**Form B**

**MIT School of Engineering**

**Department of Computer Science and Engineering**

**Viability Analysis Report**

**Date: 01/01/2020**

**Class:SY CSE1**

**Project Group ID:13**

**Project Title: Image component detector**

| **Sr. No.** | **Parameters** | **Description About Project** | **Marks(5)** |
| --- | --- | --- | --- |
| **1.** | **Business Ideas and Implementation from project** | Colour Detection (a simple program that is responsible for detecting a particular color from the image. We can use thousands of named colors to identify which color resembles close to the pixel from the image.)Face Detection (Face detection is a technique to find the location of the human faces in an image. Computers use various types of algorithms to detect if the shape in the image resembles a face or not.)Human Counting ( A camera can be used to monitor and count the number of people present in the room, building, street, etc.) |  |
| **2.** | **MarketSurvey(Competitors,Substitute,products,potential market ,etc.)** | **Competitors:**Google,Hitachi,LTU Tech,NEC Corporation,.etc.  **Substitute:**Planorama,  **Products:**Face API,Custom Vision Service,Big Entity Search, Google Lens, Aipoly vision, etc.  **Potential Market:**The global image recognition market size was valued at  USD 27.3 billion in 2019 and is expected to register a CAGR of 18.8%  From 2020 to 2027 |  |
| **3.** | **Market Acceptability of Product** | Increasing demand for security applications and products enabled with image recognition functions is influencing the growth of the market.  The image recognition market is expected to grow from USD 16.0 billion to USD 38.9 billion by 2021, at a CAGR of 19.5% from 2016 to 2021.  Increasing use of image recognition applications and high bandwidth data services are major driving factors behind the growth of the image recognition market. |  |
| **4.** | **Emerging Trends of project and product** | The 2019 IEEE Conference on Computer Vision and Pattern Recognition (CVPR) was held this year from June 16- June 20. [CVPR](http://cvpr2019.thecvf.com/) is one of the world’s top three academic conferences in the field of computer vision (along with ICCV and ECCV). A total of 1300 papers were accepted this year from a record-high 5165 submissions (25.2 percent acceptance rate).  Most popular areas of research were detection, segmentation, 3D, and adversarial training. It also shows the growing research in unsupervised learning methods.  Some of the most Trending papers-   1. Learning the depths of moving people by watching frozen people ( A particularly challenging case where both the camera and the objects in the scene are freely moving.) 2. BubbleNets: Learning to Select the Guidance Frame in Video Object Segmentation by Deep Sorting Frames (BubbleNets iteratively compares and swaps adjacent video frames until the frame with the greatest predicted performance is ranked highest, at which point, it is selected for the user to annotate and use for video object segmentation.) 3. 3D Hand Shape and Pose Estimation from a Single RGB Image ( This paper uses a monocular RGB image to create a 3D hand pose and 3D mesh around the hand) 4. Deep Learning for Zero Shot Face Anti-Spoofing ( a system that detects faces, recognizes them and understands their emotions in 8 lines of code.) |  |
| **5.** | **Income Generation Ideas from project** | 1. General facility providers like schools, hospitals, malls, movie theaters can purchase this project for better crowd control. 2. Project can be modified to measure the distance between people and notify the user to maintain the social distancing in public places. (e.g., in front of a store or in mall, etc. ) |  |
| **6.** | **Project Profitability** | According to MarketsandMarkets, the worth of the global Face Recognition market will have reached a formidable US$ 7 billion by 2024. Due to the huge and diverse demand, the technology is set to gradually become an indispensable asset or considerable boon for hundreds of millions of people and myriads of businesses regardless of their size. |  |
| **7.** | **Cost Benefit Analysis** | N/A |  |
| **8.** | **Any Other Point** | It will be an all purpose application like never before. |  |
| **Remark:** | | | |

**Project Approval Status:Approved / Not Approved**

**(Name & Designation of Market expert)**

**Signature with Date:**