

# GRADE 12 IT PAT 2020



CLIFTON

Scholarship

Leadership

Sportsmanship

Community

Figure 1 (School, 2017)



## home affairs

Department:

Home Affairs

**REPUBLIC OF SOUTH AFRICA**

Figure 2 (Coetzee, 2018)

By: Byron Kraus

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## 1. Introduction

Technology is increasing at an exponential rate, meaning that is advancing at a faster speed by the day. In just over 2 years ago, if you had an iPhone 8 you were seen as a wealthy person with the latest phone (Inc., 2018), later in 2019, they released the iPhone 11 pro, which is currently the latest phone (9to5Rewards, 2018). This means that within a mere 2 years, 3 new generations of the iPhone were created and this doesn't even include the different models within each generation, such as the iPhone X, which has the iPhone X, XR and XS Max (Holland, 2019).

With all these advancements in technology everyone is becoming more complacent and lazier. Instead of going out and picking food to eat for lunch, you can just order a meal to be hand delivered to you. Everyone is becoming tech savvy in order to stay up to date. Most businesses are becoming more tech friendly in order to keep their customers and keep their business financially secure. With this said the only department that isn't keeping up with the modern technical advancements is the department of Home Affairs.

People don't want to stand in a line for hours and waste a day waiting to renew their passport, that is why I want to assist Home Affairs with a program that will cut the time needed to stand in a line as well as improve the effectiveness and efficiency of the systems currently being used by Home Affairs.

This program will allow for 3 applicants: The applicant, the Home Affairs employee and the administrator. The applicant will have access to the booking screens as well as the viewing, editing and deleting screens where they are able manipulate their own information. The Home Affairs employees will be able to do all the functions of an applicant as well as retrieve an applicant's information and view the bookings for the day. The Administrator will be in charge of the Home Affairs employees to ensure they have done the right number of hours.

## **2. Specifications of Program Function**

The basic function of this program is to speed up the process in which it takes to book your smart ID, passport and unabridged birth certificate. The more advanced side of the program will be for the staff at Home Affairs, they will be able to retrieve the information of the clients based off a number given to the client on their receipt and the administrator who will have control over the staff.

The login screen will be the same for the applicant as well as the staff of Home Affairs.

- They will be prompted to enter a username and password( the username will be their ID number for the applicants, staff members and administrator) and the program will check whether the username and password is legitimate or not.
  - If the username and password is correct, the program will change to the correct home screen depending on if an applicant, staff member or a administrator logs in.
  - If the username or password is incorrect, the applicant, staff member or administrator will be asked to re-enter their username and password through a message on the screen.

### **2.1 Functions of an applicant**

An applicant will be able to:

- Create a booking for their smart ID (by entering the applicants ID number, name, surname, (Birth Certificate, certified copy of their parents ID for first time applicants, if it isn't their first time they need a certified copy of their passport), proof of residence)
- Create a booking for their passport renewal (by entering the applicants ID number, name, surname, a copy of your ID)

- Allows the applicant to book an appointment for an unabridged birth certificate (by entering the applicants ID number, name, surname, a Parents ID number)
- View a booking date (by providing the applicants ID number)
- Edit personal details (by providing the applicants ID number)
- Remove a booking( by providing the applicants ID)

## **2.2 Functions of a staff member**

The staff member will be able to:

- **Perform all the functions of an applicant**
- Retrieve an applicant's information ( by providing the applicants ID)
- View the details of all the applicants who signed up to use the program
- Search if a user has used the program ( by providing the applicants ID)
- View the bookings for the day for each category of bookings

## **2.3 Functions of an administrator**

The administrator will be able to:

- Add a staff member to the system ( by providing their ID, full name, surname and by creating a password for them)
- Delete a staff member from the system ( by providing the staff members ID)
- Edit the details of a staff member ( by providing the staff members ID)
- View a list of all staff members currently employed

## **2.4 Miscellaneous functions**

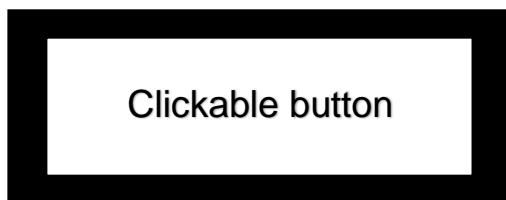
- If any errors occur, a screen will appear with a meaningful error message

- If the applicant requires help, they can select the menu bar which will have help which will explain how each page works.
- The screen will perform an error check on the information provided to ensure no incorrect information is added such as a letter in the applicants ID which is only made up of numbers, it will then prompt the applicant to re-enter the information.

### 3. Specifications of the Graphical Applicant Interface

The applicant interface will be basic and simple in order to allow non-tech savvy applicants to use the program without strain. It will look and work in a well-organised manner to benefit the company's image and identity. The program will consist of buttons which can be clicked to lead applicants to different screens depending on what they would like to access.

The background of the program will consist of the logo of Home Affairs and the name 'Home Affairs' centred at the top of the screen. The information will be along the centre of the screen and the menu bar will be at the top left of the screen which will then bring down a list of options available to do with this program.



