Section 1 - Investigation

1.0 Introduction

One of the administrative tasks in a hospital is to keep a record of the number of patients who loan out their equipment. The patients may borrow equipment such as wheelchairs, crutches or even elbow collars depending on their injury. Some patients may still be in the hospital while others may be discharged. Records have to be kept of what is being borrowed, by whom, and when. It is also necessary to mention any equipment that is not available because it is being repaired. I have been asked to create a database to replace a manual one to record the necessary details and so that they can cut down on paper wastage and storage space.

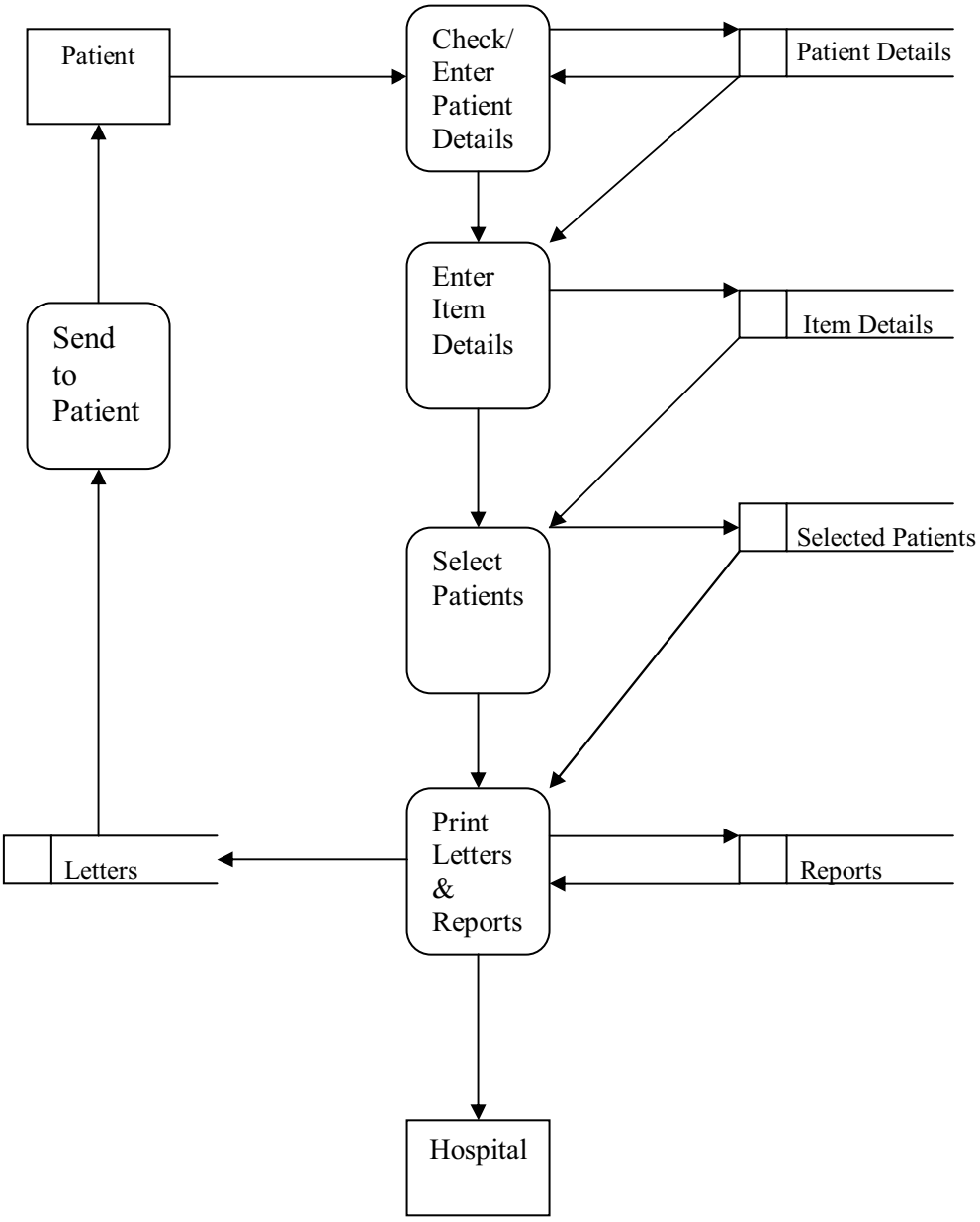
2.0 Problems with Current System

The current system to keep this sort of information is through lots of paper work and file organisation. Files of patients stored in the cabinets are manually stored and can cause misplacements of files. The records of patients and equipment all have to be searched through alphabetically (assuming these files are in alphabetical order) this is very time consuming. There is also a large amount of space in the hospital, which is consumed by all these files. Many files are stored in the cabinets and as changes happen to the files they have to update them through adding or re-editing information manually. This is very costly and very time consuming. To send letters to those who have equipment, which is due back, is also another daily task, which has to be kept updated.

3.0 Objectives of the New System

The new system will be done through a computer, this will take up less space and be much more efficent for hospital use. The large amounts of files can all be stored inside the database in order. This is very efficient if the user wants to find particular patients or would like to group certain patients according to their information for example all patients who have items on loan. The time it takes to find files will be shortened greatly because the computer will do the searching for you. Depending on the number of files it is most likely to take less than 30 seconds to establish the file. The new system will also help update files by the use of forms, which can edit, delete and add new patients, equipment and other information. The user will be able to find all the patients that have items on loan and have the ability to send letters to patients who need to be contacted. A data flow diagram shows how the system will work.

4.0 Data flow Diagram



5.0 Constraints and Limitations

The system developed is to be used by staff in the hospital. This is intended on replacing the old system. This could make the storage of information more in order and content.

5.1 Software

Microsoft Access will be used to make this database. Microsoft Word will also be used in link with Microsoft Access to create word documents such as mail merge documents, which will be used to notify patients.

