Deni Frashëri

UC Name	*UC01 / Schedule Appointments of Patients*
Summary	*SAP*
Dependency	*None*
Actors	*Executives (Primary), Patient (Secondary)*
Preconditions	*The Executives has access to the appointment scheduling system.*
Description of the Main Sequence	*Step 1: The Executives receives a request for an appointment from a patient.* *Step 2: The Executives checks the availability of healthcare providers and facilities.* *Step 3: Laboratory staff enters results into reporting system.*
Description of the Alternative Sequence	
Non functional requirements	*Performance: The system should handle appointment scheduling efficiently, minimizing wait times.* *Security: Patient information must be securely managed and accessed only by authorized personnel.*
Postconditions	*Appointments are successfully scheduled, ensuring timely access to healthcare services for patients.*

UC Name	*UC02 / Schedule Hospital Admission of Patient*
Summary	*SHA*
Dependency	*UC01 / SAP*
Actors	*Admission Clerk (Primary), Patient (Secondary)*
Preconditions	*The admission clerk has access to the hospital admission system.*
Description of the Main Sequence	*Step 1: The admission clerk has access to the hospital admission system.* *Step 2: The admission clerk verifies bed availability and necessary resources for admission.* *Step 3: The admission clerk schedules hospital admissions based on patient needs and available resources.*
Description of the Alternative Sequence	
Non functional requirements	*Efficiency: Hospital admission processes should be streamlined to minimize delays.* *Accuracy: Admission details should be recorded accurately to ensure appropriate care for patients.*
Postconditions	*Hospital admissions are successfully scheduled, ensuring patients receive timely and appropriate care.*

UC Name	*UC03 / File Insurance Forms, Patient Side*
Summary	*FIF*
Dependency	*None*
Actors	*Patient (Primary), Insurance Representative (Secondary)*
Preconditions	*Patients have access to insurance forms and necessary information.*
Description of the Main Sequence	*Step 1: Patients complete required insurance forms with accurate information.* *Step 2: Patients submit completed forms to insurance representatives or healthcare providers.* *Step 3: Insurance representatives verify submitted information and process insurance claims.*
Description of the Alternative Sequence	
Non functional requirements	*Accessibility: Insurance forms should be easily accessible to patients through online portals or physical copies.* *Timeliness: Insurance claims should be processed promptly to avoid delays in reimbursement.*
Postconditions	*Insurance forms are successfully filed, facilitating billing and reimbursement for healthcare services.*

UC Name	*UC04 / Admission of Outpatient in Hospital*
Summary	*AOH*
Dependency	*None*
Actors	*Executives (Primary), Patient (Secondary)*
Preconditions	*The Executives have access to the appointment scheduling system.*
Description of the Main Sequence	*Step 1: The Executive receives a request for an appointment from a patient.* *Step 2: The Executive checks the availability of healthcare providers and facilities.* *Step 3: Laboratory staff enters results into reporting system.*
Description of the Alternative Sequence	
Non functional requirements	*Performance: The system should handle appointment scheduling efficiently, minimizing wait times.* *Security: Patient information must be securely managed and accessed only by authorized personnel.*
Postconditions	*Appointments are successfully scheduled, ensuring timely access to healthcare services for patients.*

UC Name	*UC05 / Hospital Admission of Inpatient*
Summary	*HAI*
Dependency	*None*
Actors	*Admission Clerk (Primary), Inpatient (Secondary)*
Preconditions	*Inpatients have been referred for hospital admission by healthcare providers.*
Description of the Main Sequence	*Step 1: The admission clerk receives referrals for hospital admission from healthcare providers.* *Step 2: The admission clerk verifies bed availability and required medical resources for inpatients.* *Step 3: The admission clerk coordinates with nursing staff to prepare for inpatient admission and care.*
Description of the Alternative Sequence	
Non functional requirements	*Resource Allocation: Adequate beds and medical equipment should be available for inpatient admission.* *Documentation: All admission paperwork should be completed accurately and promptly.*
Postconditions	*Inpatients are successfully admitted to the hospital, receiving appropriate medical care as per healthcare provider instructions.*

Arla Zeqaj

UC Name	*UC06 / User role management*
Summary	*Administrators must be able to manage user roles within the system, assigning appropriate permissions and access levels to different user groups.*
Dependency	-
Actors	***primary actor:*** *the administrator*
Preconditions	- *multi-user environment* - *complexity of access control* - *organizational structure (multiple departments)*
Description of the Main Sequence	1. *Admin logs into the system with a dedicated account.* 2. *The system displays a list of existing user roles.* 3. *Admin selects a user role to modify.* 4. *The system presents options to add, remove or modify permissions for the selected role.* 5. *Admin adjusts permissions.* 6. *The system saves the changes into the user role.*

