Gui & DB Project Report

Full Unit – Final Report

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Appointment Scheduling System

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Getting Started

Introduction:

If Appointments are the vehicle that moves a service organization forward, scheduling is the fuel. Vroom, vroom.

Business operations in the modern days always seem to be in a hurry. Therefore, automation becomes an important factor in business models. Appointo is one such software that helps you to schedule appointments and manages everything related to it.

This scheduling system provides friendly user interfaces that allow dentists, receptionists full access – from their PC.

Objectives:

The appointments system allows for quick booking and managing of patients appointments while eliminating the possibility of reiteration of the same time slot for different patients. Only receptionists has the access to reserve appointments, thereby to provide the best service for patients and ease for the dentists to know their daily schedules thus knowing their appointments. Specific objectives include:

1- Establishment of a paperless environment

2- Scheduling of the dental activities within the dental center or clinic

3- Remind Dentists and Patients of any change in appointments

4- Patient does not have to wait in queue to visit the dentist.

5- This system saves time of both dentist and patient and receptionists too.

Usage

This Software is controlled by the admin, who adds the dentists and receptionists and Manage all their information's.

 In this project, there's different tasks granted for receptionists and dentists independently   .

Thus each of this two types has his own interface, for example, a receptionist can add, delete patients, manage their details and assign these patients for a specific dentist through scheduling an appointments for them.

Further there's Some tasks that are common for both , as searching patients ,view schedules for daily, weekly, and monthly dates moreover ,only a dentist can have access on his availability like assigning the days of a week he is available on ,same for time of each day he is available too .

The following are the major operations in this application.

- Login
- Change password
- Inserting work times for dentist
- List of upcoming appointments
- Adding a new appointment
- Searching for appointments
- Searching for patients
- List of all appointments
- List of appointments by date
- List of users(dentists, receptionists) of the system
- List of patients of the system
- Deleting an existing appointment(canceling)
- Editing details of an existing appointment
- Editing details of patients and users
- Change dentist Availability
- logout

Project description

Appointment Scheduling System is developed to improve the clinic management and automates the workflow of the clinic appointments. This system is considering scheduling appointments for dentists. Receptionist will make registration of patient first. If the patient never registered before, patient information collected and stored in the database. However, if it is an existing patient the patient data is search-using Patient Id. This will improve the record of the patient and save the time during the registration. At this time, patient appointment is schedule to a specific dentist.

The appointment scheduling system is very beneficial for a receptionist/dentist. It will stores complete patient appointment records.

For the security, before the user enters the system they have to input their username and password before log in to the system. The system has different access for the difference user.

As for the dentists, this system ease the possibility for them to view their daily scheduled appointments, also viewing appointments according to the day they want. And also view their patient's details.

ERD model
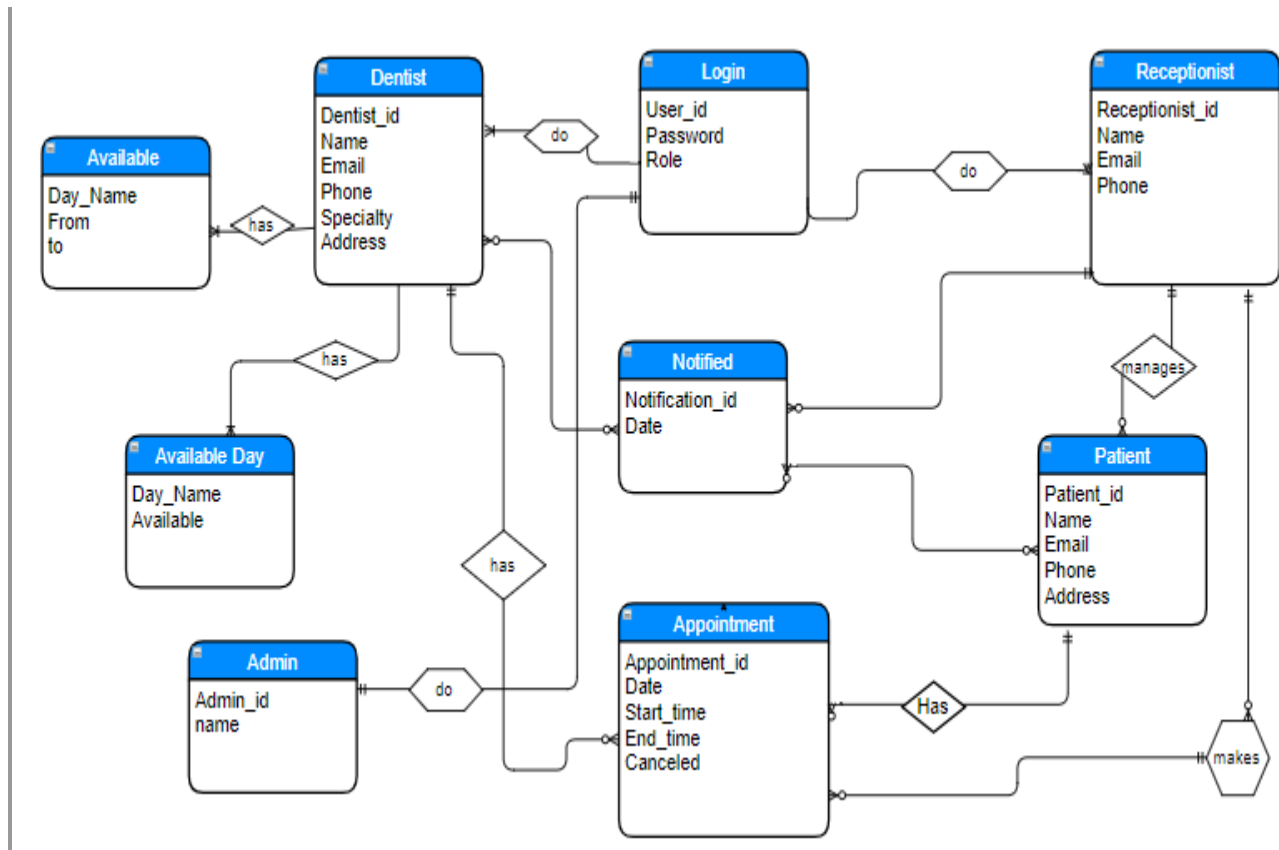
The admin adds to the system the dentists and receptionists , giving for each one a unique id and password in which he can change it later after accessing his own interface.