All clickable buttons will be black outlined with a white inside and black writing. The non-clickable buttons will be a grey outlined with a white inside and black writing to make it appear greyed out, this will allow the applicants to easily identify which button is clickable and which button isn't.



## **4. Specifications of Help**

This program was designed to assist and be applicant friendly, however in the case of an applicant in need of assistance, additional help is provided in two forms.

In the program, when clicking the pop up menu, the menu will appear along the left side of the screen, this menu will have the option of a help button which will allow the applicant to see all of the internal help, if those options don't help then the applicant can use the external help for the problem.

### **4.1 Internal help**

- On the left side of the screen, once the menu bar has been clicked, there will be a help button, the applicant can click on the help button to receive a file with the description of the various functions on the screen.
- Whenever an error occurs, a dialog message box will appear that will guide the applicant to correcting the error.
- The applicant will be prompted on which type of data to use for each field they fill in, they can find the example below the box in which they write their information in of what form of data it uses in a grey font.

### **4.2 External help**

- The program also contains a manual in which it teaches you how to use the program, it is in a pdf file to make it easy for the applicant to find out the problem they are searching for.
- If the manual lacks the information needed the staff have access to information on the software developer and so they can contact him.
- Staff which have just joined the faculty will go through a computer training to make them more tech savvy and the present staff will do a course on computers and technology every 4 months in order to allow them the required education to help the applicants who have problems.



## 5. Specification of Data Storage

This program will need permanent storage in order to allow it to store the information and effectively retrieve the information for the staff. The program will use multiple tables which are related. The main storage will be done on tables on Microsoft access.

### 5.1 tblSmartID

- applicantID (String) – This field is the primary key and can be used to identify each applicant booking their ID.
- birthCertificate (String) – This field will store the name of the file of the photo of the birth certificate or NA if not applicable.
- parentID (String) – This field will store the name of the file of the photo of the certified copy of the parents ID or NA if not applicable.
- proofOfResidence (String) – This field will store the name of the file of the photo of the Proof of residence.
- passport (String) – This field will store the name of the file of the photo of the certified copy of the passport or NA if not applicable.

### 5.2 tblPassport

- applicantID (String) – This field is the primary key and can be used to identify each applicant renewing their passport
- ID (String) – This field will store the name of the file of the photo of the certified copy of the applicants ID.

### 5.3 tblUnabridgedBirthCertificate

- applicantID (String) – This field is the primary key and can be used to identify each applicant renewing their passport
- parentID (String) – This field will store the ID number of a parent.

## 5.4 tblStaff

- staffID (String) – This field is the primary key and can be used to identify each staff members ID number.
- name (String) – This field will store the name of the employee.
- password (String) – This field will store the password of the employee.
- surname (String) – This field stores the surname of the employee.

## 5.5 tblApplicants

- applicantID (String) – This field is the primary key and can be used to identify each staff members ID number.
- password (String) – This field will store the password of the applicant.
- name (String) – This field will store the name of the employee .
- surname (String) – This field stores the surname of the employee.

## 5.6 tblAdministrator

- administratorID (String) – This field is the primary key and can be used to identify the administrators ID number.
- password (String) – This field will store the password of the administrator.
- name (String) – This field will store the name of the administrator.
- surname (String) – This field stores the surname of the administrator.

## 5.7 tblBooking

- applicantID (String) – This field is the primary key and can be used to identify each applicants ID number.
- date (String) – This field will store the date in which the applicant is booked for.
- time (String) – This field will store the time in which the applicant is booked for.
- bookingType (String) – This field will store the reason for visiting the bank ( passport, unabridged birth certificate or smart ID)

## **6. Hardware and Software Specifications**

This program should not cause a problem to your computer when running, all the computer requires is the latest version of NetBeans as well as the latest version of JDK installed. The minimum requirements required to run my program as well as the recommended requirements are listed below: All of the below information was found on (Anon, 2015).

### **6.1 Minimum Hardware Configurations**

- Microsoft Windows Vista SP1/Windows 7 Professional:
- Processor: 800MHz Intel Pentium III or equivalent
- Memory: 512 MB
- Disk space: 750 MB of free disk space
- Ubuntu 9.10:
- Processor: 800MHz Intel Pentium III or equivalent
- Memory: 512 MB
- Disk space: 650 MB of free disk space
- Macintosh OS X 10.7 Intel:
- Processor: Dual-Core Intel
- Memory: 2 GB
- Disk space: 650 MB of free disk space

### **6.2 Recommended Hardware Configurations**

- Microsoft Windows 7 Professional/Windows 8/Windows 8.1:
- Processor: Intel Core i5 or equivalent
- Memory: 2 GB (32-bit), 4 GB (64-bit)
- Disk space: 1.5 GB of free disk space
- Ubuntu 15.04:
- Processor: Intel Core i5 or equivalent
- Memory: 2 GB (32-bit), 4 GB (64-bit)
- Disk space: 1.5 GB of free disk space
- OS X 10.10 Intel:
- Processor: Dual-Core Intel
- Memory: 4 GB
- Disk space: 1.5 GB of free disk space

This information taken from:

<https://netbeans.org/community/releases/82/relnotes.html>

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