above the human limitations to complex AI applications. Respecting that expectation, the technological innovations that can be performed with the IoT Baby Monitoring System are: **i) Remote Monitoring -** Providing parents/caretaker with remote access of the baby's activities, **ii) Smart Alerts -** Alert system with different activities indication (such as crying) , **iii) Environmental Monitoring -** such as Humidity & Temperature monitoring.

Legal Aspects of Product

For the protection of the functional design and intellectual property rights of the product, we propose to file for a patent through the university. It shall provide the team with rights to the innovations of other versions and updates including its production and sales.Trademark is also in consideration for the protection of the identity of our product.

Product safety, labor standards, and environmental protection policies shall also be prioritized in each phase of the product development and distribution.

In conclusion, the implementation of the baby monitoring system has the potential to provide parents and caretakers with a effective and reliable tool to ensure the safety of their baby ., and as a team, we assure you to give our best to make this project work in real-time

REFERENCES

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APPENDIX

Since the product designing process is yet to be done and it's the proposal idea of the team, we did not have enough information to build or 3D print a prototype. However, some research helped to find some similar ideas (not the same) which follows the concept of baby monitoring and we can assure our final product to be somewhat similar to those as we can see in the images below.

The camera we are gonna use is most likely a Raspberry Pi Camera, instead of a DSLR but the hardware architecture approach will be kind of similar.