Description of the Alternative Sequence	- *If a new user role has to be created:*
	  1. *Admin selects options to create a new role.*
	  2. *The system prompts for a name and description.*
	  3. *Admin configures permissions.*
	  4. *The system saves the new role.*
	- *If an existing user role has to be deleted:*
	  1. *Admin selects the option to delete a role.*
	  2. *The system prompts for confirmation.*
	  3. *The admin confirms deletion.*
	  4. *The system removes the role and adjusts permissions.*

Non functional requirements	- ***Performance****: The system should respond quickly to admin actions even under peak loads.* - ***Security****: The system should enforce strict authentication mechanisms to ensure only authorized admins to access role management.*

	- ***Data Integrity**: The system should ensure the integrity of role and permission data, preventing data corruption, loss, or unauthorized modifications.* - ***Error Handling**: The system should gracefully handle errors and exceptions, providing informative error messages to admins when issues occur during role management.*
Postconditions	- *Updated user role configuration* - *Notification of confirmation* - *Activity log update*

UC Name	*UC07 / Performance Monitoring and Reporting*
Summary	*Administrators should be able to monitor system performance and generate reports on key metrics such as patient outcomes, resource utilization, and compliance.*
Dependency	*Patient Registration, Medical Record Management, Medical Coding*
Actors	***primary actor:** administrator*
Preconditions	- *System availability* - *Data storage capacity* - *Access permissions*
Description of the Main Sequence	1. *Admin logs into the system with a dedicated account.* 2. *The system presents with a dashboard that provides system performance metrics and options for generating reports.* 3. *Admin select performance metrics relevant to their monitoring objectives, like patient outcomes, treatment success rates, patient satisfaction scores.* 4. *Admin selects the option to customize their monitoring views by specific metrics, time periods, and visualization formats.* 5. *Admin generates reports with selected timeframes, and report formats.*

Description of the Alternative Sequence	*If there is no data storage capacity:* 1. *Admin accesses available performance metrics.* 2. *Administrators select a subset of key performance metrics needed for decision-making.*
Non functional requirements	- ***Scalability:*** *The system should handle increasing numbers of monitored systems, administrators, and performance metrics.* - ***Security:*** *Security measures to protect sensitive performance data from unauthorized access, tampering, or disclosure.* - ***Usability:*** *The system should have an intuitive and user-friendly interface that enables administrators to easily navigate, configure, and interpret performance metrics.*
Postconditions	- *Updated performance data* - *Accessible reports* - *Alerts and notifications if performance issues or anomalies are detected*

UC Name	*UC08 / Generate reports*
Summary	*Healthcare providers can generate patient facesheet, progress notes, nurse reports etc on pdf format*
Dependency	*Patient Registration, Medical Record Management, Admission Management*
Actors	- ***primary actor:*** *the healthcare provider* - *secondary actor: administrator*
Preconditions	- *User authentication* - *User permission level* - *Patient data availability*
Description of the Main Sequence	1. *The healthcare provider logs into the system using their credentials.* 2. *The healthcare provider selects the patient for whom they want to generate the documents using identifiers.*

	3. *The healthcare provider chooses the type of document they want to generate.* 4. *The healthcare provider reviews the generated PDF document and may make any necessary edits or revisions before finalizing the document.* 5. *The healthcare provider may save the document to the patient's record in the system, or electronically distribute it to other healthcare team members or departments.*
Description of the Alternative Sequence	*If the system detects an anomaly during the document generation process:* 1. *The system logs the details of the anomaly: the nature of the error, the affected document type, the patient involved, and the timestamp.* 2. *The system notifies the healthcare provider or administrator about the anomaly encountered.* 3. *If automatic retry fails the healthcare provider or administrator is prompted to review and address the issue.*
Non functional requirements	- ***Availability:*** *The system should be available whenever needed, minimizing downtime and disruption.* - ***Performance:*** *The system should generate PDF documents quickly.* - ***Security:*** *The system should maintain the confidentiality and integrity of patient data during the document generation process.*
Postconditions	- *Generated PDF documents* - *Document Distribution to the patient's electronic health record, to relevant team members/departments* - *Document accuracy: The documents accurately reflect the patient's information*

