# Computer Programming – Spring 2015

**Semester Project**

**UHsquare Hosipal System**

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| **Developed by:** |  |
|  | **Hasan khan – Section A – 14k-2086**  **Hammad Khan – Section A – 14k-2145**  **Umair Siddiqui – Section A – 14k-2** |
| **Supervised by:** |  |
|  | **Mam Fareha Shaikh** |

**Department of Computer Science**

**National University of Computer & Emerging Sciences (NU-FAST)**

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### Introduction

### ACKNOWLEDGEMENT

We would like to thank **“Almighty Allah”** who enabled us in undertaking this project and helped me in completing it. As if it would not have been possible without His assistance.

Further I am in debt to thank the efforts of my respected teacher Miss Fareha Sheikh for providing me with the concepts of software development which enabled me in completing my task successfully.

### DECLARATION

I hereby declare that this project work titled **“UHsquare Hospital Systems ”** is our original work and no part of it has been submitted for any other degree purpose or published in any other firm till date.

### Project PREVIEW

This software which is called **UHsquare Hospital System** is made for a reason. It is basically a management system for the hospital which will help to keep the records of patients, doctors and staff of the hospital in an effective way which could be edit and delete as well.

### Need for the project

Through detailed investigation of manual working environment in the hospital I encountered severe problems in many areas. Owing those problems for such a busiest hospital will surely put its reputation in jeopardy. Since hospital receives plenty of patients every day due to its prime location, hospital hasn’t that much competent to bear such workload on daily basis. I would like to mentions few fatal problems that is affecting the overall profit of the hospital as well

Handwritten reports are being generated in the manual system by the accountant. Since, the human error cannot not be avoided therefore errors in the calculation have become a common issue. This sometimes causes indiscipline and put bad impression on other patients in the premises of the hospital when relative of the patients makes strong arguments with the management.

The manual system requires a bunch of paper work. Data of the patients, doctors and employees are being stored on registers and kept in the store room when become few months old. These registers and papers are not easily accessible due to the lack of space in the store room that affects searching of a record when needed. Confidential documents are kept openly which is another threat.

The solution of the whole problem is inevitable and a computerized system is the only solution of above problem and it is a final conclusion.

Uniqueness of the project

The Hospital running on a manual information system and many issues have been coming up from the time the hospital started to work. Problems in the manual system are many but the highlighting problems that are affecting the performance of the hospital such as; immense paperwork that needs huge amount of money to work with and that is obviously affects the income of the hospital. Workload on the employee is an additional issue which delays documental procedures while patients have to wait for long for their turn. Calculation error makes patients relatives annoyed. Due to lack of space in the store room old files and registers are not accommodating anymore and littered everywhere. Due to unsafe and lack of security confidential documents are insecure and can be reached to the unauthorized people. While old files and documents are piled in the store room it is not an easy task to search a record of a specific patient or employee. Above problems makes this system a time consuming system and waste lot of time when a transaction is on process. This system is more expensive than any other hospitals in the vicinity due to their adoption of computer technology.

**Time Consuming Problems:**

When a relative of any patient comes in and get inquiry about the patient that is the point when hard time for the employee at the front desk starts. He has to go through with the patient’s register and obviously it takes time and put patient’s relative on waiting. Preparing patient’s final bill in the account’s department patient’s discharge process accountant needs to go through with all tests reports and its expenses, consultant fee and room charge for the final calculation. This process becomes an unbearable situation for the accountant to collect all related document of a particular patient and consumes immense time. Patient admission process needs lot of time to register patients’ information and the approval of the availability of a room.

**Too Much Paper Work:**

Hospital is a manual system in which all process are being done on papers and registers. Due to manual system it consumes lots of papers and affects on overall budget of the hospital.

**Delays In Updating Of Records:**

This is not an easy task for the hospital staff. Since it’s a busiest hospital in town documentation are being done manually and needs update on regular basis for the account’s inventory. Directory Forms are given to the employee after every six month but due to lack of time records are not updated regularly so tracking of employees’ record is not possible. Due to unavailability of patient’s updated record accounts department suffers a lot. It is not an easy task for them to collect all the related information of a patient to prepare final bill.

**Retrieval Of Records:**

Retrieval of record is another issue, because of the records are updated once in a year. Records are kept in random order so seeking a file is very difficult.

**File Handling:**

As hospital generates lots of records each day due to immense response of the patients, file and documents are generated every day. Handling such a large number of records manually each day is extremely a complicated task.

**Lack of Space:**

Hospital doesn’t have extra space in its premises so accommodating new employee and creating more rooms for the patient is difficult. Records and files are kept on shelves and tables disorderly.

**Security Problems:**

Due to the casual file handling, confidential records are insecure and can be seen by anyone which definitely could be a serious threat to the hospitals reputation.

