



**Walkable Streets: Bringing life and safety to a
potentially dangerous street**

**A project presented to the
Department of Information Systems
University of Cape Town**

By TEAM NOFORM

Pratish Dullabh (DLLPRA002)

Vusumzi Malgas (MLGVUS001)

Elvis Sebatane (SBTELV001)

Diya Seeburrin (SBRDIY001)

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UCT KNOWLEDGE CO-OP

The UCT Knowledge Co-op facilitated this collaborative project.

See <http://www.knowledgedco-op.uct.ac.za> or

Contact us at barbara.schmid@uct.ac.za / 021 – 650 4415

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PART I: Business Case & Project outcomes

1. Introduction

A community in Mowbray was concerned that their street (Church street) was turning into a crime alley and wanted ideas to prevent that from happening. A few crimes were reported to the police, but the statistics did not exactly show what was happening as most people do not report petty crime like robbery. The aesthetics of the street was found to be one of the main reasons robbers and thieves become attracted to the street. It was advised that if one can improve the aesthetics of the street, then the street won't look like a shady place and gangsters would be less attracted to visit the street. The street is made up of students who are renting, senior citizens, a church (Saint Peter's) and a creche (Gingerbread) opposite the church.

1.1 Background of project

We are team NoForm, which is made up of four members Vusumzi Malgas, Diya Seeburrin, Elvis Sebatane and Pratish Dullabh. We are third year Information Systems students and we have been given a project by one of our courses which is INF3011F. The project was presented to us by the Knowledge Co-op organisation, which is an organisation that provides a channel for external constituencies to access knowledge, skills, resources and professional expertise within the university. At the same time, it provides an opportunity for academics and students to engage with society and address the needs of communities.

2. Problem Definition

The residents of the Church Street face several issues. After meeting with some of the residents on Church Street, the problem highlighted by the residents are as follows:

1. Criminal activities

The street is subject to criminal activities such as housebreaking incidents, robberies with weapon like guns and knife and theft of motor vehicles. A lot of the victims are students residing at Campus key and most of the times their cell phones are robbed. According to the Mowbray police force, most of those incidents occur during the night and most of the perpetrators are people who comes outside of the Mowbray region. The timing of the incidents can be observed below:

