**Lab 3:**

**ST. VINCENT HOSPITAL**

**USE CASE and ACTIVITY DIAGRAMS**

Prepared for

Sunnie Chung

Professor, Computer Science

Cleveland State University

By

Jeff Barto 2622721

Nicholas Koors 2616991

Matt DeNardo 2578758

Cleveland State University

[Group 4]

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**Abstract:**

This report lays out the use case and business process requirements of a hypothetical online system being developed to organize information for St. Vincent Hospital. Patients, doctors, nurses, receptionists, and management will each be able to access different aspects of the system to manage medical visits and information.

* **ACTORS:** ( \* Denotes Major Actors)
  + **\***Patients
  + Receptionists
  + **\***Doctors
  + Nurses
  + **\***Administration/Management
  + System
* USE CASE (PATIENTS):
  + Schedule appointment(new)
  + Retrieve patient(self) medical information
  + Create Account
  + Retrieve appointment information
* USE CASE (DOCTORS):
  + Schedule Treatment
  + Update Medical information (prescription/illness)
  + Retrieve Daily appointment schedule
  + Cancel Appointment
* USE CASE (ADMINISTRATION):
  + Add Doctor/Nurse
  + Remove Doctor/Nurse
  + Create Schedules
  + View/Retrieve Schedules
  + Employee Privilege Management
  + Create Employee Account

**Use Case Descriptions**

Descriptions of all of the major use cases for the St. Vincent Hospital Online Information System

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| Use Case Name: Create Patient Account | ID: 1 | Importance Level: High |
| Primary Actor: New Patient | Use Case Type: Detail, Essential | |
| Stakeholders and Interests:  New Patient – wants to create a new account in the system | | |
| Brief Description: This use case describes how a new patient will create a new account in the hospital's database system. | | |
| Trigger: The Patient clicks to create a new Patient account on the hospital website.  Type: External | | |
| Relationships:  Association: New Patient  Include: Create Patient Identification Information, Create Patient Billing Information, Create Patient Contact Information, Create Patient Medical Information  Generalization: Manage Patient Accounts | | |
| Precondition: Patient must fill out required information in the create new account page. | | |
| Normal Flow of Events:  1. The Patient accesses the hospital web page.  2. The hospital web page loads with buttons to create a new account or login to an existing one.  3. The Patient clicks the button to create a new account.  4. The “Create a New Account” subpage loads with required text boxes for the patient to fill out.  5. The Patient fills out the required text boxes: name, phone, address, emergency contact information, insurance/payment options.  6. The Patient clicks the “Complete” button to create a new account.  7. An SQL call is made to the hospital account database to insert a new employee account with the provided fields and the entry is added into the database. | | |
| Alternate/Exceptional Flows:  5a. The Patient chooses to fill out any of the optional text boxes: e-mail, allergies, health problems, preferred physician, or prescriptions.  7a. The Patient account has already been created, and the operation fails. The Patient is notified of the failure and the reason for the failure. | | |

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| Use Case Name: Create New Employee Account | ID: 2 | Importance Level: High |
| Primary Actor: Management | Use Case Type: Detail, Essential | |
| Stakeholders and Interests:  Management – wants to create a new employee account in the system.  Employee – wants a new account so they can be active in the system and receive schedules and patient appointments. | | |
| Brief Description: This use case describes how a member of Management will create a new employee account in the hospital's database system. | | |
| Trigger: Management user clicks clicks to create a new employee account on the management website.  Type: External | | |
| Relationships:  Association: Management  Include: Create Employee Account Information  Generalization: Manage Employee Accounts | | |
| Precondition: Management must fill out required information to create a new employee account. | | |
| Normal Flow of Events:  1. Management accesses the hospital management website and logs in with their credentials.  2. The management site loads with buttons to create new employee accounts and remove employee accounts.  3. The Management user clicks to create a new employee account.  4. A new page loads with multiple text boxes to fill out for employee information.  5. The Management user fills in the text fields: name, phone, address, and identification number.  6. The Management user clicks “Complete” to create the new employee account in the system.  7. An SQL query to insert a new employee with all the given information is formatted and the entry is added into the database. | | |
| Alternate/Exceptional Flows:  1a. The Management credentials do not exist in the system and the login operation will fail. An error message will be output to the Management user that the login failed and why.  7a. The employee account already exists in the database and the operation fails. The Management member is notified of the failure and the reason. | | |