UC Name	*UC09 / Audit and Compliance tracking*
Summary	*The administrator should use tracking mechanisms to record*

	administrative actions, system configurations, and user activities.
Dependency	*Performance Monitoring and Reporting, User Role Management*
Actors	***primary actor:*** *administrator*
Preconditions	- *User authentication* - *Appropriate users permissions* - *System availability* - *Audit Log configuration*
Description of the Main Sequence	1. *Admin logs into the system with a dedicated account.* 2. *Admin views the audit log containing recorded administrative actions.* 3. *Admin enables users to search the audit log based on specific criteria.* 4. *Admin exports the audit log data in a standardized format like CSV or Excel for external analysis or reporting purposes.*
Description of the Alternative Sequence	*In case of event triggering the audit and tracking process:* 1. *The system notifies designated administrators or about the detected event, providing relevant details.* 2. *Admins receive a confirmation prompt to acknowledge the decision to log the event.* 3. *The system generates alerts or notifications to designated stakeholders*
Non functional requirements	- ***Reliability:*** *The system should be highly reliable, with minimal downtime or service disruptions.* - ***Maintainability:*** *The audit logging functionality should be well-documented, allowing for easy maintenance, updates, and enhancements.* - ***Security:*** *Audit log data should be encrypted to protect sensitive information from unauthorized access.*
Postconditions	- *Administrative action is recorded in audit log* - *Audit log search results are displayed* - *Audit log data is exported in the selected format*

UC Name	*UC10 / Organization and Facility Management*
Summary	*The administrator should support management of organizational structures, including departments, clinics, wards, and facilities.*
Dependency	*User Role Management*
Actors	***primary actor:** administrator*
Preconditions	- *System Availability* - *System Configuration* - *Authorization*
Description of the Main Sequence	1. *Admin logs into the system with a dedicated account.* 2. *The system displays the existing organizational structure, including departments, clinics, wards, and other units within the healthcare facility.* 3. *The administrator selects a specific organizational unit (department, clinic) to manage or creates a new unit if necessary.* 4. *If creating a new unit, the admin provides name, description, and parent unit.* 5. *The administrator customizes workflows and processes related to organizational and facility management tasks.*
Description of the Alternative Sequence	1. *Admin reviews performance metrics displayed on the dashboard.* 2. *Admin identifies optimization opportunities.* 3. *Admin collaborates with department heads and managers through collaboration tools.* 4. *Proposals are submitted for review and approval.* 5. *Upon approval, admin implements the approved changes.*
Non functional requirements	- ***Performance:** The system should respond with minimal latency.* - ***Scalability**: The system should accommodate growing volumes of organizational data.*

	- ***Security**: Access to organization and facility management functionalities should be restricted to authorized users.*
Postconditions	- *Updated organizational structure* - *Configured workflows* - *Improved operational efficiency*

Estela Mele

UC Name	***UC11 / Prior Authorization Request***
Summary	*The system must allow the Prior Authorization department to submit requests for healthcare services to insurance companies and track the process.*
Dependency	*UC08 / Generate Reports*
Actors	*Prior Authorization department staff **(primary)**,* *Insurance company representatives **(secondary),*** *Healthcare providers **(secondary)***
Preconditions	● *PA department staff must be authorized to access the system.* ● *Patient and service information must be available in the system.*
Description of the Main Sequence	*1. The healthcare provider requires an authorization, because the service inquired is not covered by the patient's health care plan.* *2. PA department initiates a request for healthcare service authorization.* *3. The system prompts the department to enter patient information and service details.* *4. The system forwards the request to the respective insurance company.* *5. The insurance company reviews the request.*
Description of the Alternative Sequence	*If the insurance company requires additional information:* *1. The system notifies the PA department.* *2. The department provides the requested information.* *3. The system resubmits the request to the insurance company.* *If the insurance company denies the request:* *1. The system notifies the PA department.* *2. The department may ask for the review decision and appeal.* *3. The system updates the status of the request accordingly.*

Non functional requirements	*The system must ensure timely communication with insurance providers, and maintain accurate documentation.*
Postconditions	● *The authorization request and its status are recorded in the system for future reference.* ● *If approved, the patient can proceed with the requested healthcare service.* ● *If denied, the PA department staff may need to explore alternative options or appeal the decision.*

UC Name	***UC12 / Insurance Coverage Verification***
Summary	*The system shall verify insurance coverage and eligibility for healthcare services.*
Dependency	-
Actors	*Healthcare provider **(primary)**,* *Insurance companies **(secondary)***
Preconditions	● *Patient information and healthcare service details are available.*
Description of the Main Sequence	*1. Healthcare providers initiate coverage verification for a patient.* *2. The system retrieves patient insurance information from the database.* *3. The healthcare provider verifies coverage with the respective insurance company.* *4. The system provides verification status to the healthcare provider.*
Description of the Alternative Sequence	*If coverage cannot be verified:* 1. *The system notifies the healthcare provider.* 2. *The healthcare provider may contact the patient for alternative payment arrangements.*
Non functional requirements	*The system should ensure secure handling of patient data during verification.*

