**Bursary Management System**

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**Full Proposal**  
**Date:** 02/03/2016
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1. Proposal summary

- **Project name**
  GCRA- Bursary Management System

- **Time frame**
  The Time frame given is 8 months. The projects due date is in October 2016. In section 6, each deliverable has a specific time frame indicated to them.

- **Attached documents list**
  1. Project charter
  2. Presentation (images/design of how the website, mobile app and desktop will look like)
  3. Industry letter/ agreement

- **Stakeholder details**
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2. Background and Motivation

- **Project history**
  - The GCRA is a government organization which deals with bursaries for students, the do two types of bursaries HEI which is given to the top three students at underprivileged schools for them to achieve a tertiary education. The other is TVET which is applied for by a student. The GCRA struggles each year with thousands of students wanting to apply for and or confirm their studies. The system is extremely paper-based and communication between students and the GCRA is very limited.

- **Identified Problem**
  - The problem being addressed is the conversion from a paper-based system into a fully functioning digitalized system (paper will be used still, but less of it will be needed as all records are currently stored in cabinets with filing systems.) Another problem is the
communication between students and the GCRA which will be addressed by a social instant messaging application. The unnecessary fund allocation for students will be addressed by an access and deny system.

- **Organization’s alternative**
  - The GCRA is attempting to implement a system currently which is not exactly suited to their needs. They use email as a form of communication with students which can be time consuming as both parties must wait for a reply.

- **Justification of proposed solution**
  - The system becoming more digitalized will save paper and therefore becomes quite friendly to the environment as less paper is required.
  - File management will be made easier as all records are kept in a database.
  - Communication will be easier and therefore faster and working will become more efficient.
  - It will allow for quicker response times and make the entire process much easier.

- **Our Solution vs. competitors solution**
  - The project will be molded entirely to the GCRA’s needs and therefore will provide optimal functionality and ease of use. The ability to communicate directly with a person over an instant messaging type environment will make it easy for students to get the information they need and the process will be done much quicker.

- **Other information**
  - This is a government organization and there isn’t really much more information on the problem. There is a chance that something can be found on social media, but usually government associations will remove feedback which is negative and can impact their image. The problem is quite confidential and is kept between us the ‘employees’ and the client ‘GCRA’.

### 3. Project goal

- **Project Goals**
  - The goal for this project is to design a new mobile application, website and desktop program that incorporates an online registration system, an integrated communications system as well as fund management processes for the GCRA.

  This will help make the application process more efficient and effective for potential student who would like a bursary for either Higher education institutions, Technical institutions, Vocational institutions as well as Education or Training bursaries.
This will involve having two different ways in which the data will be captured. We will also improve how current students send in documents, instead of going to the physical building to submit documents in hand they can rather upload them online. This project will improve the communication between the students and the employees at the GCRA whereby we will implement a communication tool in the app and website where students can communicate with the correct employees and receive a response in a timely fashion.

We also help the students manage the allocated funds better where once they have purchased all of the required textbooks and have funds left over they will then be able to request the remaining funds be transferred to another area such as the available food allowance.

- **Features of system**

There will be three main features: a mobile application, website and a desktop program, each providing different benefits to either the students or the employees.

Firstly the Mobile app will be used by current students to upload their important documentation required by the GCRA such as ID, Proof of residence and proof of registration, it will also allow new students to upload any outstanding documentation and information required for registration of the bursary of choice. This mobile app will provide the student a means to communicate with the employees of the GCRA for any questions or queries they might have with regards to their funds for their bursary as well as any assistance that may be needed.

The Website will have extra features that will benefit both the employees and the students. The website will allow students to apply for a bursary as well as renew the bursary they currently have for the New Year. It will allow the employees to enter in new student’s data, update current student’s details and remove any student’s details as well from their office or anywhere that has internet connection thus increasing productivity for the GCRA. This App is also extremely efficient to be used to give out important information on GCRA dates and events for the students and the employees of the GCRA, this will link with the employee’s calendar on their computer and remind them of the upcoming event as an extra feature.

The Desktop program will be used for back office work, this means it will be used to capture any data related to the bursaries and update and remove data that needs to be changed. This will save the GCRA from having to buy physical storage space in order to store important information as the current system is paper based. This allows the information to be more accessible meaning employees will not have to spend time looking through papers to find records, they will now be able to search for the students details on the program in a timely and efficient manner.

The desktop program will also be used to perform reporting tasks such as how much money each student spends, the total funds available and other information that is important to the GCRA for administrative purposes.
The potential benefits for this system is that users will be able to search for documents and student information efficiently, students will save time and money as they will be able to scan and send documents through to the GCRA either through the mobile app or the website.

Lowering the amount of paper traveling throughout the office such as the registration forms or letters needed to be sent through to the students. This will also speed up processes as the student will be able to do everything from a computer and get better responses from the GCRA with regards to queries.

- **Technologies Used**

There are many languages that can be used to program this kind of system. For this project we will use Java and Android Studio to design our mobile application for android phones. The website will be designed using sublime text in conjunction with WampServer, the languages used to design the website will be HTML, CSS, jQuery, PHP and XML. Finally for the desktop application we will use C# in Visual Studios.

- **Mobile Application**

The mobile application will be used on android devices, it will also be developed for other devices such as Windows and Apple devices.

The main reason for our application is to enable the students and the employees to have a means of efficient and effective communicate, the mobile application will be able to give you details of which employee the student needs to contact this will replace the need for the student to have to go in to the GCRA and speak to the employee face to face.

The mobile application will also be able to scan documents through Microsoft Lens which is an external integrated application that can take a picture of a document and convert it as a scanned document. The mobile application is mainly for the students as most students have smart phones.

