

CSE412 Project Phase 1

Group #: 18 Group Name: Vision Score: 47 +1

| Points | PtDist | Content | Comments |
|----------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 0.25 | 0.25 pt | Cover Page for the intermediate submission | |
| | 0.25 pt | Table of Content for the intermediate submission | |
| 10 | 10 pts | Requirements Description <ul style="list-style-type: none"> • Include enterprise/database overview • Completeness of description | |
| -2 x1 | 15 pts | ER diagram with min/max specification <ul style="list-style-type: none"> • Consistency with requirements • Technical correctness | You should maintain patient visit info in a separate entity. How will you handle multiple visit info? |
| 2 | 2 pts | Group Status Report for the intermediate submission | |
| 0.25 | 0.25 pt | Cover Page for the final submission | |
| 0.25 | 0.25 pt | Table of Content for the final submission | |
| 5 | 5 pts | Constraints not in ER schema: complete | |
| 5 | 5 pts | Forms (at least 4 forms) <ul style="list-style-type: none"> • Completeness of description | |
| 5 | 5 pts | Reports (at least 2 reports) <ul style="list-style-type: none"> • Appropriate, completeness of description | |
| 5 | 5 pts | Queries (at least 5 queries) <ul style="list-style-type: none"> • Appropriate, non-trivial, and completeness of description • Not duplicating a report | |
| 2 | 2 pts | Group Status Report for the final submission | |
| 46 | Total 50 pts | Note: Your individual score recorded on myASU may differ from the group grade due to absences or confidential phase evaluations. | |

| Requirement | Description | E-R diagram |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|
| Patients can check-in by entering name, address, date of birth, gender, social security number, insurance information, medicine that they are allergic to, description of their condition, check in time and date. | | |
| Each patient has a status (waiting, being seen, released, paid/checked-out). When a patient checks in, the status becomes waiting. | | |
| Receptionists can view and change information of patients | | |
| Based on the condition description of each patient, a receptionist assigns a patient condition level (severe, medium, light) | | |
| Based on each patient condition level/check in time, make a queue of (sort) patients | | |
| Receptionists can see the status of doctors/nurses (off duty, seeing a patient, available) | | |
| Receptionists can send a message to a doctor/nurse | | |
| Receptionists can set the payment amount for each patient. | | |
| | | |

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| When doctors/nurses are coming to work, change their status from "off duty" to "available" | | |
| When doctors/nurses are taking a patient, they change their status from "available" to "seeing a patient", and also change the patient's status from "waiting" to "being seen". | | |
| When doctors/nurses are done seeing a patient, they change their status to "available", and also change the patient's status from "being seen" to "released". | | |
| When doctors/nurses are leaving from work, they change their status to "off duty" | | |
| For each patient that doctors/nurses see, they enter diagnosis and treatment into the patient's record, with date and time | | |
| Doctors and nurses can see messages from receptionists. | | |
| Admins can create/delete/change accounts for doctors/nurses, and receptionists. | | |
| Admins can ask for report on which doctor/nurse treated/saw which patients | | |
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CSE 412

Database Management

Microsoft Access™ Project

Hospital Database System Database (COMPANY)

Phase 1 Deliverable

Due Date: September 27

Group No: 18

Group Name: Vision

Members: Phung Tran

Cory Latino

Seong Min Kim

Abdullah Alarabi

Ladapa Chaiyasut

PHASE 1: INTERMEDIATE SUBMISSION CHECKLIST/ SIGNOFF SHEET**GROUP #: 18****GROUP NAME: Vision****Deliverables:**

- ✓ Requirements description
- ✓ ER diagram with min/max specifications
- ✓ Constraints not in ER schema
- ✓ Summary of processing needs
(Categorization into expected forms, reports, and queries)

Assessment:

- ✓ Group Status Report
- ✓ Returned Phase 1 Intermediate
- ✓ Confidential Peer Evaluation (submitted separately)

We have each reviewed the contents of this deliverable.

| | <i>Printed Name</i> | <i>ASU Email</i> | <i>Signature</i> |
|---------------------|---------------------|-------------------------|------------------|
| Phase Leader | Phung Tran | <u>pttran4@asu.edu</u> | Phung tran |
| Phase Recorder | Cory Latino | <u>clatino@asu.edu</u> | Cory latino |
| Phase Checker | Seong Min Kim | <u>smkim6@asu.edu</u> | Simon Kim |
| Technical Advisor 1 | Abdullah Alarabi | <u>aalarab1@asu.edu</u> | Abdullah Alarabi |
| Technical Advisor 2 | Ladapa Chaiyasut | <u>lchaiyas@asu.edu</u> | Ladapa Kate |

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Hospital Database System

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1. INTRODUCTION

The hospital database system constructs based on the client specific required to satisfy clients needs and expectations. The implementation of database system represents by both functional requirements and nonfunctional requirements. The hospital database system implementing processes references the following book:

Database Systems Concepts

A. Silberschatz, H. Korth and S. Sudarshan, McGraw Hill

2. REQUIREMENTS AND DESCRIPTION OF THE ENTERPRISE/ DATABASE

Requirements:

Patient:

- Patient can check-in with receptionist by entering name, address, date of birth, gender, SSN, insurance information, medicine that they are allergic to, description of their condition, check in time and date.
- Each patient has a status(waiting, being seen, released, paid/checked out). When a patient checks in, the status becomes waiting.