Postconditions	● *The system updates the verification status for the patient.* ● *Healthcare providers proceed with service based on verification outcome.*

UC Name	***UC13 / Medical Coding***
Summary	*The system must facilitate the assignment of appropriate medical codes to healthcare services provided to patients for billing and documentation purposes.*
Dependency	*UC08 / Generate Reports*
Actors	*Coding specialists **(primary),*** *Healthcare providers **(secondary)***
Preconditions	*Patient information, healthcare service details, and coding guidelines should be available.*
Description of the Main Sequence	*1. Coding specialists receive healthcare service details from healthcare providers.* *2. The system presents the coding interface with relevant code sets and guidelines.* *3. The coding specialist assigns appropriate medical codes based on provided information and coding guidelines.* *4. The system validates the assigned codes for accuracy.*
Description of the Alternative Sequence	*If additional information is required for accurate coding:* *1. The coding specialist communicates with healthcare providers to obtain necessary details.*
Non functional requirements	● *It should ensure compliance with coding standards and regulations.*
Postconditions	● *The system stores coded documentation for billing and reporting purposes.*

UC Name	***UC14 / Prior Authorization Request Review***
Summary	*The system must allow insurance companies to review and respond to prior authorization requests submitted by healthcare providers.*
Dependency	*UC11 / Prior Authorization Request* *UC13 / Medical Coding*
Actors	*Insurance company **(primary)**,* *Healthcare provider **(secondary)***
Preconditions	● *Prior authorization requests have been submitted.*
Description of the Main Sequence	*1. Insurance companies access the prior authorization request.* *2. The system presents a list of pending authorization requests.* *3. Insurance company selects a request for review.* *4. The system displays request details and patient information.* *5. Physicians, nurses or clinical pharmacists at the insurance company review the request and make a decision.* *6. The system updates the authorization status accordingly.*
Description of the Alternative Sequence	*If additional information is required:* *1. The insurance company may request further details from the healthcare provider.*
Non functional requirements	*The system should provide secure access to authorization request information.*
Postconditions	● *The system updates the authorization status based on the insurance company's decision.* ● *Healthcare providers receive notification of approval or denial for the prior authorization request.*

UC Name	***UC15 / Billing and Claims Management***
Summary	*The system must generate and process insurance claims for healthcare services provided to patients.*
Dependency	*UC12 / Insurance Coverage Verification* *UC11 / Prior Authorization Request Review* *UC13 / Medical Coding*
Actors	*Billing department* ***(primary),*** *Insurance companies* ***(secondary)***
Preconditions	● *Prior authorization requests have been approved.*
Description of the Main Sequence	*1. Billing department initiates insurance billing for a patient.* *2. The system retrieves patient and service information from the database.* *3. The system generates an insurance claim based on provided information.* *4. The system submits the claim to the respective insurance company.* *5. The insurance company processes the claim.* *6. The system updates the claim status*
Description of the Alternative Sequence	*If the insurance company rejects the claim:* 1. *The system notifies the billing department.* 2. *The billing department may appeal the decision or adjust the claim as necessary.*
Non functional requirements	● *The system should efficiently process insurance claims and generate timely responses.*
Postconditions	● *The system updates the claim status based on insurance company response.* ● *Billing department proceeds with further actions based on claim outcome*

Enkel Shehdula

UC Name	*UC16 / Electronic prescribing*
Summary	The pharmacists should be able to prescribe the drugs needed for the treatment of a patient in accordance with their cases and the doctor's prescription.
Dependency	
Actors	*The primary actor is the pharmacist who prescribes the drugs according to the prescription of the doctor.*
Preconditions	*The patient must be admitted and the doctor must have made a request for the drugs and medical equipment needed for the treatment.*
Description of the Main Sequence	● *Step 1: The pharmacist receives the prescription from the doctor and the patient info* ● *Step 2: He/She uses the information to set the dosage of the drugs and submits the electronic prescription.* ● *Step 3: The inventory is automatically updated.*
Description of the Alternative Sequence	
Non functional requirements	*The system must ensure that the user has the right to prescribe electronically and if it fits the original request of the doctor.*
Postconditions	*The prescription is filed in the system and a physical copy is made. The inventory is updated accordingly.*