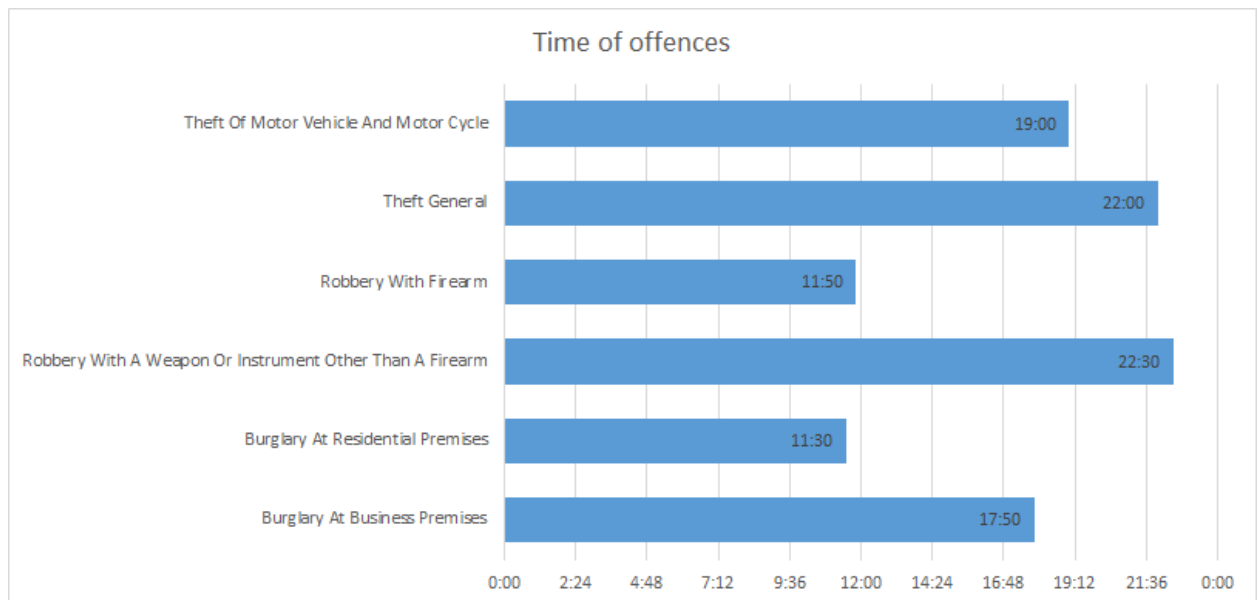


Figure 1 Bar Chart depicting the times at which crimes occur

One of the resident whom we interviewed mentioned an incident where the wheels of his car was robbed during the night.

2. Traffic issues

A lot of unwanted vehicles such as taxis or other public transport vehicles uses the street as a shortcut to avoid the traffic in the main road. When these vehicles drive on the street, they drive rather recklessly at high, subsequently making it harder and more dangerous for pedestrians to use the street. They also increase the noise levels in the area which is a nuisance for the residents. It was also highlighted by one resident that parents who are picking up their children at the Gingerbread house, a day center in the Church Street stop their car in middle of the street instead of properly parking it at the allocated parking space at the church, hence disrupting the traffic. Taxis also stop in middle of street to pick up their passenger.

According to the Mowbray SAPS, there was 20 cases of drunk driving in the street.

3. Aesthetics problems

One of resident thought that the main problem of the street is the appearance of the street. She argued that the appearance of the street is not attracting a lot of pedestrians and also discourages people to practice recreational activities such as skateboarding on the street. After visiting the street, we did notice that the street is not the most pleasant looking. It seems like people litter on the street and also some walls look dirty and needs a new coat of paint.

3. Business Objectives

Our business objectives aim to achieve a spectrum of goals that are in accordance with the Knowledge Co-op's mission and vision as well as the university's main goals. Staff and students at the University of Cape Town (UCT) have worked in partnership with communities to address development challenges, this has been the case for many years. The Knowledge Co-op works towards contributing to the welfare of the community and society. The UCT Knowledge Co-op provides a channel for external parties to access knowledge, skills, resources and professional expertise within the university. Simultaneously the Knowledge Co-op provides an opportunity for students to engage with society and address the needs of communities, thus developing their project management skills. One of the main objectives of the Knowledge-Coop is to make it easier for community groups to approach the university with ideas and requests for joint projects. The Knowledge Co-op seeks ensures that itself, staff and students always regard the interests of the stakeholders (requesting community). The knowledge Co-op aims to create and maintain a relationship between the stakeholders and the team that was allocated for the project. Another goal is to work with the community and university staff and students to decide on the project objectives, time frames along with the roles of the community (stakeholders). An important objective is to ensure the project will draw on both the academic resources of the university and the community's local knowledge. The UCT Knowledge Co-op aims to support both partners throughout the process from initial planning and meeting venues to the delivery of the final product. The ultimate concern is to ensure the project team produces some product which is of direct use to the community partner. A very

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important objective of the Knowledge Coop which is passed down to the students is to always bear in mind the interests of the stakeholders and to ensure that the staff and students do the same when commencing the project.

Our main business objectives that are independent of the Knowledge Co-op/ University's goals are:

Improve the social responsiveness of the community as a whole by bringing them together.

- Ensure safety in the street by using preventative measure towards potential criminal activities.
- Bring 'life' into the street by improving its aesthetics.
- Reduce traffic and any speeding issues.
- Improve the awareness of residents and individuals in the community of security and cleanliness Issues.

