Project: Implementation of a Certificate Registration Portal

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Abstract

The project aims to implement an efficient certificate registration website, where users can register for the formation of birth certificates, death certificates etc. without having to visit the Home Affairs offices. In this website, there shall be a form that is to be filled out by users, where they'll state which type of certificate they need to get done. After that, that information will be stored on a database, and later be retrieved by home affairs staff for review and formulation of the desired certificate.

Once the certificate has been made and is ready for collection, users will be notified via SMS or any communication platform suitable for them.

Online certificate registration

The system of online certificate registration will be the first of its kind in the nation of Eswatini as currently the country is implementing a traditional file and paper system. The system aims to integrate the country into to the wonderful and convenient world of online self-service which comes the advantage of convenience, reducing costs, time saving, reliability and many others. The team that will be tasked with handling such a project consists of Tenkhaba who is the designer, Samkelo who will be the programmer, Mncedisi who is the tester and finally Zamokuhle the team leader.

Terms of use

Two parties will have the privilege of using the system, namely, the government of Eswatini and the general public of the nation. The government will provide detailed instructions on what information is required from a person attempting to use this service of online registration, these instructions will be provided on the government's and can be accessed freely at all times by everyone who wishes to enquire about the process of online certificate registration. Upon reading carefully the instructions, a client will then fill out a form that will be provided online with all the relevant information required to complete the registration. The client must complete the form fully otherwise it cannot be submitted to the ministry. If the form has been successfully completed, then a verification process must commence in order to verify that the information is truly authentic, after which the form is submitted to the server of the ministry responsible for national certificate registration. The ministry will then process the information and thereafter alert the client whether everything checks out or not, if all is well the ministry will produce the require certificate and if not the client will have to restart the application.

Potential risks

Security is the main concern as when it comes to national documents such as national identification cards security bridges can cause havoc on the nation as there might be problems like identity theft. Measures will be put in place to ensure that people don't steal other people's information, such measures will include the client providing a real time photograph of themselves, providing certified and scanned copies of already existing national documents that belong to the client, if the client has no such documents then a police report can be provide

instead. Other issues will may include potential server crashes which can be catered for by having backups of all files and databases.

Standards, Guidelines and Procedures.

To replace the civil rights manual registration, we have found it convenient to use an online form to gather said requirements of registration. We have found that the current system is rather tedious to both registering individuals and employees of the civil rights office. Rather than lining up early in the morning, interested individuals can upload all necessary files/information on the recommended website or platform.

Then the office can process and save all data electronically and orderly call affected individuals with regards to the completion or corrections pending. Included in the website will be the information of on how to register and the option of manual registration will be left open for all the elderly who might not be tech savvy. Along with details of how to register will be details on collection of completed documents, two options will be allowed where one is to be given a date as when to collect documents and the other being having your documents sent to you via post or home address if preferred.

Organisation of the Project

The organisation of the project mainly depends on the consistency of the project personnel and the different roles they have to play in order for the project to be a success.

Project personnel and their duties:

a) **Project Manager/Team Leader – Zamokuhle Hlatshwayo**
   - To plan out the blueprints for the software project, like defining the scope, allocating resources to team members, setting deadline, laying out communication strategies and indicating project tests and maintenance.
   - To supervise every step of the project.
   - To create a budget and to ensure that the project does not go over budget.
   - To tract milestones, deliverables and change requests.

b) **Project designer (UX designer) – Tenkhaba Dlamini**
   - To develop the most critical components of the system
   - To guide the programmers in the design and implementation of the software system.
   - Define the information architecture and navigation model
   - Document every interface design decision
   - Participate in the implementation of web and desktop interfaces.

c) **Project developer/programmer – Samkelo Dlamini**
   - Develop the feature laid out in the blueprint.
   - Update the status of the software project to the project manager.
   - Estimate the amount of time needed to deliver a given task.

d) Project tester – Mncedisi

- Understand the system's requirements in order to create and review adequate test cases.
- Alert fellow team members about inconsistencies in the specifications.
- Create and execute test cases to detect bugs.
- Use automation tools to facilitate regression tasks.

Other important personnel of the project are the clients (government office staff) that shall be using the system to provide services to the general public. The staff will be expected to undergo training on:

- How to effectively use the system to provide services for the public
- How to efficiently interact with users whenever users come across difficulties. Chat boxes can be used to enable ease of communication between a user and staff members.

The amount of time that shall be taken during staff training main depends on the staff's computer literacy skills. However, we do not plan to carry out training for more than two weeks.

The general public is also expected to undergo some sort of training that will familiarise them with the new software system that shall be implemented, especially in the rural areas where computer literacy is at an all-time low. The success of this training requires us to collaborate with the respective *Tinkhundla* of the different communities, we shall request them to avail at least 3 computers to be used by the community members for when they need to register for their certificates. All in all, we expect to spend about 2 weeks training the public and negotiating with *Tinkhundla*.

Project Phases.

A – Analysis of the current paper system being used.

B – Developing the software system.

C – Train government staff on how they will make use of the new system.

D – Train/Educate the public about the new system that will be implemented.

E – Track the software system's development.

F – Collect results/feedback on the success of the training.

G – Test the system before it is implemented.

H – Implement the software system in the government offices.

I – Implement the software system in the Tinkhundla in the different areas.

J – Collect feedback on the performance of the system.

K – Enhance features of the system based on the feedback.

Task (Activity)	Duration (weeks)	Start date	End date	Predecessor
A	1	16 Sept.	23 Sept.	-
B	3	24 Sept.	15 Oct.	-
C	2	24 Sept.	08 Oct.	A
D	2	24 Sept.	08 Oct.	A
E	1	01 Oct.	08 Oct.	B
F	1	11 Oct.	18 Oct.	C, D
G	2	18 Oct.	01 Nov.	B
H	2	02 Nov.	16 Nov.	B, G
I	2	02 Nov.	16 Nov.	B, G
J	1	22 Nov.	29 Nov.	H, I
K	2	06 Dec.	20 Dec.	J

NOTE: The Gantt chart of the activities is on a separate PDF file which shall be submitted together with this document.

Requirements Analysis and Design.

The tools used here will be HTML, CSS, and Java-script for the website and the information gathered will be stored in a database made using SQL. Html, CSS and Java-script will be used to create a welcoming yet clear environment that will not only make things easier but will layout out all the requirements in detail so there'll be no need for consultancy and if need be, a contact number will be provided to assist you while registering. Then SQL will be used to store the uploaded data for safe keeping and for easy access, which may later be useful if and when registered individuals want to change or update their documents.

Testing.

Since the success of this project lies on the functionality of the website and the database which shall store the information of the users, it therefore means that the testing process shall be done to:

- The Website
  The website will be tested for functionality, ease of use, bugs (if any) and any enhancements that shall be implemented in future if necessary.

- The database that shall store the information. Information needs to be easily accessible by the ministry staff, especially after users have entered their details.

Tools that shall be used for testing:

- Web Vitals tools for the webpage which focus on the aspect of webpage loading, interactivity and visual stability.
- For the database we will use performance testing and configuration tuning.

Testing will be done right before the implementation phase and will run for two weeks. This then implies that the project shall utilise the Waterfall Model for the different phases of the project.