Business case

The purpose of this document is to outline how the proposed system solves a real-world problem, project objectives, risk analysis as well as related systems analysis, and the overall project plan – including scope and deliverables.

**1.1 Optimising GBV Incident Reporting**

Gender-Based Violence (GBV) is a prevalent and growing concern in South Africa. South Africa has one of the highest rates of GBV in the world, with daily reports of attacks, harassment, and femicide making the news and showing up in national statistics. People of all ages, genders, and economic standings are victim to this crime, creating a major human rights crisis and societal worry.

A crucial issue in addressing GBV situations is the process of reporting. There is usually either a fear of safety due to the lack of anonymity, a fear of stigma due to societal judgement, mistrust in the existing aid available for victims, or limited access to accessible avenues. In under-resourced areas, they are faced with issues such as lack of responsive and instantaneous support services or having police stations distanced far away from them.  
  
The result of this is under-reported GBV cases, leaving victims feeling silenced as well as preventing support services such as police and NGOs from responding effectively. Due to the lack of reliable reporting channels, data on GBV instances are inadequate, preventing the ability for organizations to design interventions, allocate resources properly, and protect vulnerable groups.

**1.2 Project objectives**

The GBV Reporting App aims to address critical real-world problems in South Africa’s gender-based violence (GBV) reporting and support system. Below are the key objectives of the software intervention:

**1. Enable Anonymous & Secure Reporting**

Problem: Many survivors fear retaliation, stigma, or distrust authorities, leading to underreporting.

Solution:

- Provide end-to-end encrypted, anonymous reporting to protect user identities.

- Offer a stealth mode (disguised app icon) for safety.

**2. Improve Accessibility of Reporting**

Problem: Physical reporting (police stations, helplines) is often unsafe, distant, or unavailable.

Solution:

- Mobile-first platform for real-time incident reporting anytime, anywhere.

- Offline-first capability (store reports if no internet, sync later).

**3. Enhance Emergency Response with Location Data**

Problem: GBV hotspots are poorly mapped, delaying interventions.

Solution:

- GPS tagging of incidents to identify high-risk areas in real time.

- Automated alerts to nearby NGOs/police (if user consents).

**4. Bridge the Gap to Support Services**

Problem: Survivors struggle to find shelters, legal aid, or medical help quickly.

Solution:

- Integrated directory of verified support services (NGOs)

- Secure messaging between survivors and support providers.

**5. Overcome Language & Literacy Barriers**

Problem: Many survivors speak indigenous languages or have low digital literacy.

Solution:

- Multilingual interface (Zulu, Xhosa, English, etc.).

**1.3 Problem background: A Literature Review of GBV and Technological Interventions in South Africa**

Gender-Based Violence (GBV) is a global pandemic, but its prevalence in South Africa is particularly severe, constituting a profound social and public health crisis. The World Health Organization (2013) defines GBV as any harmful act perpetrated against a person’s will based on socially ascribed gender differences. In the South African context, this manifests predominantly as violence against women and girls, including intimate partner violence, sexual assault, and femicide. This review synthesizes existing literature to outline the scope of the GBV crisis, critically analyse the failures of current reporting mechanisms, and evaluate the potential for mobile technology to serve as an effective intervention. The central argument is that a significant gap exists between survivors' needs and available services, a gap that a well-designed, secure, and accessible mobile application could bridge.

**The Scale and Nature of the GBV Crisis in South Africa**

Empirical evidence consistently positions South Africa as having one of the highest rates of GBV globally. A seminal study by Abrahams et al. (2013) estimated the national intimate partner femicide rate at 5.6 per 100,000 women, which was five times the global average. More recent data from the South African Police Service (SAPS, 2022) continues to reflect an alarming trend, with over 12,000 sexual offences and 15,000 common assault cases against women reported in the first quarter of the 2021/2022 financial year alone. However, these official figures are widely understood to represent only a fraction of actual incidents.