**Mixing Of Records:**

As files and paper documents are not put in order so loose documents from the files mixes up with other documents that put hospital staff in jeopardy. Sometimes identical names of two different patients or employees make a big confusion to handle. This mixing up document problem takes lots of time to resolve the issue.

**Data Duplication:**

Sometimes record of a patient or an employee generated twice by mistake or lost of the papers. This gives problems such as double invoice billing, double entry on the ledger or double entry of particular patients or employee data.

**UHSQUARE Systems** caters all these problems

Implemented classes

UmL class diagram

Header files

Algorithm

|  |
| --- |
| Ward |
| string  -sward,  -NoofBeds,  -BedsOccupied,  -BedsFree  -NoofDoctors,  -NoofPatients,  -StaffWorking; |
| +ward():void  +getward():string  +setward(string a):void  + setnobeds(string a):void  +setnobedsocc(string a):void  +bedsfree(string a):void  +nodoc(string a):void  +setnopat(string a):void  +setstaff(string a):void  +getnobeds():string  + getnobedsocc():string  +gedsfree():string  +godoc():string  +getnopat():string  +getstaff():string  +details():void  +setdetails():void  +datadet():void |

|  |
| --- |
| General |
| String  -name,  -address,  -fathername,  -cnic,  -nationality,  -contactnum,  -city,  -gender,  -emailaddress,  -dob,  -martialstatus,age; |
| +general()  +general(string s1,string s2,string s3,string s4,string s5,string s6,string s7,string s8,string s9,string s10,string s11,string s12): |

|  |
| --- |
| Doctor |
| String  -department  -specialization  -pass  -date  -time  Int  -id  -patid |
| +doctor():void  +getdepartment():string  +gespecialization():string  +setdepartment(string):void  +setspecialization(string):void  +getappointment():string  +setappointment1(string):void  +getname():string  +getF\_name():string  +getcnic():string  +getgender():string  +getdob():string  +getaddress():string  +getnationality():string  +getcity:string  +getemail():string  +setName(string):void  +setF\_name(string):void  +setAddress(string):void  +setNIC(string):void  +setContact(string):void  +setAge(string):void  +setgender(string):void  +setdob(string):void  +setnationality(string):void  +setemail(string):void  +setcity(string):void |

|  |
| --- |
| Patient |
| string  -Date,  -Date\_2,  -B\_group,  -Disease,  -Doctor,  -Ward,  -Id,  -Day  ,-Total,  -Appointment,  -Time; |
| +doctor():void  +getdepartment():string  +gespecialization():string  +setdepartment(string):void  +setspecialization(string):void  +getappointment():string  +setappointment1(string):void  +getname():string  +getF\_name():string  +getcnic():string  +getgender():string  +getdob():string  +getaddress():string  +getnationality():string  +getcity:string  +getemail():string  +setName(string):void  +setF\_name(string):void  +setAddress(string):void  +setNIC(string):void  +setContact(string):void  +setAge(string):void  +setgender(string):void  +setdob(string):void  +setnationality(string):void  +setemail(string):void  +setcity(string):void  +setdate(string):void  +setday(string):void  +getday():string  +setId(string):void  +setTotal(string):void  +getTotal():void  +setdiease(string):void  +gedieases():string  +setWard(string):void  +getWard():string  +editdata():void  +displaydeta():int  +report():int  +Billing():void  +setappointment():void |

|  |
| --- |
| Department |
| +ward \*wardd;  +doctor \*docptr;  +Patient \*patptr;  String  - Noofwards,  -DepartName; |
| void setnoward(string s1)  void setdepartname(string s2)  string getdepartname()  void patientdet();  void doctordet();  void warddet();  void departmentdetails() |

Flow chart

Yes

Menu Form

Enter Record in all the Fields

Change the Data that is selected

Update Record

A

If Pressed Edit

If Pressed Delete

Want to Delete Record

Delete Record

A

If Pressed Search

Want to Stop Search

Enter ID

Display Record

A

Else If Back is pressed

Menu Form

A

A

A

No

Yes

Yes

No

No

No

Yes

No

Yes

REPORTS FORM

Report Form

Yes

Menu Form

Press “Menu”

No

Yes

Press “Staff Report”

Staff Report Form

No

Yes

Press “Doctor Report”

Doctor Report Form

No

Press “Appointment”

Yes

Appointment Form

Source code

Screen shot

Future enhancement

For higher efficiency, more sophistication and more and better modification of the software, the following steps are recommended.

More command buttons can be created such as refresh or print record.

More search buttons can be created for faster access of data in each and every form.

The Main Menu of the hospital system can be modified if more aspects are required to be shown of the hospital.

Individual reports of patients and doctors can be made to keep record of each patient/doctor status.

To start a same system for the medicines , hospital departments and accounts departments.

The database should be linked with some medical departments so that registration of the medicines, syringes etc. can be made online via internet.

references