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| Use Case Name: Update Patient Account Information | ID: 3 | Importance Level: High |
| Primary Actor: Patient | Use Case Type: Detail, Essential | |
| Stakeholders and Interests:  Patient – wants to change some information in their account. | | |
| Brief Description: This use case describes how a Patient will update information for their account on the hospital website. | | |
| Trigger: Patient clicks the “My Account” button on the hospital website  Type: External | | |
| Relationships:  Association: Patient  Include: Update Patient Contact Information, Update Patient Billing Information, Update Patient Medical Information  Generalization: Manage Patient Accounts | | |
| Precondition: The Patient must log into an existing account and access their account information page. | | |
| Normal Flow of Events:  1. The Patient will access the hospital website and log in with their existing account credentials.  2. The website will load with a button “My Account” to edit existing setting for the Patient account.  3. The Patient will click the button and all of the Patient's information will appear. All patient identification information will be unmodifiable. Patient contact, billing, and medical information will be available to edit.  4. The Patient will choose to edit any of the modifiable text boxes that appear and click the “Save” button when they are finished.  5. An SQL call will be made and sent to the database server to update the specified fields for the Patient's account. | | |
| Alternate/Exceptional Flows:  1a. The specified Patient credentials will not exist in the system, and the login operation will fail. An error message will be provided to the Patient that the login failed and why. | | |

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| Use Case Name: Create Schedule | ID: 4 | Importance Level: High |
| Primary Actor: Management | Use Case Type: Detail, Essential | |
| Stakeholders and Interests:  Management – wants to create a new weekly schedule for Employees.  Employee – wants to have a schedule for themselves to know what appointments they have and what their day consists of. | | |
| Brief Description: This use case describes how Management will create weekly Schedules for Employees which will be accessed on a daily basis. | | |
| Trigger: Management user accesses the hospital's management web page and clicks to create a new schedule.  Type: External | | |
| Relationships:  Association: Management  Include: Add Doctors To Schedule, Add Nurses To Schedule  Generalization: Manage Schedule | | |
| Precondition: The Management user must log into the hospital's management page and click to create a new schedule and fill out the table with employee names and hourly schedule. | | |
| Normal Flow of Events:  1. The Management user will log into the hospital's management web page with existing Management credentials.  2. A page will load with a button for “Schedule Management”, which the Management user will click.  3. Another page will load with the options to create a new schedule or edit an existing one.  4. The Management user will click to create a new schedule and a calender will open up allowing choosing of a specific week.  5. The Management user will pick a week. A table will open up with seven columns for each day of that week and rows with existing Employee names.  6. The Management user will fill out each column in an Employee's row with the hours that they work on that day.  7. The Management user will click “Complete” to send the new schedule to the database.  8. An SQL insert call will be made to insert the table schedule into the database. | | |
| Alternate/Exceptional Flows:  1a. The specified Management credentials will not exist in the system, and the login operation will fail. An error message will be provided to the Management user that the login failed and why.  7a. A table already exists for the specified week. The operation will fail and an error will be output to the user that it failed and why. | | |

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| Use Case Name: Employee Account Privilege Management | ID: 5 | Importance Level: High |
| Primary Actor: Management | Use Case Type: Detail, Essential | |
| Stakeholders and Interests:  Management – wants to control access to accounts in the system.  Employee – wants privileges to access accounts in the system. | | |
| Brief Description: This use case describes how a Management user will control Employee privileges for accessing entries in the database. | | |
| Trigger: A Management user logs into the system and chooses to upgrade or downgrade an Employee's access privileges.  Type: External | | |
| Relationships:  Association: Management  Generalization: Manage Employee Accounts | | |
| Precondition: The Management user must log into the hospital's management website and click to open the Employee privilege management page. | | |
| Normal Flow of Events:  1. The Management user will log in to the hospital's management website with their credentials.  2. The website will load up with a button to click to access the “Employee Privilege Management” page, which the user will click.  3. A new page will load with a text box to enter in the Employee's name and a button to upgrade privileges, and a button to downgrade privileges.  4. The Manager will choose to either upgrade or downgrade the Employee's privileges after they enter in their name.  5. An SQL update query will be made to make the necessary privilege changes in the database. | | |
| Alternate/Exceptional Flows:  1a. The specified Management credentials will not exist in the system, and the login operation will fail. An error message will be provided to the user that the login failed and why.  5a. The operation will fail when the account is already at the lowest possible privilege when downgrading or the highest possible privelege when upgrading. An error message will be provided to the user. | | |

