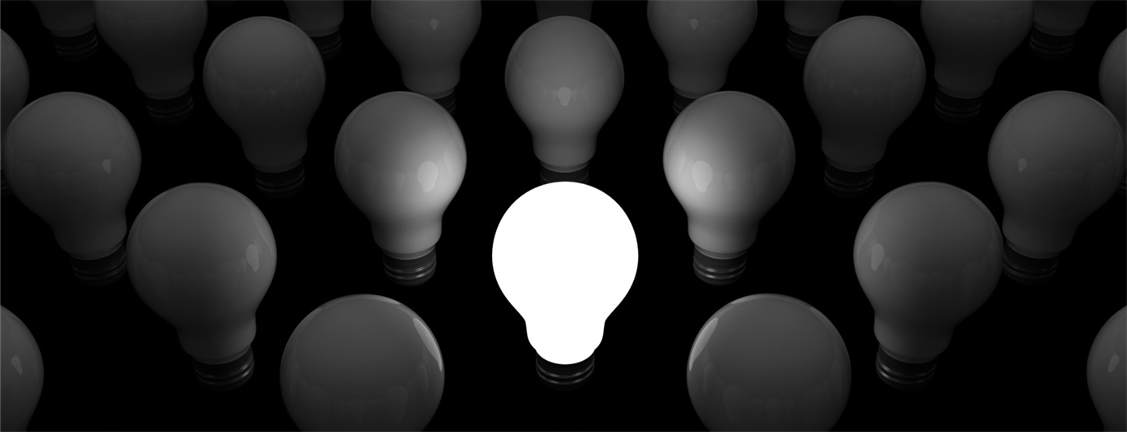
**Feasibility Study Report**

**Table of contents**

| **Serial number** | **Overview** |
| --- | --- |
| 1. | Introduction or Executive summary |
| 2. | Stakeholders information |
| 3. | Problems faced initially/ need for the new system |
| 4. | Business Profile |
| 5. | Methodology and tools for feasibility study |
| 6. | Observations and findings from the feasibility study |
| 7. | Challenges and assumptions from the project study |
| 8. | Recommendations |
| 9. | Team members |
| 10. | Glossary |

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**1. Introduction or Executive summary**

What is it like to stand in front of a software that reads your face and you aren’t required to fill in your personal information manually whenever you want to go out of campus?

Sounds amazing right?!

Here we are, to propose a project that does exactly this magic!

We have a face recognition system that reads your face and fills in all your information, so that you save time and the management runs smoothly.

**2. Stakeholders information**

* The stakeholders involved in this project are:

1. Varun Samaga B L
2. Shashank Rajora
3. Mourya Kakarapu
4. Sakshi Kusale
5. Vishwateja Peddakapu
6. Sanket Mishra

* The end users of our product would be the institute - Indian Institute of Information Technology (IIIT Dharwad)
* We aim to automate the entry/exit logging process at the entrance of the institute.

**3. Problems in the existing system:**

* **Overcrowding at the gate:**

At times it might happen that multiple students want to go off campus and at such times it’s pretty difficult to register all the students manually. This leads to a lot of students gathering at the main gate for unnecessarily longer periods.

* **Micromanagement for the security:**

1. When plenty of students are required to be registered simultaneously, the security finds it difficult to manage and ensure that all the entries are correct and precise.
2. Considering the fact that mistakes might take place from the security’s end, there have been cases where many entries were not registered and the students were actually out of campus without making any entry.
3. Also, the security has faced several problems when the students have made wrong entries by filling in inappropriate phone numbers, room numbers, registration numbers or even names.

* **Malpractices by students:**

1. We cannot expect the security to remember all the students associated with their names and faces and at times students have entered wrong names and have gone out of campus.
2. The students who are well acquainted with the security often come back at time past the actual in-time set by the institute. This encourages students to exploit the freedom granted to them.
3. When a group of friends go out, they tend to give a single person’s phone number and due to any unavoidable reasons if the number given is not reachable, then there might be unforeseen consequences for both, the students as well the security.

* **Unnecessary wastage of time:**

Since the process is manual, it takes time for the students to fill in all the details and many times, due to time constraints.