4. Assumptions and Constraints

Assumptions

- We assumed that everyone knows about the project, and agreed to its implementation.
- We will be able to meet with all our stakeholders
- We will meet all of our stakeholders needs

Constraints

1. The group have than 4 months to complete in the project.
2. Approval from governments since we are not residents of church street.
3. No one is available to be a neighbourhood watch or no one is willing to volunteer.
4. Lack/no money to implement our best recommended solution.

5. Stakeholder Analysis

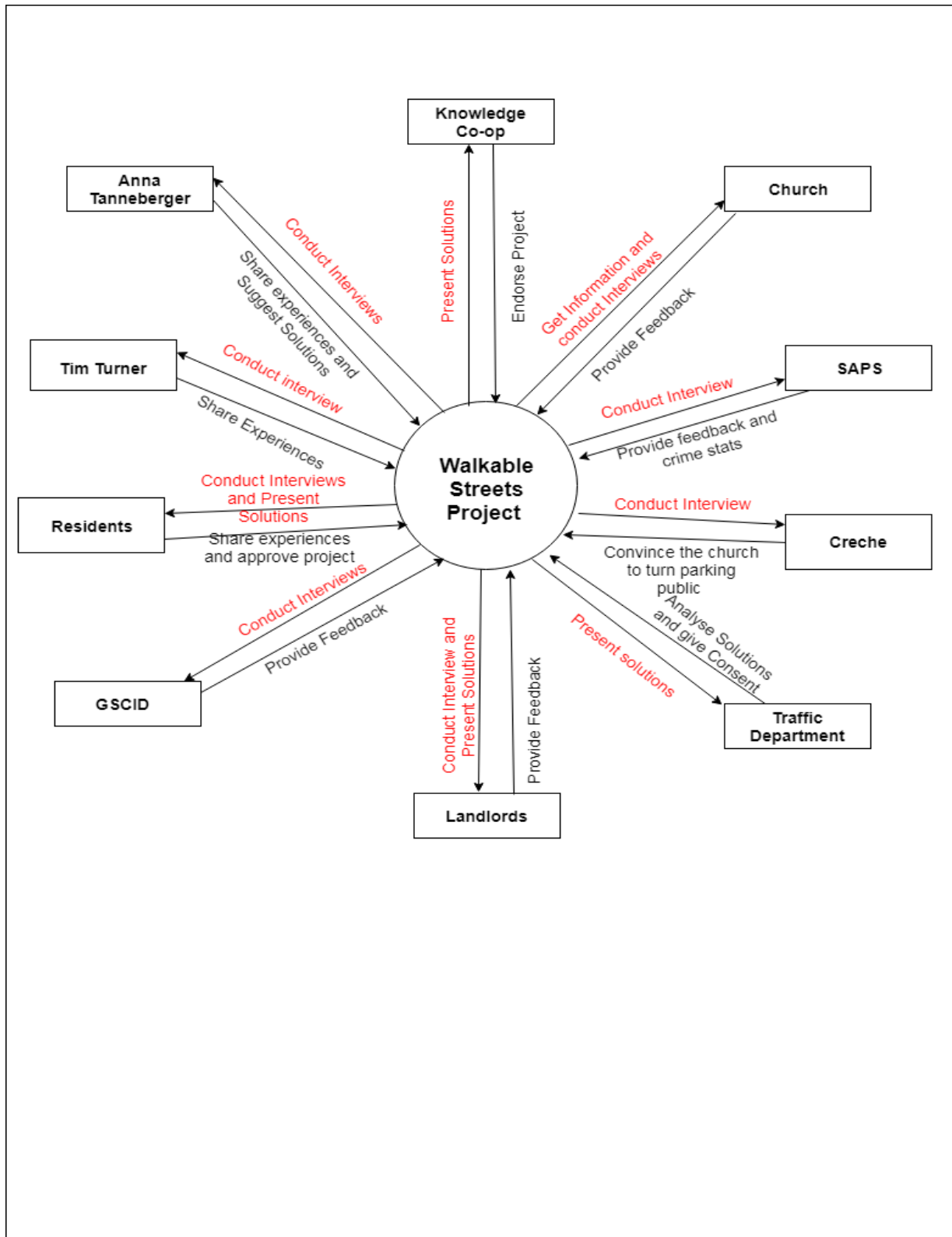


Figure 2:Context Diagram

6. Alternative Solutions

After analysing the problems that the residents of Church we can up with 10 solutions. They are as follows:

1. Make the street a one-way road

This solution is one solution that one of the stakeholders suggested. The solution is quite expensive and would take a lot of convincing for the government to buy in, since the street is very small and is mostly populated by students and elderly people we have a very small chance of implementing this solution.

Advantages:

- a. Will decrease traffic that occurs at rush hour.
- b. Will make taxis to be less attracted to use the route.
- c. Will force parents who are picking up kids at Gingerbread to use the parking at Saint Peter's Church, instead of parking in the middle of the road.

Challenges & Limitations:

Implementing a one-way street can conflict with the community's comfort as some residents would have to make a three-point point in order to park outside their house. Implementing this is a long process and if the one-way rule isn't obeyed it could lead to major accidents in the neighbourhood.

2. Introduce speed bumps at each entrance of the street

The street has a speed bump, but it is in the middle of the street after a curve. Vehicles who are coming from Rondebosch/Rosebank cannot see it, this leads to them using the street when there's heavy traffic. Making a speed bump at the beginning of the street from the Shoprite side, will decrease the number of

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traffic and also taxis going to town since it will be slowing it down. This applies to the end of the street for taxis going to Wynberg who are looking to take a short cut.

Challenges & Limitations:

The space in road is limited and since there are already speed bumps in certain areas adding more could act as a reversal and land up increasing the traffic. Speed bumps are expensive to add and there is a large waiting time associated with obtaining it.

3. Install dummy cameras

Dummy cameras are less expensive to install compared to real one. When thieves would see the cameras, they may might be less likely to commit crimes since they do not want to caught.

Challenges and limitations:

Dummy cameras are expensive. This expense has a high risk of proving to be a waste as if citizens determine that it is fake it could prove to be ineffective and serve no purpose. There is lots of work required in placing the camera's as it requires additional equipment. Cameras won't be able to capture all angles as they are limited and can only be placed in specific areas, therefore criminals can still target individuals where a camera isn't present.

4. Raise awareness to reduce littering in the street through posters:

By putting posters up in the street, pedestrians will be less inclined to litter. Posters are also cheap, easy -to-make and effective way to raise awareness.

Challenges and limitations:

The individuals receiving the awareness implementations could decide to ignore it and not bother adhering to it. Some of them could read it, but choose not to abide by the strategies suggested. Coming

up with the funds for poster, signs and other resources involved in raising awareness could also be a challenge.

5. Improving the infrastructure of the street.

Re-painting traffic lines and putting up more street sign that show that it is prohibited to park in certain areas, this will reduce a congestion of car and allow a smooth flow of traffic making it easier for residents to use the street.

Challenges and limitations:

Painting the lines and other infrastructure improvements require funds and obtaining these funds can be difficult and waiting for the changes could to commence could take a long time. Painting more areas of the street requires even more funds, therefore certain parts of the street have to neglected and the amount of improvements are limited.

6. Create a specific neighbourhood watch for the street:

There is already a neighbourhood community watch in the mowbray community, church street should have its own street watch since it a hotpot to target student, putting a street watch on church street plus the already existing neighbourhood community watch will leave no window of opportunity for criminal activities.

Challenges and limitations:

The attitudes of neighbours could prevent them participating and a lack of a participation from neighbours will deteriorate the neighbourhood watch as in order for the neighbourhood watch to be successful it relies on absolute participation. Neighbours are also limited towards only using their

cellphone for engaging in their neighbourhood watch. If they need to get ahold of someone and their cell phone isn't with them then they can't engage with the neighbourhood watch.