UC Name	*UC17 / Inventory management*
Summary	*The pharmacists should be able to access the inventory records and update them.*
Dependency	*None*
Actors	*The primary actor is the pharmacist.*
Preconditions	*Access to the inventory management system.*
Description of the Main Sequence	● *Step 1: The pharmacist accesses the electronic inventory* ● *Step 2: They can check the inventory and/or update it by adding or removing items or changing the amount available in the inventory.* ● *Step 3: If supplies are running low, staff place orders for replenishment. Upon receiving new supplies, staff update the inventory system accordingly.*
Description of the Alternative Sequence	*If a critical item is out of stock:* ● *Step 1: Staff prioritize ordering and expedite delivery to minimize disruption to laboratory operations.*
Non functional requirements	*The inventory must be accessed only by the pharmacists. It must set up alerts if an item is about to expire(1 month before expiration date).* *It should provide real-time updates on stock levels and facilitate seamless ordering and restocking processes.*
Postconditions	*If the inventory is updated, a log of the update made, the user that made it, and the time made is kept.*

UC Name	*UC18 / Monthly management reports on costs*
Summary	*At the end of each month the system should automatically compute the total cost of the drugs and medical equipment prescribed during that month.*
Dependency	*Depends on inventory management.*
Actors	*Primary actors are pharmacists. Secondary actors are the management.*
Preconditions	*It must be the last day of the month.*
Description of the Main Sequence	● *Step 1: It must be the end of the month.* ● *Step 2: Automatically the system computes all the costs of drugs and medical equipment prescribed during that month.* ● *Step 3: It notifies the pharmacist automatically and prints the record.*
Description of the Alternative Sequence	
Non functional requirements	*It should cross examine the prescriptions put out during that month and the changes of the inventory during that month to make sure that there aren't any mistakes and notifies the user if it notices mismatches.*
Postconditions	*A physical file of the inventory and expenses is made and an electronic one is sent to administration.*

UC Name	*UC19 / Access patient records*
Summary	*The pharmacist should be able to access patient records.*
Dependency	*Depends on the admission of patients and the assigned doctors of the patients.*
Actors	*Primary actor is the pharmacist. Secondary actors are the doctors and the patients.*
Preconditions	*The patient must be admitted to the hospital.* *The pharmacist is authenticated and authorized to access patient records.*
Description of the Main Sequence	● *Step 1: The pharmacist logs into the patient records system using their credentials* ● *Step 2: The system verifies the credentials and grants access.* ● *Step 3: The pharmacist searches for the patient record by entering relevant identifiers such as patient name, ID, or medical record number.* ● *Step 4: The system retrieves the patient record matching the provided information.* ● *Step 5:The healthcare professional reviews the patient record for relevant medical information.*
Description of the Alternative Sequence	
Non functional requirements	● *Performance: The system should retrieve patient records within an acceptable response time, even under peak load conditions.* ● *Security: Access to patient records should be restricted to authorized personnel only. The system should employ encryption and secure authentication mechanisms to protect patient data.* ● *Usability: The user interface should be intuitive and user-friendly, allowing healthcare professionals to easily navigate and retrieve patient records.*

	● *Reliability: The system should be highly available, with minimal downtime to ensure healthcare professionals can access patient records when needed.*
Postconditions	*The record is successfully reviewed and it is closed after the user exits from it.*

UC Name	*UC20 / Collaboration tools*
Summary	*The healthcare professionals should be able to communicate with other members of the hospital staff*
Dependency	*Depends on network infrastructure and user authentication mechanisms to ensure secure access to collaboration tools.*
Actors	*Primary Actor: Healthcare Professionals (doctors, nurses, specialists)* *Secondary Actor: Hospital Administrators (for system maintenance and configuration)*
Preconditions	● *The collaboration tools system is operational and accessible.* ● *Healthcare professionals and hospital administrators have appropriate user accounts with necessary permissions granted.*
Description of the Main Sequence	● *Step 1: Healthcare professionals log into the collaboration tools platform using their credentials.* ● *Step 2: The system verifies the credentials and grants access to the collaboration tools.* ● *Step 3: Healthcare professionals navigate to the desired feature within the collaboration tools platform (e.g., messaging, file sharing, video conferencing).* ● *Step 4: Healthcare professionals initiate or join a conversation or conference relevant to patient care.* ● *Step 5: Healthcare professionals share information, discuss patient cases, and collaborate on treatment plans.*