Receptionist:

- Can view and change information of patients
- Based on the condition description of each patient, a receptionist assigns a patient condition level (severe, medium, light)
- Based on each patient condition level/ check in time, make a queue of (sort) patients.
- Can see the status of doctors and nurses (off duty, seeing a patient, available)
- Can send messages to a doctor or a nurse.
- Can set payment amount for each patient.

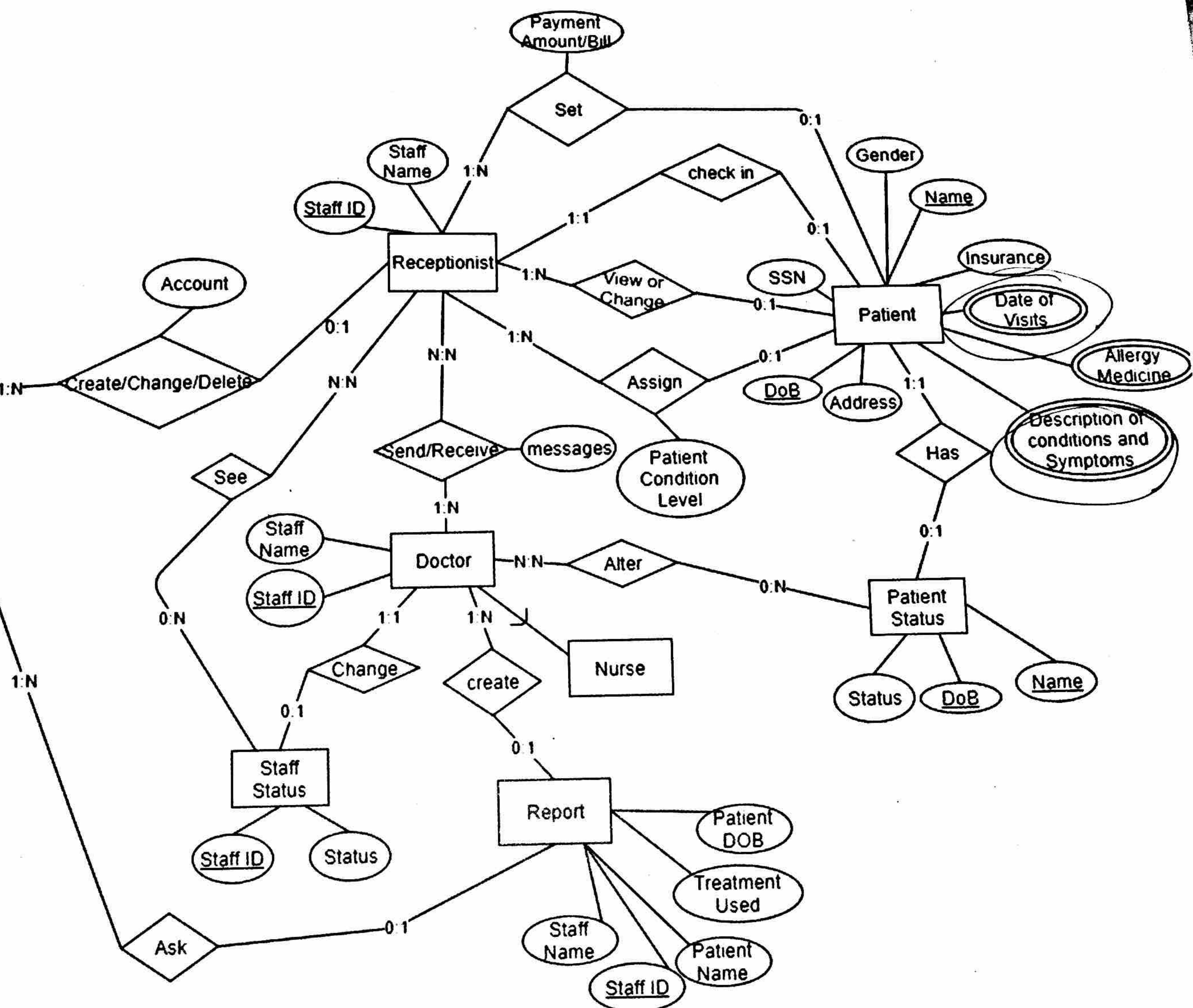
Doctor/nurses

- Change their status. Eg: Off duty to available
- Change patient status.
- See the messages from receptionists.

Admin:

- Admin can create/delete/change accounts for doctors, nurses, and receptionists.
- Can ask for report on which doctor/nurse treated/saw which patients.

3. ER DIAGRAM DESIGN WITH SPECIFICATION



4. ER DIAGRAM UNCAPTURED CONSTRAINTS

Doctors and Nurses cannot change other staff status

Doctors and Nurses can only create report for their patients.