The true scale of the problem is obscured by severe underreporting. Research by the South African Medical Research Council (SAMRC) suggests that less than one in nine rape cases is reported to the police (Machisa et al., 2016). This underreporting is not incidental but is driven by a complex web of socio-structural barriers. Artz, Smythe, and Williams (2016) identify fear of retaliation from the perpetrator, intense social stigma and shame, and economic dependence as primary factors silencing survivors. Crucially, a deep-seated distrust in the criminal justice system acts as a powerful deterrent. Vetten (2019) highlights issues of police apathy, victim-blaming attitudes, corruption, and the traumatic nature of the legal process, which often leads to secondary victimization, where the survivor is re-traumatized by the very systems meant to help them.

**The Inadequacy of Current Reporting and Support Systems**

Traditional reporting mechanisms are failing South African survivors. The conventional process of physically going to a police station is fraught with difficulty. In rural areas, geographical isolation makes this journey impractical and costly (Mkhize, 2020). For many, the environment of a police station is intimidating and unwelcoming.

While helplines, such as the GBV Command Centre, provide an alternative, they have significant limitations. Their capacity is finite, they often require airtime—a material cost—and they cannot guarantee true anonymity, as caller identification may be visible (Gqola, 2015). Furthermore, these channels are largely reactive; they respond to crises but are poorly equipped for anonymous data gathering, trend analysis, and proactive resource allocation.

Existing digital solutions, though a step in the right direction, remain insufficient. Platforms like SaferSpaces (2020) serve as valuable information repositories but lack integrated, secure, and anonymous reporting functionality. Other global apps or patents, such as one for a GBV alert system with GPS tagging (US Patent 10,936,102, 2021), often fail to address the specific context of the Global South, particularly the need for offline functionality due to unreliable internet connectivity and data poverty.

**The Potential of Mobile Technology as an Intervention**

Mobile technology presents a unique opportunity to overcome these barriers. The proliferation of mobile phones in South Africa, even in low-income households, makes it an ideal platform for intervention (GSMA, 2021). Research into digital solutions for social good demonstrates several key advantages.

Firstly, technology can ensure privacy and security, which are paramount for GBV survivors. Studies on encrypted data systems show that end-to-end encryption, using libraries like CryptoJS, can significantly increase users' confidence to report sensitive information, knowing their data and identity are protected from unauthorized access (Almeida et al., 2021). Features like "stealth mode" or disguised application icons, as analysed in a report by the Women’s Tech Network (2022), are critical safety-by-design elements that allow users to hide the app quickly to prevent detection by an abuser.

Secondly, mobile technology enables real-time, data-driven responses. Integrating GPS functionality allows for the precise mapping of incident hotspots. Semaan et al. (2020) found in their study of a similar app in Kenya that such data was invaluable for NGOs and policymakers to identify community-specific patterns of violence and allocate resources more effectively, moving from a reactive to a proactive model of intervention.

Finally, the concept of "offline-first" design is crucial for inclusivity. By allowing users to draft and save reports without an internet connection, with automatic syncing once a connection is restored, applications can reach the most marginalized communities in rural or underserved areas (Meier, 2015). This approach ensures that a lack of connectivity does not become another barrier to reporting.

**Identifying the Research Gap**

The literature confirms a stark reality: GBV in South Africa is rampant, current systems are inadequate, and survivors face immense barriers to seeking help. While technology is not a panacea, it offers powerful tools to address specific failures in the reporting ecosystem. However, a clear gap exists. There is a need for a holistic mobile solution that is not only secure and anonymous but also context-aware—designed for the South African reality of data costs, connectivity issues, and linguistic diversity. This project aims to fill that gap by developing an application that combines end-to-end encryption, offline functionality, GPS mapping, and a multilingual interface into a single, survivor-centric platform. By doing so, it seeks to empower survivors, generate actionable data for stakeholders, and ultimately contribute to reducing the endemic of GBV in South Africa.

**1.4 Related systems analysis**

You are required to find (at least) 3 software-based systems which address the same issue as the one addressed by your proposed system or systems which use a similar process to what you envision for your system.