	● *Step 6: Healthcare professionals may upload and share relevant documents, images, or test results within the collaboration platform.*
Description of the Alternative Sequence	
Non functional requirements	● *Performance: The collaboration tools should provide real-time or near-real-time communication capabilities with minimal latency.* ● *Security: Access to collaboration tools and shared patient information should be encrypted and protected by robust authentication mechanisms to maintain confidentiality and comply with healthcare regulations.* ● *Scalability: The system should be able to handle a large number of concurrent users and data exchange without degradation in performance.* ● *Compatibility: The collaboration tools should be compatible with various devices and operating systems commonly used by healthcare professionals within the hospital environment.*
Postconditions	*Once exited, the user must resign the next time they use it.*

Erdi Koçi

UC Name	*UC21 / Laboratory Test Request*
Summary	*Healthcare providers should be able to request laboratory tests for patients to aid in diagnosis and treatment.*
Dependency	*Patient Registration, Medical Record Management*
Actors	*Primary actor: Healthcare provider*
Preconditions	*Patient must be registered in the system.*
Description of the Main Sequence	● *Step 1: Healthcare provider initiates a laboratory test request for a patient.* ● *Step 2: The system prompts the provider to select the desired tests and enter any necessary details or instructions.* ● *Step 3: The request is sent to the laboratory for processing.* ● *Step 4: Laboratory staff conduct the tests and enter the results into the system.* ● *Step 5: The system notifies the healthcare provider when the results are available.*
Description of the Alternative Sequence	*If additional test are required based on preliminary results:* ● *Step 1: The healthcare provider adds supplementary tests to the existing request.* ● *Step 2: The system updates the request and notifies the laboratory.*
Non functional requirements	*The system should ensure timely communication between healthcare providers and laboratory staff for efficient test processing.*
Postconditions	*Laboratory test results are recorded in the patient's medical record for further analysis and treatment planning.*

UC Name	*UC22 / Laboratory Test Result Review*
Summary	*Healthcare providers should be able to review and interpret laboratory test results for patients.*
Dependency	*Laboratory Test Request*
Actors	*Primary actor: Healthcare provider*
Preconditions	*Laboratory test results must be available in the system..*
Description of the Main Sequence	● *Step 1: Healthcare provider accesses the patient's medical record to review laboratory test results.* ● *Step 2: The system displays the test results with relevant details and reference ranges.* ● *Step 3: .The provider interprets the results and makes clinical decisions based on the findings.*
Description of the Alternative Sequence	*If the results are inconclusive or abnormal:* ● *Step 1: The healthcare provider may request clarification from the laboratory or order further tests.* ● *Step 2: The system logs any follow-up actions taken by the provider.*
Non functional requirements	*The system should present test results in a clear and organized format for easy interpretation by healthcare providers.*
Postconditions	*Healthcare providers document their interpretations and actions taken in the patient's medical record for continuity of care.*

UC Name	*UC23 / Track patient visits*
Summary	*Healthcare providers should be able to track the scheduled visits of their patients*
Dependency	*Depends on the database of appointed patients.*
Actors	*Healthcare providers(primary actors)* *Patients(Secondary actors)*
Preconditions	*The patient must be registered.*
Description of the Main Sequence	● *Step 1: The healthcare provider accesses the calendar of the patient appointed to him/her.*
Description of the Alternative Sequence	● *Step 1: The healthcare provider accesses his/her own calendar to check the appointed visits he/she has with his/her patients.*
Non functional requirements	*Must only be accessed by the healthcare provider/s assigned to the specific patient, no one else can access it.*
Postconditions	

UC Name	*UC24 / Manage patient history*
Summary	*Must be able to access their patients' histories and must be able to update them.*
Dependency	*The patient must be registered.*
Actors	*Healthcare provider(primary actor)* *Patient(secondary actor)*
Preconditions	*Must be the healthcare provider assigned to the patient to be able to access their history.*
Description of the Main Sequence	● *Step 1: Visit the page of their patient* ● *Step 2: Access their medical history by selecting it on the patient's page.* ● *Step 3: Can update it by selecting the update option.*
Description of the Alternative Sequence	
Non functional requirements	*Only the healthcare provider/s assigned to the patient can modify the patient's history while the patient or his/her caregivers can only check it.*
Postconditions	*The changes made are updated into the history with a log of the change, time it was made and the user who made it.*

