Design of solution

In solution to the doctors surgery system that I am implementing, I will be using Microsoft Access. After studying the alternatives I feel that Access is the best solution since it will allow me to make databases with relationships and queries unlike other alternatives like Excel, hence this choice.

This system will need to be based upon three tables -

- Patients Details
- Doctors Details
- Appointment Details

My implementation will begin with the design of the database before considering data collection, data capture and the various outputs required. On completion I will need to thoroughly test the system to ensure that it works as expected by using both valid and invalid data. I will then write user documentation to allow the staff to us e the system.

Below I will show the table design, firstly with the patients details table

Keyfield	Field Name	Type	Size	Validation	Description
✓	Patient_no	Autonumber	LI	Autonumber	Key field and specific to each patient
×	Title	Text	4	×	The title of a patient
×	Surname	Text	20	×	The Surname of a patient
×	Forename	Text	20	×	The first name of a patient
×	DOB	Date/Time	10	Input mask	The date of birth of a patient
×	Add_1	Text	40	×	House number and road name of a patient
×	Add_2	Text	30	×	town a patient lives in
×	Add_3	Text	30	×	County a patient lives in
×	Add_4	Text	20	Data type	Post code of a patient
×	Tel_no	Date/Time	20	Data type	Telephone number of a patient

Doctors Table

Keyfield	Field Name	Type	Size	Validation	Description
✓	Dr_No	Autonumber	LI	Autonumber	Keyfield and specific to each doctor
×	Dr_Surname	Text	20	×	The surname of the doctor
×	Dr_Patients	Text	1000	×	The patient of the doctor (will use drop down box

Appointments table

Key field	Field Name	Type	Size	Validation	Description
✓	Appointment_No	Autonumber	LI	×	The number of the appointment
×	Appointment_ time	Date/number	10	Data type	The time of the appointment
×	Appointment_ date	Date/number	10	Data type	The date of the appointment
×	Patients_name	Text	20	×	Name of patient at appointment
×	Doctors_name	Text	20	×	Name of doctor at appointment

In all of the key fields above **LI stands for Long Integer**

Data Entry
Data entry is the ways in which I will enter data into my systems. This would firstly be inputted with the use of hardware such as an keyboard. Such methods as OCR could be used; however these would in turn end up being too expensive. Data would be put into my system therefore through the use of the tables displayed above. For instance, whe n I want to include a new member I would simply use the members table to enter this data. Likewise if I want to add a doctor I would use the doctors form to enter this data.

Above is how I intent to set out each table within my system. This is my intention since they will then hold all the appropriate data and information for my doctor's surgery.

However to make my system more efficient I will need a number of search formats. Searching is where I can look for a specific patient in my system through a search that will be similar to the one below. I will display all the search formats I am going to incorporate.