Before the receptionist can manage scheduling dentists appointments , the dentist first must enter his work times

and available hours on each day. This occurs when the dentist logs in to the system for the first time ,the interface for recording work times opens and the dentist can't access his main window unless he fills all work days and times . And then every month this interface reopened for the dentist to refill his work times.

After the dentist fills his work times, the receptionist can now access the availability for each dentist and according to it , scheduling appointments start .the receptionist picks the date of the required appointment and selects dentist id the patient wish to be treated by , this is if the patient is already registered and have an id ; if not the receptionist adds the patient first to the system, and then selected the time and period of the meeting

Further the receptionist can view the appointments of dentists for any date they want . Cancel appointments .

Manage operations on patients registered

Some of the triggers used :
-Patient cant be scheduled 2 times on the same day for the same dentist .
-appointment cant start before previous appointment has ended.
-appointment cant begin while another appointment is active.

Some of the stored procedure used:
-that cancel all the appointments that are on the day that the dentist edited and set unavailable on it.

Some of the functions used:
-Listing today's appointments for a dentist.
-listing appointments for a dentist
According to desired date.
Listing availability time for dentists.
Listing dentist patients.

Some of constraints used :
-CHK_EndTime_After_StartTime
-CHK_From_To (from time must be before to time selected)
-CHK_ValidDate
-on phone numbers and on emails

Sample code of a stored procedure :

```
create procedure alterappointment( @did varchar(30) , @dayname varchar(30), @on bit)
 as begin
 if(@on=0)--tafytaa lal toggle
 update Appointment set Appointment.Canceled=1 where
DATENAME(dw,Appointment.Date)=@dayname  and Appointment.Dentist_id=@did
 else--dawyta
 update Appointment set Appointment.Canceled=0 where
DATENAME(dw,Appointment.Date)=@dayname and Appointment.Dentist_id=@did
 end
 go
```

Sample code of a trigger:

```sql
create function List_time (@did varchar(30), @date date)
returns table
AS
return(
 select StartTime , EndTime from  Appointment
     where Dentist_id=@did and Appointment.Date=@date and canceled =0)
go

create function timeBetween(@start time, @end time ,@did varchar(30),@date varchar(30))
returns bit
as begin
declare @c cursor ,  @e time ,@s time
set @c=cursor for select  StartTime , EndTime from  Appointment
     where Dentist_id=@did and Appointment.Date=@date and canceled =0
open @c
fetch next from @c into @s, @e
while @@FETCH_STATUS=0
begin
if( @start > @s and @start < @e  )
 return 0
 if( @end > @s and @end < @e  ) --yntehe mw3ed be2lb mw3ed tene mhjuz
 return 0
fetch next from @c into @s, @e
end
close @c
return 1
    end
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create trigger schedule_one_time
 on Appointment
 instead of insert
 as
 begin
  declare @did varchar(30)
  declare @pid varchar(30),@s time ,@e time ,@p varchar(30)
  declare @date date
  select @did=Dentist_id from inserted
  select @pid=Patient_id from inserted
  select @date="Date" from inserted
  select @s=StartTime from inserted
 set @e= (select EndTime from inserted)
 select @p=Period from inserted
   if(not exists(select Appointment.Patient_id  from Appointment where "Date"=@date and
   Dentist_id=@did and Patient_id=@pid) and dbo.timeBetween(@s, @e ,@did ,@date)=1 )
        begin
        insert into Appointment values(@pid,@did,@s,@e,0,@date,@p)
        end
       else
        raiserror('paient cannot have more than 1 app ...or unvalide times for an
appointment ',15,0)
end
```