UC Name	*UC25 / Imaging and Diagnostic Integration*
Summary	*Integrate with imaging systems, laboratory information systems (LIS), and diagnostic devices to access and manage test results, images, and reports.* *Provide tools for image viewing, interpretation, annotation, and sharing.*
Dependency	*Depends on other healthcare providers and laboratory staff.*
Actors	*Healthcare provider(primary actor)* *Patient(Secondary actor)* *Laboratory staff(Secondary actor)*
Preconditions	*The patient must have been subject to a co=heck with one of the aforementioned equipment.*
Description of the Main Sequence	● *Step 1: The healthcare provider must have a patient tested.* ● *Step 2: The results are uploaded by the laboratory staff* ● *Step 3: The results can be checked on the patients page.*
Description of the Alternative Sequence	
Non functional requirements	*Only people that can have access to the data and modify them are laboratory staff. The doctor can only check on the results and order more tests. He/she can make the data available to the patient or caregivers.*
Postconditions	*The results are entered into the system and automatically update the medical history of the patient(this can be changed by the healthcare provider if they see it fit). Physical coipes are made of the results.*

Klajdi Qordja

UC Name	*UC26 / Appointment scheduling system*
Summary	*The appointment scheduling system is a digital platform designed to facilitate the booking and management of appointments between users and service providers.*
Dependency	*The system relies on a stable internet connection and may require integration with existing calendar systems or databases*
Actors	*The primary actors include users seeking appointments (clients) and service providers (clinics, professionals, etc.). Additionally, administrators may manage the system and oversee its operation.*
Preconditions	*Users must have access to the internet and a compatible device.Service providers must be registered on the system and have their availability set up.Administrators should have access credentials and necessary permissions.*
Description of the Main Sequence	*User logs into the system.User selects the desired service and preferred date/time.System checks availability and presents available slots.User selects a slot and confirms the appointment.System sends confirmation to both user and service provider.*
Description of the Alternative Sequence	*If the selected slot is unavailable, the system suggests alternative times.If the user cancels the appointment, the system updates availability and notifies the service provider.*
Non functional requirements	*Performance: System should handle concurrent users efficiently.Security: Data encryption, access control to prevent unauthorized access.Scalability: Ability to handle increased load during peak times.Reliability: Minimize downtime, robust error handling.*
Postconditions	*Appointment details are stored in the system database.Confirmation emails or notifications are sent to both parties.System updates availability and schedules accordingly.*

UC Name	*UC27 / Secure medical records access*
Summary	*The secure medical records access system provides authorized individuals, such as healthcare professionals and patients, with access to medical records while ensuring the confidentiality and integrity of sensitive information.*
Dependency	*The system depends on secure authentication mechanisms, robust encryption protocols, and integration with existing electronic health record (EHR) systems.*
Actors	*Healthcare professionals (doctors, nurses, specialists).Patients or their authorized representatives.System administrators responsible for managing user accounts and permissions.*
Preconditions	*Users must have valid credentials to access the system.The system should be integrated with the organization's EHR system.Patient consent for record access must be obtained and documented.*
Description of the Main Sequence	*User logs into the system with their credentials.System verifies user identity and permissions.User searches for specific medical records using patient identifiers.System retrieves the requested records from the EHR da*
Description of the Alternative Sequence	*f user authentication fails, the system denies access and may prompt for reauthentication or contact the administrator.If the requested records are unavailable or restricted, the system notifies the user and logs the attempt.*
Non functional requirements	*Security: Data encryption, secure authentication, access control mechanisms.Privacy: Compliance with relevant regulations (e.g., HIPAA), patient consent management.Performance: Quick access to records, minimal latency.Scalability: Ability to handle increasing volumes of users and records.Auditability: Comprehensive logging and reporting of access activities.*
Postconditions	*User actions are logged for auditing and*

	accountability.Medical records remain secure and confidential.System updates any changes made to the records in the EHR database.

UC Name	*UC28 / Educational resources portal*
Summary	*The educational resources portal is an online platform designed to provide access to a wide range of educational materials such as lectures, tutorials, articles, and interactive content to learners.*
Dependency	*The system relies on stable internet connectivity, robust hosting infrastructure, and content management systems for organizing and delivering educational resources*
Actors	*Learners: Individuals seeking educational materials for self-study or academic purposes.Content creators: Authors, educators, and institutions contributing educational content to the platform.Administrators: Responsible for managing user accounts, content moderation, and system maintenance.*
Preconditions	*Users must have internet access and compatible devices.Content creators must have accounts and permissions to upload materials.Administrators should have access credentials and necessary privileges.*
Description of the Main Sequence	*User logs into the portal or accesses it as a guest.User navigates or searches for desired educational resources by topic, category, or keyword.System presents search results or curated collections of resources.User selects a resource and accesses its content (e.g., viewing a video lecture, reading an article).User may interact with the content (e.g., take quizzes, leave comments).System tracks user engagement and progress if applicable.*
Description of the Alternative Sequence	*If the user encounters an error while accessing content, the system prompts for a retry or offers alternative resources.If a content creator attempts to upload unsupported file formats,*

	the system notifies them and provides guidelines for acceptable formats.
Non functional requirements	*Usability: Intuitive user interface, easy navigation.Performance: Fast loading times for content, minimal downtime.Scalability: Ability to handle increasing numbers of users and content uploads.Accessibility: Compliance with accessibility standards for users with disabilities.Security: Protection of user data, prevention of unauthorized access or content modification.*
Postconditions	*User progress and interactions are saved for future reference.Content remains accessible and up-to-date.System maintains security and privacy standards for user data and interactions.*