**4. Business Profile**

**Name:** Varun Samaga BL

**Designation:** Project Manager

**Advertisement Headline: Abridge your tramp!**

**Introduction:** We want to automate the outgoing and ingoing logging system that is currently prevailing by installing face recognition devices that will make the job simpler and easier for both, the management as well the students.

**Company name: *silhouette***

**5. Methodology and tools used for feasibility study:**

* Brainstorming sessions:

Detailed high level discussion on the pre-requisites and procedures to set up the project.

* Meetings with industry experts:

To get insight on the technical aspects of the project.

* Web surfing :

Taking into consideration precious and precise research and suggestions from various different sites and articles.

**6. Observations or findings from feasibility study**

Major observations:

1. It takes approximately 1 - 1 ½ minutes for every entry which may not seem to be a very long time if seen otherwise, although if we consider the aggregate of it and focus on a situation where a student goes out quite frequently, then it may consume a lot of time and rather lead to wastage of time.
2. The entries are made serial wise and not parallelly which is another drawback and causes overcrowding at the main gate when the bus is about to leave the campus.
3. It is difficult for the security persons to keep a track of all students who have reported back to campus and many a times, there’s a miss and leads to ineffective management.
4. Students who are well acquainted with the security exploit the in-time and stay out for longer durations.
5. Often wrong entries are made with regards to name, phone number or even outgoing and incoming time.
6. Study:

* There are a total of 6 bus trips that happen everyday
* Every bus trip takes around 30+ students
* Assuming the bus is run once at every scheduled time slot and that the bus does not overflow, we would have an approximate of 30 \* 6 = 180 students per day
* Hence it is a time consuming process to fill in details of 180 students
* It’s also tedious to check if all the 180 students have returned back
* The proposed system thus keeps the record system extremely feasible and helps managing the data efficiently

**7.Challenges and assumptions from project study**

Major challenges and assumptions:

1. The security is assumed to be present at the main gate 24/7 which may not be the case always.
2. We would require a high resolution camera which would mean a great infrastructural expense.
3. There may be some false positives which can get accepted by the system.
4. Reliability: Since we have an online system, if due to any unforeseen reasons the system is offline then it might lead to system downtime.
5. There may be false negatives (face not matched/registered).
6. It is assumed that the security personnel are comfortable with the technology and require initial training to deal with the system.
7. If any student wants to carry some packages from the main gate, then there will be many in-out entries which are unnecessary and would make the database ineffective / redundant.

**8.Recommendations**

1. The security is assumed to be present at the main gate 24/7 which may not be the case always.

Recommendation: We must instruct the security personnel to keep at least one guard at the main gate 24/7.

1. We would require a high resolution camera which would mean a great infrastructural expense.

Recommendation: It would be a one-time investment but serve great purpose and also the advantages of the system outweigh the high expense.

1. There may be some false positives which can get accepted by the system.

Recommendation: This can be reviewed by the security and the student. We can also have a digital display if required.

1. Reliability: Since we have an online system, if due to any unforeseen reasons the system is offline then it might lead to system downtime.

Recommendation: Reliable hosting services can reduce the chances of system downtime.

1. There may be false negatives (face not matched/registered)

Recommendation: Keep a manual digital entry for such cases.

1. It is assumed that the security personnel are comfortable with the technology and require initial training to deal with the system.

Recommendation: Sufficient training and familiarity over a period of time shall help the security personnel to deal with the system.

1. If any student wants to carry some packages from the main gate, then there will be many in-out entries which are unnecessary and would make the database ineffective / redundant.

Recommendation: Certain filters can be put in place to filter the redundant entries.

**9.Team members**

**Team name : *silhouette***

1. Varun Samaga B L - 21bcs129

2. Shashank Rajora - 21bcs106

3. Mourya Kakarapu - 21bcs049

4. Sakshi Kusale - 21bcs098

5. Vishwateja Peddakapu - 21bcs135

6. Sanket Mishra - 21bcs100

**10.Glossary / References**

Find the attached references used:

1. <https://www.eff.org/pages/face-recognition>
2. <https://github.com/ageitgey/face_recognition>