**BUSINESS CASE**

**Project: AI Customer Analyzer**

**Group: 19**

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# 1 Business Case Report History

## 1.1 Document Location

This document is only valid on the day it was printed.

The source of the document will be found on the project's PC in location

## 1.2 Revision History

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**Date of Next revision:**

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| **Revision date** | **Previous revision date** | **Summary of Changes** | **Changes marked** |
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## 1.3 Approvals

This document requires the following approvals.

Signed approval forms are filed in the Management section of the project files.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Signature** | **Title** | **Date of Issue** | **Version** |
| Dr.Yasas Jayaweera |  | Project Executive |  |  |
| Gunarakulan Gunaretnam | A picture containing text, hydrozoan, night sky  Description automatically generated | Project Manager | 01-03-2023 |  |
| Kishoth Navaretnarajah | Shape  Description automatically generated | Client | 01-03-2023 |  |

## 1.4 Distribution

This document has been distributed to:

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| **Name** | **Title** | **Date of Issue** | **Version** |
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### Business Case

## 3 Purpose

The Business Case will justify the undertaking of the project based on the estimated cost of development and the anticipated business benefits to be gained. The project's ongoing viability will be monitored against the Business Case by the Project Board, is to develop an AI-powered computer vision-based customer analysis system for DreamSpace that can accurately count the number of customers entering the premises, detect their age range, gender, emotions, and race, and monitor sales employees' vocals to improve their communication skills.

## 4 Reasons

The above project aims to develop an AI-powered computer vision-based customer analysis system that can accurately collect and analyze customer data in real time. This system will allow DreamSpace to gain valuable insights into customer demographics, preferences, and behavior, ultimately improving customer satisfaction and business growth. Traditional methods of customer analysis can be time-consuming, making it challenging for companies to understand their customers fully; with an AI-powered customer analysis system, DreamSpace organization can collect real-time data, freeing up staff time and resources and providing more accurate and efficient customer analysis.

* To develop an efficient and accurate customer analysis system.
* Traditional methods of customer analysis, such as surveys and interviews, can be time-consuming.
* AI-powered solutions can collect real-time customer data and provide valuable insights.
* The system uses computer vision and machine learning algorithms to detect the number of customers, age range, gender, emotions, and race.
* The system monitors the interactions between sales employees and customers to improve communication skills.
* The system provides a mask reminder to visitors if necessary, contributing to the customer's and staff's health and safety.

## 5 Options

Traditional customer analysis methods: Instead of investing in an AI-powered computer vision-based system, DreamSpace could choose to use traditional methods such as surveys, interviews, and focus groups to gather customer data. However, these methods may not be as efficient, accurate, or provide real-time insights as an AI-based system.

Hire a third-party company: DreamSpace could hire a third-party company specializing in developing customer analysis systems. However, this may result in higher costs and less control over the system's development.

Develop a more straightforward system: DreamSpace could develop a simpler customer analysis system focusing only on counting visitors and basic demographics such as age and gender. However, this may not provide as much valuable data and insights as a more comprehensive system.

Use existing technology: DreamSpace could use existing technology, such as facial recognition software, to gather customer data. However, this may raise privacy concerns and may not be as accurate as a system specifically designed for customer analysis.

Develop a mobile app: DreamSpace could consider developing a mobile app that customers can use to provide feedback and data. However, this may not be as effective in gathering real-time data compared to a system placed at the entrance of the premises.

## 6 Benefits Expected

* Improved Efficiency: The system accurately counts the number of customers entering DreamSpace's premises, allowing the company to allocate resources more effectively.
* Enhanced Customer Experience: The system detects customers' age range, gender, emotions, and race, providing valuable insights that can be used to improve the customer experience and tailor services accordingly.
* Improved Sales Performance: The system monitors sales employees' vocals to improve their communication skills, leading to better sales performance and increased revenue.
* Improved Health and Safety: The system will remind visitors to wear a face mask if necessary, contributing to the customer's and staff's health and safety.
* Valuable Insights: The system will provide data that can be used to understand better and serve DreamSpace's customers, ultimately leading to improved customer satisfaction and business growth.
* Time and Cost Savings: The system will automate the customer analysis process, freeing up staff time and resources, leading to cost savings.
* Competitive Advantage: The system will give DreamSpace a competitive advantage by providing more accurate and efficient customer analysis than its competitors, leading to increased market share.

## 7 Risks

* Technical risks: There is a risk that the computer vision and machine learning algorithms used in the system may not accurately predict age range, gender, emotions, and race, leading to incorrect customer analysis data.
* Data privacy risks: The system will collect personal information about customers, such as age, gender, and emotions, which could potentially violate privacy laws and regulations. Ensuring compliance with data privacy laws will be critical.
* Security risks: As the system will collect sensitive information, there is a risk of cyber-attacks and data breaches. Proper security measures must be in place to prevent unauthorized access and ensure data protection.
* Integration risks: There is a risk of technical difficulties while integrating the AI-powered system with the existing IT infrastructure of DreamSpace.
* User adoption risks: There is a risk that visitors may not adopt the system or may find it challenging to use, leading to low usage and poor data collection.
* Cost risks: The project may exceed the estimated budget, leading to financial troubles for DreamSpace.

## 8 Cost

| **Role / Things** | **No of Hours / Quantity** | **Hourly Rate (LKR)** | **Total Cost (LKR)** |
| --- | --- | --- | --- |
| Project Manager | 260 | 2000/- | 520000/- |
| Startup Manager | 220 | 1500/- | 330000/- |
| Schedule Manager | 160 | 1000 | 160000/- |
| Risk Manager | 190 | 1200/- | 228000/- |
| Quality Manager | 180 | 1200/- | 216000/- |
| Infrastructure | - | - | 100000/- |
| Software Licenses | 3 | - | 100000/- |
| Hardware Equipment | 4 | - | 120000/- |
| Developer Cost | 250 | 2000/- | 500000 |
| Marketing | - | - | 10000/- |
| **Total** | **-** | **-** | **2284000/-** |

## 9 Timescales