7. Install more LED streetlights

Certain parts of the street are dark, putting more lights that are not too bright on those sections. In the problem section, we observed that most of the criminal activities occur at night. People might be less likely to commit crimes in a well-light area. LED streetlights are also brighter compared to traditional ones.

Challenges and limitations:

Forms and documentation are required in order to obtain new streetlights. LED light are also much more expensive and the funding may not be allocated if there isn't a need for it.

8. Ensure traffic officer patrol regularly and write fines for parked vehicles in non-restricted areas:

At night traffic officers should patrol church street more often since it is a hot spot, and also give fines to vehicle that are wrong/illegal parked. This will improve the traffic on the street.

Challenges and limitations:

Patrol services aren't available throughout the day and this leaves victims vulnerable towards being mugged or attacked. There are circumstances when patrol services are doing their rounds and crime still takes place as they are in the wrong area when the crime is taking place and they aren't notified by it.

9. Put up signs to discourage drunk driving

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Since driving under the influence is the most frequent criminal offence, signs should be put up that notify drivers that driving while under the influence is a crime and there are serious consequences associated with it. This will deter drivers from driving if they are under the influence as they are now aware that the street is being monitored and incidents of drunk driving is a serious issue in Church Street. These posters or signs should be able to be seen at any time of the day as most of the times drivers are under the influence is at night. This will address the traffic issues and the movement of cars in the street will be lawful, safe and quiet.

Challenges and limitations:

Drunk driving is a difficult issue to tackle and signs on the street would not stop from driving especially if they are already driving drunk.

7. Recommended Solutions

From the ten solutions outlined above, we choose one solution for each of the three issues that we mentioned in the problem definition section.

- Improving the security in the street can be done a neighbourhood watch, after thorough analysis we suggest that a neighbourhood watch is created specifically for Church Street.

The communication of the neighbourhood watch can take place by using Whatsapp. Every resident should be part of the group. Residents who don't have to whatsapp should make use of secondary and tertiary forms of communication in order to participate in the group. Whenever residents are going to be away from their houses for long periods of time they can notify the participants on the whatsapp group to ensure that their house is monitored while they are away. Group leaders of the neighbourhood watch should be appointed and certain responsibilities should be allocated towards them. They should draw up weekly schedules that will broadcast which partners are involved for doing rounds and when they should be doing it. These rounds will include walking the street and observing the surroundings and current events carefully. If any suspicious events are seen then it can be broadcasted once again in this whatsapp group along with alternative forms of communication to all the neighbours in the community of Church Street. These neighbours can then report the situation to the necessary bodies. The information of these bodies will be in the whatsapp group and it will be encouraged that all residents in the area save these details and keep them within reach. Rounds will be performed every day, and the schedules drawn will be based according to times that suit each participant's free time in the neighbourhood watch. Other than performing patrols, whenever a resident becomes aware of a current or potential burglary the portal becomes available for them to report the crime through the neighbourhood watch. In order for the neighbourhood watch to be successful it requires a large number of members. This can be achieved by

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involving the entire community or as much of the Church Street as possible. The neighbourhood watch will bring the community together, resulting in teamwork towards preventing criminal activities. Neighbours will be able to network with each other and gain knowledge on the types of security measures they should install. Preventing crime largely depends on the actual victims and them being aware of their surroundings and creating a secure environment for themselves. This is done by residents being safe and secure which will not provoke criminals.

- For the traffic issue in the area, we are going to build new speed bumps on the street.

In order to implement that solution, the residents will have to get in contact with the City Council of Cape Town. They are required to fill an application form called Traffic Calming Measures request form. The placement of any infrastructure on a road is regulated by the National Roads Traffic Regulations. The Council will accept the request if certain criteria are present. The criteria entails the following:

- The average number of vehicles using the road.
- The number of pedestrians crossing the road.
- The average speed of the vehicles using the road.
- The number of serious motor vehicle accidents over the past five years which can be attributed to excessive speeding.
- The presence of public facilities like schools or church on the street.