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| Use Case Name: Create New Appointment | ID: 6 | Importance Level: High |
| Primary Actor: Patient | Use Case Type: Detail, Essential | |
| Stakeholders and Interests:  Patient - wants to create/schedule a new appointment  Doctor - wants to tend to patient and is target of appointment | | |
| Brief Description: This use case describes how a patient will create/schedule a new appointment with a doctor. | | |
| Trigger: The patient decides to schedule an appointment to see a doctor.  Type: External | | |
| Relationships:  Association: Patient, Doctor, Receptionist  Include: Update Doctor Daily Appointments  Extend:  Generalization: Appointment Management | | |
| Normal Flow of Events:  1. The Patient seeks Doctor appointment for medical concerns or standard checkup.  2. The Patient accesses the Hospital website.  3. The Hospital website loads and displays a login/sign in option.  4. The Patient clicks link to sign in with existing account.  5. The Patient clicks “Check Appointment Availability.”  If the Patient has an Assigned Doctor(s), Patient selects which Doctor’s availability calendar  they wish to see and that calendar is displayed.  If the Patient has no Doctors assigned, a generalized available appointments calendar is  displayed.  6. The Patient selects desired available appointment date and time by clicking on calendar square and selecting an available time slot.  7. The Patient clicks the “Schedule this Appointment” button to create the appointment.  8. The Patient is presented with request to confirm: “Schedule appointment with [Doctor Name] on [Date] [Time]?”  If the Patient selects “Yes” the appointment is created.  If the Patient selects “No” the appointment is not created and Patient may select anew.  9. The Appointment has been created and is logged in the system, the timeslot specific to that date with that Doctor is removed as an available option.  10. Successful Appointment Creation Notification Pops up on the screen. | | |
| SubFlows: Upon creating an appointment with a Doctor not already Assigned to Patient, the Doctor will be added by default as an Assigned Doctor. | | |
| Alternate/Exceptional Flows:  5a. Patient wishes to meet with different Doctor, Patient selects “See General Availability” or “Choose My Doctor.”  5b. Patient needs to schedule an appointment with a specialist (i.e. Cardiologist) who is not already an assigned Doctor, Patient selects “See Specialist.” | | |

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| Use Case Name: Retrieve Daily Appointments | | ID: 7 | Importance Level: High |
| Primary Actor: Doctor | Use Case Type: Detail, Essential | | |
| Stakeholders and Interests:  Doctor - wants to view appointments for a day/check next appointment due in.  Patient - wants to Doctor to attend scheduled appointments | | | |
| Brief Description: This use case describes how a Doctor will retrieve their own schedule for appointments for a given day. This use case does not address appointment cancelation or alteration. | | | |
| Trigger: Doctor clicks to “View My Appointments” Calendar  Type: External | | | |
| Relationships:  Association: Patient, Doctor, Receptionist  Include: View Appointments Day Selection  Extend:  Generalization: Appointment Management | | | |
| Normal Flow of Events:  1. Doctor accesses Hospital website to check appointments’ schedule.  2. Doctor selects “View My Appointments” calendar.  3. Calendar loads with current Month page loaded and current day highlighted.  4. Doctor wants more information.  If Doctor wants to see day at a glance, double click the desired day and it is displayed.  If Doctor wishes to look to another month, Doctor may click the appropriate arrows.  5. Doctor selects specific appointment, Patient’s information is displayed including last known appointment/visit. | | | |
| SubFlows: | | | |
| Alternate/Exceptional Flows: | | | |