Search Screens

Above is a search for an patient . This would be useful if I need to find a patient if the details need to be changed (e.g. the person has moved houses) and instead of searching through every member I could just find them using a search.
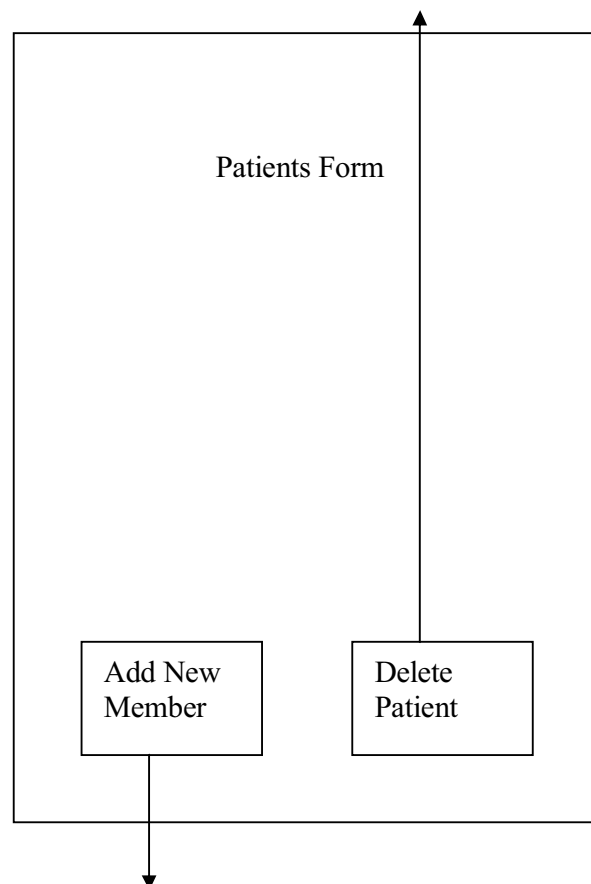
The search procedure will be executed when a patients details need to be changed or information needs to be retrieved about a me mber. A data input screen will appear which will prompt the user to enter the member's surname. This may be sufficient to locate the member however in some circumstances additional criteria may be necessary.   Once the correct record has been located the appropriate field can be amended or the information can be viewed on screen or printed. Any data that is altered will be validated before the file can be saved. I will also be able to use the same type of search for a doctor (although it wouldn't be used as much as the patient search)
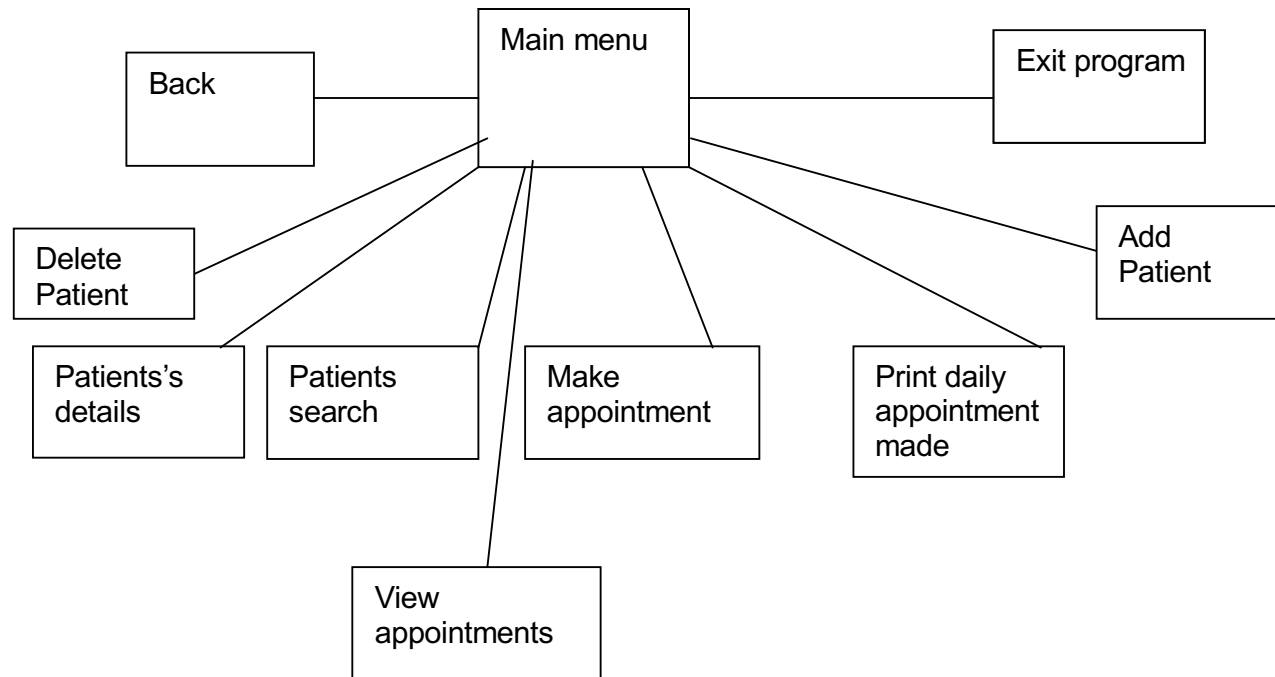

Reports

I will need to create reports of all the appointments made.   When an appointment is made I will click on a button titled "make appointment" which will make the appointment and enter it into the report of all the a ppointments made.   This process will then take me to the appointments table while also making a word report as well.
Deletions

When I am on a patients form I will have a button as shown below. When clicked this button will delete the patient I am viewing from the database and also from the list of the doctor's patients. The button clicked will use a macro, which will delete the member from the database and also bring me to the patient prior to the one deleted. Of course a prompt pop up dialogue box will appear when the button is clicked for me to confirm if I'm going to delete the patient or not. This is in case the button is pressed by mistake.

Patients Form

Add New
Member

Delete
Patient

I will also have a button which will allow me to add a new member. When clicked this button will perform a macro which adds a new member to the data base given this member a new patient number and adding him/her to the end of the database. However the add new member button will be located on the last person of the patients form or on the mainform (this is the form where you can access any part of the database from.

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                          ┌──────────────┐
                          │  Main menu   │                    ┌──────────────┐
┌──────────────┐          │              │                    │ Exit program │
│    Back      │──────────│              │────────────────────│              │
│              │          └──────────────┘                    └──────────────┘
└──────────────┘             /  |  |  \  \
                                                               ┌──────────────┐
┌──────────────┐                                               │  Add         │
│  Delete      │                                               │  Patient     │
│  Patient     │                                               └──────────────┘
└──────────────┘
   ┌───────────┐   ┌───────────┐   ┌───────────┐   ┌───────────────┐
   │ Patients's│   │ Patients  │   │ Make      │   │ Print daily   │
   │ details   │   │ search    │   │ appointment│  │ appointment   │
   └───────────┘   └───────────┘   └───────────┘   │ made          │
                                                    └───────────────┘
                        ┌───────────┐
                        │ View      │
                        │ appointments│
                        └───────────┘
```

As I briefly touched upon before I will have a splashboard, which will enable me to easily access and view all areas of my system.

The inputs of my system will be such things as adding a patient, deleting a patient and making appointments.

The processes in my system will be such as searching for a patient and the outputs will be making reports.

Of course when I click on a area on my splashboard I want to go, I will get taken to its respected form with a back button at disposal just in case I want to get back to my splashboard. These links from different areas of my system will require the use of macros and I feel that the above shown splashboard buttons are all that is needed for my system. However this is at the time of writing so there might be another button required or an idea that I can add, which is beyond me at this moment.