If the street does not meet the criteria, it does not qualify for speed calming measures. However in the case of this project, the street does meet the criteria to build a speed bump.

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It can cost up to R22 000 to build a speed bump on the street and if the Traffic department deems that building a speed bump is a requirement in the area, it is going to take about six months for the speed bump to be built. However, if the Traffic department does not consider the task as a priority, it can take up to 5 years for the request to be approved and for the speed bumps to be built.

- For the aesthetic issue, we recommend raising awareness for littering:

One of the ways in which the aesthetics of the street will be improved will be to raise awareness of creating and maintaining a clean and appealing street. This will be done by creating posters to inform users that littering is wrong and it should not be committed. This will ensure the street is walkable for everyone and it will create an uplifting atmosphere. The posters can be distributed through various areas of the street. The aesthetics could also be improved by requesting the City Council to repaint the traffic lines on the road as well as the street name. This will enforce the rules of the road as well ensuring that the traffic is lowered as drivers will hesitate to park in restricted areas. Along with the repainting of lines, bicycle lanes can also be painted. There are plenty of cyclists in the area and creating new lanes in Church Street will attract them. With plenty of cyclists in the area this will bring “life” to Church Street. This solution serves as an all-round solution as crime will be lowered as more people will be around in the area, eliminating secluded areas for crime to take place. It will also improve traffic issues as drivers will have to bear in mind that cyclists are occupying the road and they will be required to obey the rules of the road and limit their speeding.

Part 2

6. Outputs

The final output produced by our team will be a report that contains the information about our recommended solutions. This report will be given to Anna Tanneberger, our main stakeholder. Our team will also be submitting two posters, one to discourage littering on the street and another to encourage resident to join the neighbourhood watch.

6.1 Outline of documentation submitted to Anna Tanneberger

Unlike this report, we will submit a document that will probably be around 10 pages that focuses principally on solutions. This document will contain the recommended solutions and how they can be implemented. Below we have devised the outline of the document that we will giving to Anna Tanneberger:

1. Introduction
2. Problems highlighted by residents
3. Solution 1: Neighbourhood watch
 - 3.1. Plan to implement the neighbourhood watch
 - 3.2. Estimated Budget
 - 3.3. Plan to encourage residents to join the neighbourhood watch
4. Solution 2: New Speed bumps
 - 4.1. Steps required to request for new speed bumps
 - 4.2. Budget
 - 4.3. Time taken
5. Solution 3: Raising awareness to stop littering
6. Recommendation
7. Conclusions

6.2 Posters



Figure 10: Poster for littering

Problem Crime rates are rising

Solution Implement a neighbourhood watch just for residents of Church Street

Encourage residents to join the neighbourhood watch

Initiative by team NoForm: Vusumzi Malgas, Pratish Dullabh, Elvis Sebatane and Diya Seburrun

Figure 11: Poster to encourage resident to join the neighbourhood watch

7. Challenges and Limitations

The time was the biggest challenge of this project. There was an abundance of activities to complete and fitting it into 3-4 months required immense time management skills and planning. Due to this limit in time, the amount of organizations that were able to be involved wasn't large. Meetings formed with these organisations were a challenge as they were constantly busy and obtaining data from them required certain documentation and authentication. Contacting stakeholders also proved to be a challenge as there were delayed responses. Determining the solutions was a struggle as there were legal frameworks that had to be abided by. There were also several personality issues that caused challenges. The project team lacked a leader that was fully dedicated towards the project ensuring that deadlines were met and the sufficient planning was made. Conflict was unable to be resolved and it was at times it was just left in the team, causing a negative atmosphere. Team members struggled to attend each and every meeting due to clashes in their schedules. There was a lack of communication between team members at times and this caused confusions which delayed the work. The amount of funds involved in each solution proved to be high and some solutions may prove to be unviable because of this, limiting our suggestions. Certain information obtained and used by lacked reflection afterwards, limiting the accuracy and success of some project solutions.