5.2 Hardware

The computer used in the hospital needs to have a fast processing speed and a large hard disk. The speed is very useful when a lot of files are stored and the computer could slow down its search speed if it ahs to go through more files. The memory is required to store many lots of patients so that even previous patients have a file if accidently they return to the hospital they don't need to create a new file.

5.3 User's level of I.T. Skills

The users who should be given training of how to use this system if they have never used a computer before. The system however will be user friendly provided they know the basics like enter in details. Also if users get to know how to use access properly they can learn how to create new queries in the future to help them on different time consuming jobs.

6.0 Methodology

To create the database I will take the following steps:

Creating Tables

Before creating tables, I will decide on how many tables I will need and for what reasons. I will give a basic table structure on focusing particularly on field names and data types. It is important to set a primary key because it is unique in each record of the table, this will be very useful to link two or more tables together. Then I will set field size properties so that access can set out the format when it is displayed, for example the return date will be put in the date/time format. I will then enter the data for example patient data and equipment data. I will then create a relationship between tables using the primary keys. The foreign key in one table must be the same as the primary key in another, this makes it easier to create forms, queries and reports. This will then create all the tables and define the correlation between each of them.

Creating Forms

A form is basically a data entry for users to put in information, which can be used to update the database. To create a form I will first decide on what the form will be needed for one obvious form would be to create new patients details. I will have to decide on the fields I would need on the form, the way the data is to be viewed and the style of the form.

Creating Queries

A query is a question, for example "how many patients are borrowing equipment?" I will create several queries because there may be a lot of questions asked and to answer them in one simple way would make it easier for the user to find. For example to see what equipment is in stock, instead of checking each item the computer can find out for you by going through each item and finding it out in a matter of seconds.

Creating Reports

A report can be used to display a table or query in an appealing way, for example a report may be used to print out a full report on the location of all equipment, when it is due for return or renewal and that the patient should be contacted.

I will also use mail merge for the letters of contacting patients to notify them of returning of renewing their equipment on loan.