For each related system you are required to provide the following:

* The name of the system
* Platform (e.g. web, Windows / Mac, Android / IOS, etc)
* Description of the system
* At least one screenshot. All screenshots must have properly numbered and worded captions. The text in your document must explicitly refer to it, e.g. Figure 1.1 demonstrates the login screen of System X.
* A list of features / processes that you would like to adapt and incorporate into your system (i.e. the reasons why this system caught your eye)
* A list of features / processes that you would like to avoid in your system.
* Each related system should be properly referenced.



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Figure 1.1 System X Login Screen

**1.5 The project plan**

A project, or project management plan is a document that contains a project scope and objective. Typically, it will be represented as a Gannt chart to make it easy to convey information.

A project plan should answer these questions:

* What are we delivering?
* How will we deliver on time?
* Who is working on the project and in what role?
* What miles stones/goals are set for project?

Before you can start your project plan you need to understand (at a minimum) the following things:

* What does your client expect/need?
* The goals of the project
* What is the decision-making process of your client, and how will they approve and review the project work?
* Who is the sponsor?
* Who is the project manager?
* What other stakeholders are important?

As project manager you also need clarity from your client to know exactly what their expectations are. Sometimes this requires you to ask some hard questions to get a clear understanding.

Questions that may impact a project plan:

* How will you collect feedback?
* Who has the final sign-off?
* What is the project deadline?
* What is the availability of the project team?
* How often will the teams meet for feedback?
* Does your team have a history of successful projects?
* What can prevent the project from being a success?
* What tools and methods of communication will the team use?

*Your project plan should include the following information (at the very minimum):*

* *Project and client name (make one up)*
* *Delivery date and version*
* *Milestones and deliverables*
* *Clear task durations with start and end dates (using a Gantt chart)*
* *Dependencies for tasks (i.e., should anything happen before this task can happen).*

**1.6 Risk Analysis**

A risk can be defined as an unexpected event or condition, which can impact negatively on the entire project. Some will argue that the event or condition can also affect the project in a positive way.

There are many models, which are used to identify different risks. But we will not go into specific ones here. In general, we can say that to categorise risks can help in the process. You will quickly discover that you need to limit yourself regarding risks during a brainstorming activity. Otherwise, the list of events and conditions can become very long. You need to assess how likely it is that the particular event occurs. For instance: *The entire project could be ruined if a woman in labour runs across a road and a driver has to swerve to avoid her. The driver crashes into a bus and loses a wheel, which rolls across the road, pulls along a bag of dynamite, which was about to be used. The dynamite then explodes next to a lamppost, which shoots, like a rocket, through the window of the project teams office. The rocket hits the project leader in the head and the project leader, by mistake, deletes all the code, which has been written. The rocket continues through the office and finally lands on a shelf filled with super magnets, which then fall onto the server, which contains all the backups and removes them all.* But how likely is this?

Once you have identified the risks, you need to decide how you will handle those risks. It is a good idea to divide the risks into four main categories:

**Acceptable risks:** We decide that the risk is very unlikely, or possibly, that the costs if that event happens, are lower than the expenses which are necessary to prevent the event from taking place.

**Avoidable risks:** We take action which ensures that we prevent a certain event or condition. We might create backups of all the code and store it in two separate locations. Then we avoid the risk of losing anything,

**Minimizable risks:** We take steps to ensure that the likelihood of something happening is less. We can create a bonus structure to make sure that people do not leave.

**Transferable risks:** This means that we transfer the risk to someone else. For example, we might send part of the work to another company. Then it is the other company, which needs to assume the risk. Once we have categorised all the risks, we need to decide exactly what needs to be done, if something should be done. We need to prepare ourselves as best we can so that any potential events have as little impact on the project as possible. We can, of course, have free fruit available at work and encourage everyone to exercise regularly. But someone will get sick in any case and then it is great to know how we handle that. Who is going to take over the sick person's work? When is it necessary for someone to step in? Should the person step in be someone in the team or someone from outside the team? In the case of the latter, where should the person be brought in from? How much will this cost?

*Identify (at least) 4 risks to your project. If you have time, add more, since the more you are able to identify at the start, the better you can plan for things to go wrong (and they usually do). For each risk, state which type of risk it is and how you will treat/handle the risk.*

**1.7 References**

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