The mobile application is also used for registration of the GCRA bursary students as we don’t want other students to use the mobile application from outside sources that do not qualify for the bursaries offered.

- **Creativity Goals**

This system needs to benefit the business by implementing more effective ways for conducting business as well as also benefitting the students.

Students don’t always have transport funds to go through the GCRA offices to submit documentation that is needed, now the students will be able to scan and send through the documentation using the application, this will also ensure that employees don’t have to store large amounts of paper on site.
The mobile application and the website will be able to link to your calendar in order to inform you on important dates such as meetings for employees and events for employees and students that are essential to attend.

The goal for each application is to ensure we are creating an easier way of conducting business, it must streamline the registration process, make fund management for efficient and improve communication between the students and the GCRA.

4. **Scope**

Currently applications and data capture are recorded manually. The goal for the Digital Destroyers group project 2016 is to develop a system to transform the way business processes are done in the GCRA.

The new digital system will allow for a more convenient and easy way to capture or retrieve information about students relating to a database. Security is not compromised; the system will allow for a secure transfer of sensitive information about students as well as a direct contact via messages to receive feedback and approved requests.

The goal of the project is to create a multi-user database system that is provided in a variety of platforms and allows for a more efficient business process with the use of technology. A digital system allows for a faster, more effective way of data input, storage and retrieval. The system has a multi-level user access functionality that allows users with different roles to perform while using the same environment. The final system will operate on three platforms to accommodate user needs.

- **Mobile Application**
  Students will have an application for smartphones that allows them to register and login into their account and receive financial information, account information and an option to contact the GCRA staff member responsible for that account.

- **Desktop Program**
  The desktop application will be used only by staff and admin at the GCRA. The application is designed to allow for easy data capturing for students that are registering at the office, review information about accounts for approval and the ability to update student information. For administrative purposes it will have report functionality for feedback.

- **Website**
  A website with the accessibility for both students and staff members to access the information they desire with ease. Students who do not own smartphones can access the website build for the same purpose as the mobile application. Staff or admin members can use the website to logon if their workplace desktop is not near by. Therefore, the website is the core of a multi-user database system.

5. **Deliverables**
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<th>Deliverable</th>
<th>Duration</th>
<th>Concept &amp; Tasks</th>
<th>Date</th>
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| A Website will be compatible with student and staff/admin accounts, each isolated from the other but not out of reach | 6 Months | Multi-user database environment based on PHP:  
- A web environment that provides students the same options alternatively to a smartphone application  
- An environment for staff that increases productivity, workflow and provides a seamless experience with the desktop interface  
- Account access levels are in place to isolate information and deliver accurate response  
The communication portal is available | Prototype May 2016 |
| Mobile Application in Android for students           | 6 Months | Students will have the following options:  
- New student registration made easy  
- Bursary renewal registration  
- Current student account balances  
- Allow easy finance management  
- Contact the correct person to assist with a query  
- View your account information  
The communication portal is available | Prototype June 2016 |
| Desktop program written in C# for staff members in the office | 6 Months | The desktop program will allow for the following:  
- Capture information of a student during registration  
- Retrieve information about a student  
- View & update information about a student  
- Verify pending applicant’s information  
- Allow for automatic database backups  
The communication portal is available | Prototype July 2016 |
| A fully functional bursary management system for the GCRA | 8 Months | The working system will allow for the following stated below: | October 2016 |
6. Risk and rewards

- **Risks**

  - **Lost Data**: Due to the fact that the company is changing from a paper-based system to digital system some information that has been captured digitally previously can be lost if data loss prevention tools are not implemented. These tools are used for tracking shared data, network folders and application. If this is not implemented, mistakes can easily be made and the company could lose data which could cause negative impacts within the organization.

  - **System Failure**: The system could fail due to various reasons. The system might crash because of poor development practice, incorrect assumptions with regards to the system and poor user interface. The system can also fail due to faulty hardware and inadequate user training from the client’s side.

  - **Security**: This is the biggest risk when going digital for any organization. If the system lacks security many issues could occur: Hackers might get sensitive information about the organization as this is a government organization it poses a large risk as it deals with large amounts of information. Personal information of students are on the database and the company may risk losing the trust and credibility of the students applying for the bursaries if security is not a priority.

  - **Poor Development**: We are held accountable for the digital transformation of the system thus could tarnish our reputation if we don’t follow the requirements given by the GCRA for an efficient and effective system. The challenge the organization is significant cost for remediation of staff who are not adequate on the system, thus the developers will also be held responsible for the training of the staff.

  - **Cost**: The system needs to work effectively to the needs of the organization otherwise there will be a loss to the organization with regards to their effort and time in assisting us in creating the system.

- **Rewards**

  - **Easy Access**: Students will be able to see how much money they have left in their bursary funds, thus they wouldn’t need to email or call the GCRA for information and this saves the company time to focus on other important operations.

  - **Eco Friendly**: Due to the fact that the company is becoming digital it will decrease its paper usage. The company can then implement other energy saving methods for digital use as well.
Data/file Management: All information will be stored in a database thus it will be easy to access, share and to manage. Due to the fact that everything is digital it will be easier to access certain files for both parties are have ad-hoc reporting.

Device ready: Communication between the student and the GCRA will improve greatly because of the mobile application that will speed up the response time. This can enhance customer relationships between the GCRA and the students. All documents can easily be accessed through your smartphone, tablet or pc as well as on the internet via the website.

7. Conclusion
This is an overview of the system that needs to be created for the GCRA, we have outlined the risks and benefits of the project as well as the milestones that needs to be completed.

This project will be completed by October 2016 with an efficient and effective Mobile Application, Desktop program and a website.