Doctors and Nurses can only change their own patient's status, and only one at the time.

Doctors and Nurses cannot see more than 1 patient at a time.

Doctors and Nurses can only have one status at the time.

Receptionist cannot assign patient condition level without hearing a description of their conditions and symptoms from the patient.

Patient can only have one status at the time

Bills cannot be less than 0 dollars.

Admin can only create/change accounts for doctors/nurses/and receptionists that work for the same hospitals.

Admin can only delete accounts if the staff quit/resign/retired.

5. PROCESSING NEEDS

The processing needs of the hospital database characterized with respect to the operations between a patient, receptionists, doctors, nurses, admin, and misc queries.

5.1 FORMS

| Form Name | Description |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Form 1: | |
| Patient Check In | Receptionist is responsible for checking in the patient. They submit the required patient information (ex: name, D.o.B, etc) into the database for the doctor and nurses to see when they treat a patient. |
| Form 2: | |
| Bill Payment | Receptionists is responsible for sending out the bill to the patient. The form enclosed will include the payment method such as credit card number, insurance information, name, and billing address. |
| Form 3: | |
| Medical prescription | Patients are seen by a doctor and nurse to review their symptoms. Based on that, the doctor or nurse are able to prescribe the medicine, daily dose, name of the patient, refill option and the location of the pharmacy for the patient. |
| Form 4: | |
| Database Configuration | Admins have the highest privilege in the database environment. They can add or change receptionists, nurses, and doctors account. |

5.2 REPORTS

| Report Name | Description |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Report 1 |
| Doctor and Nurses Report | For the admin to obtain a report of the patients that doctors and nurses treated and the treatments they gave to the patients. The report also shows the patient's name, symptoms, and insurance. |
| Receptionist Report | Receptionist is responsible to obtain the description of conditions or symptoms of the patient to determine the condition level (severe, medium, or light) of the patients. Afterward the receptionist form a report to send to the doctors and nurses to determine the queue of which patient to see first. |

5.3 QUERIES

| Query Name | Description |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Query 1: Doctor | |
| Patient with Severe Condition Information | For each doctor to retrieve the names and symptoms of patients who have a severe condition. |
| Query 2: Doctor | |
| Receptionist Messages | For each doctor to retrieve the receptionist's messages from the past 3 days. |
| Query 3: Doctor | |
| Patient Older than 50 with Heart Disease | For each doctor to retrieve the names and gender of patients who older than 50 with have heart disease. |
| Query 4: Receptionist | |
| Doctor with Off-Duty Status | Retrieve the names of the doctor who has an off-duty status. |
| Query 5: Receptionist | |
| Patient with Check-in Status Information | Retrieve the names, insurance, SSN, and symptoms of patients who have a check-in status. |

GROUP STATUS REPORT

GROUP #: 18 GROUP NAME: Vision

PHASE #: 1

We have each reviewed the contents of the following group status report:

| | <i>Printed Name</i> | <i>Signature</i> |
|---------------------|---------------------|------------------|
| Phase Leader | Phung Tran | Phung tran |
| Phase Recorder | Cory Latino | Cory Latino |
| Phase Check | Seong Min Kim | Seong Min Kim |
| Technical Advisor 1 | Abdullah Alarabi | Abdullah Alarabi |
| Technical Advisor 2 | Ladapa Chaiyasut | Ladapa Kate |

- Dates & attendance at group meetings in this phase:

Wednesday, September 20, 7:20 p.m. - 8:00 p.m. All group members present.

Monday, September 25, 2:00 p.m. - 4:00 p.m. All group members present.

Tuesday, September 26, 7:30 p.m. - 10:55 p.m. All group members present.

Wednesday, September 27, 4:00 p.m. - 5:00 p.m. All group members present.

- Overview of progress on project as of September 25, 2017 (date):

The Forms, Report, and Queries have been written, and the ER diagram has been redesign. Double check the new ER diagram and make sure the design contains all the previous requirements. Transfer the physical ER diagram to SmartDraw.

- Overview of progress on project as of September 27, 2017 (date):

Final overview and agreement on the ER diagram and the document format. Wrap up all the requirements of project phase 1 final deliverable.

- For each group member, indicate in detail the contributions and expected contributions in this phase:

Leader:

- Coordinate details upon meeting and planning the meeting schedule.
- Assist with keeping track of the requirements
- Contribute to design and forming ER diagram.
- Will do a final check on the ER Diagram.

Recorder:

- Write down teams key points, ideas and decisions
- Record facts only

Phase Checker:

- Check the progress of the on going project to ensure that the group members are on schedule to finish in time.
- Check for any errors present

Technical Advisor 1:

- Rewrote and revised requirements and descriptions
- Implemented patient's branch of the ER diagram
- Contributed to designing the final ER diagram

Technical Advisor 2:

- Created documents for deliverable.
- Formed the reports
- Formed the induction.
- Formed the queries .
- Reviewed database requirements and descriptions.