UC Name	*UC29 / Appointment and medication reminders*
Summary	*The appointment and medication reminders system is a digital tool designed to help users remember their scheduled appointments and medication doses by sending timely notifications and reminders.*
Dependency	*The system depends on user input for scheduling appointments and medication doses, as well as access to a reliable notification delivery mechanism such as email, SMS, or push notifications.*
Actors	*Users: Individuals who set appointments and medication schedules.Healthcare providers: Entities responsible for scheduling appointments and prescribing medications.System administrators: Manage user accounts, system configuration, and maintenance.*
Preconditions	*Users must have accounts on the system and be logged in.Appointments and medication schedules must be entered into the system.Users must have access to their chosen communication device (e.g., smartphone, computer).*
Description of	*User logs into the system and accesses the reminders*

the Main Sequence	*feature.User sets up appointments by providing details such as date, time, and purpose.User adds medication schedules, specifying dosage and timing.System confirms the schedules and stores them in the database.At designated times, the system sends notifications to the user reminding them of upcoming appointments or medication doses.User acknowledges the reminders and takes appropriate action.*
Description of the Alternative Sequence	*If a user misses an appointment or medication dose, the system may send follow-up reminders or alerts.If a user experiences technical issues or does not receive notifications, they can manually check their schedule within the system.*
Non functional requirements	*Reliability: Timely and accurate delivery of reminders.Usability: Intuitive user interface for setting up reminders.Scalability: Ability to handle a large number of users and reminders.Security: Protection of user data and privacy of sensitive information.Customization: Ability for users to customize reminder settings based on their preferences.*
Postconditions	*Users receive timely reminders for appointments and medication doses.System maintains a record of sent reminders for audit and reference purposes.Users can review their appointment and medication schedules within the system.*

UC Name	*UC30 / Security and Compliance*
Summary	*The security and compliance system is designed to ensure that an organization's digital assets, sensitive information, and operations comply with relevant regulations, industry standards, and best practices while mitigating risks related to cybersecurity threats*
Dependency	*The system depends on robust cybersecurity measures, compliance frameworks, risk assessment methodologies, and ongoing monitoring tools.*

Actors	*IT administrators: Responsible for implementing and managing security measures.Compliance officers: Oversee adherence to regulations and standards.Employees: Follow security protocols and receive training on best practices.Auditors: Conduct assessments to verify compliance and identify vulnerabilities.*
Preconditions	*The organization must have clear security policies and procedures in place.Employees should receive training on security awareness and compliance.Systems and networks must be regularly updated and patched to address vulnerabilities.*
Description of the Main Sequence	*IT administrators implement security controls such as firewalls, encryption, access controls, and intrusion detection systems.Compliance officers establish and enforce policies and procedures to ensure adherence to relevant regulations (e.g., GDPR, HIPAA, PCI DSS).Employees undergo security training to understand their roles and responsibilities in maintaining security and compliance.Regular risk assessments and vulnerability scans are conducted to identify potential security weaknesses.Incident response plans are developed and tested to address security breaches or incidents promptly.Auditors assess the organization's security posture and compliance with regulations through audits and evaluations.*
Description of the Alternative Sequence	*If a security breach occurs, the incident response team activates the response plan to contain and mitigate the impact of the breach.If new regulations are introduced or existing ones are updated, compliance officers update policies and procedures accordingly and communicate changes to relevant stakeholders*
Non functional requirements	*Security: Robust encryption, access controls, authentication mechanisms, and intrusion detection systems.Compliance: Adherence to relevant regulations, standards, and industry best practices.Auditability: Comprehensive logging and monitoring of security-related events for auditing*

	purposes.Scalability: Ability to adapt to changing security threats and compliance requirements.Resilience: Continuity of operations and data protection in the event of a security incident or disaster.
Postconditions	*The organization maintains compliance with relevant regulations and standards.Security measures are continuously monitored, updated, and improved.Incidents and breaches are promptly addressed and mitigated to minimize damage and prevent recurrence.*