**PROJECT**

Remote Patient Monitoring System (RPMS)

**Web Portal Name:** *CareClick*  (ONE CLICK CARE FOR A HEALTHIER TOMORROW)

**User Stories & Acceptance Criteria:**

1. Patient User Stories
2. Health Care provider User Stories
3. Admin/Technical Support User Stories

**1. Patient User Stories**

**User Story 1-**

As a patient, I want to connect my health monitoring devices (e.g., blood pressure monitor, glucose meter) to the system so that my health data can be sent automatically to my doctor.

1. ***Acceptance Criteria*- *Successful device pairing***

Given- I am logged in to the system as a patient,

When- the patient selects the option to connect a health monitoring device (e.g., blood pressure monitor, glucose meter),

And- the patient follows the on-screen instructions to pair the device,

Then- the system should successfully connected with the selected device, and display a confirmation message that the device is paired.

1. ***Acceptance Criteria- Automatic Data Transmission***

Given- the patient's device is successfully paired with the system,

When- the patient uses the device to take a reading (e.g., blood pressure, glucose level),

Then- the system should automatically receive the reading from the device, and the data should be transmitted to the patient’s health profile in real time.

1. ***Acceptance Criteria- Health care provider Notification***

Given- the system has received new health data from the patient’s device,

When- the data is uploaded to the patient’s health profile,

Then- the system should automatically send the data to the patient’s health care provider or doctor, and notify the doctor of the health information.

1. ***Acceptance Criteria- Error Handling for Device Pairing Failure***

Given- the patient attempts to pair a device,

When- the pairing fails due to connectivity or compatibility issues,

Then- the system should display an error message explaining the reason for the failure, and suggest troubleshooting steps or an option to retry.

1. ***Acceptance Criteria- Data Security***

Given- the patient’s device is connected and transmitting data,

When- the system sends the data to the health care provider,

Then- the data should be encrypted and comply with data security regulations, and only authorized medical staff should have access to the health information.

**User Story 2-**

As a patient, I want to receive notifications if my vital signs exceed normal ranges, so that I can take immediate action.

1) ***Acceptance Criteria- Detection of Abnormal Vital Signs***

Given- the patient’s health monitoring device is connected to the system,

When- the system receives a reading from the device, and the reading exceeds the predefined normal range for that vital sign (e.g., blood pressure, glucose level, heart rate),

Then- the system should flag the reading as abnormal.

1. ***Acceptance Criteria- Notification for Abnormal Vital Signs***

Given- the system has detected an abnormal vital sign reading,

When- the reading is flagged as abnormal,

Then- the system should immediately send a notification to the patient, and the notification should include the vital sign, the abnormal value, and guidance on the next steps (e.g., “Your blood pressure is too high. Please contact your doctor.”).

1. ***Acceptance Criteria- Notification Delivery Channels***

Given- the system has detected an abnormal vital sign reading,

When- the notification is generated,

Then- the notification should be sent via the patient’s preferred communication channel (e.g., SMS, email, mobile app notification), and it should appear promptly after the abnormal reading is detected.

1. ***Acceptance Criteria- Health care provider notification for critical value****.*

Given*-* the patient’s reading exceeds a critical threshold

When- the system flags the reading as critical,

Then- the system should notify both the patient and their Doctor/ Health care provider simultaneously, and ensure the doctor receives vital information for further action.

**User Story 3-**

As a patient, I want to view my health data through a user-friendly dashboard, so I can understand my health better.

1. ***Acceptance Criteria- Dashboard Access***

Given- the patient has successfully logged into the system,

When- the patient navigates to the health dashboard section,

Then- the system should display the patient’s health dashboard, and it should include an overview of key health metrics (e.g., blood pressure, glucose levels, heart rate).

1. ***Acceptance Criteria- Display of the Health Data***

Given- the patient’s health data available on the system,

When- the patient views the health dashboard,

Then- the system should displayed most recent and previous health data readings in a clear and understanding format(e.g., graphs, charts, and numeric values), and allow the patient to see daily, weekly, or monthly trends.

And- data should be labeled with the corresponding Date and Time

1. ***Acceptance Criteria-* *Range Indicators***

Given- the patient’s health data is displayed on the dashboard

When- the system shows individual readings (e.g., blood pressure, glucose level),

Then- the dashboard should indicate whether each reading is within a normal range or outside it (e.g., color-coding with green for normal, red for abnormal, yellow for slowly increase range normal to abnormal), and include tool tips or labels explaining what each range means for the patient’s health.

1. ***Acceptance Criteria-* *Exploring Health Data***

Given- the patient is viewing health data on their dashboard

When- the patient wants to share or save their health data,

Then- the system should provide an option to export the data in formats like PDF or CSV and ensure the exported data is easy to read and includes all relevant details (e.g., date, time and readings).

1. ***Acceptance Criteria- Mobile, Desktop and Laptop Compatibility***

Given- the patient is accessing the health dashboard on either Mobile or Desktop/Laptop device,

When- they open the dashboard in their chosen device,

Then- the dashboard allows easy navigation, interaction and displays all health data on a click.

**User Story 4-**

As a patient, I want to receive reminders to take my medications or measurements, so I don’t miss any important steps in my care plan.

1. ***Acceptance Criteria- Medications and Measurement Reminder***

Given- the patient has logged into the system,

When- the patient access the reminder settings in their care plan,

Then- the system should allows the patient to set the reminder for medications or measurements (e.g., blood sugar, blood pressure, glucose level) and the patient should be able to specify the frequency and time of the reminder (e.g., daily, weekly and specific time).

1. ***Acceptance Criteria-* *Reminder Notification***

Given- the patient has configured reminder for medication or measurements,

When- the time for a scheduled reminder arrives,

Then- the system should send the notification to the patient through their preferred communication channel (e.g., SMS, email, mobile app notification), and the notification should include a clear message, such as "It's time to take your medication" or "Please measure your blood pressure."

1. ***Acceptance Criteria- Follow-up reminder and Task Completion***

Given- the patient has received a reminder notification,

When- the patient doesn't acknowledge the notification or mark the task as complete,

Then- the system should send a follow-up reminder after a predefined time duration (e.g., 15 minutes,30 minutes,1 hour), and the reminder should stop once the patient marks the task as completed.

When- the task has completed,

Then- the acknowledge completion (e.g., tapping "Done" in the notification or app), and the system should record the completion in the patient's care plan.

**User Story 5-**

As a patient, I want to be able to send messages to my health care provider within the system, so I can ask questions or report issues easily.

1. ***Acceptance Criteria- Navigate Messaging features***

Given- the patient has logged into the system,

When- the patients navigates to the messaging section of the dashboard,

Then- the system should displays a compose and send message section to their health care provider, and patient should see their health care provider contact information and if multiple provider is available then the patient has ‘select specific or multiple health care provider’ option are also available on a single click.

When- the patient composes a message (e.g., asking a question or reporting an issue),

Then- the system should allow the patient to enter a subject, type the message, and attach files or images if necessary (e.g., a photo of a symptom, previous report), and also the system should indicate whether the provider is currently available or not (e.g., available, off line),

And- the patient should be able to click "Send" message to the health care provider.

1. ***Acceptance Criteria- Message Response Notifications***

Given- the patient has sent a message to the health care provider,

When- the provider responds to the message,

Then- the system should notify the patient via their preferred communication channel (e.g., SMS, email, mobile app notification), and the patient should be able to view the provider’s response within the system’s messaging section.

1. ***Acceptance Criteria- Message Failures***

Given- the patient is sending a message to their provider,

When- the message fails to send due to connectivity or other issues,

Then- the system should display an error message (e.g., “Message failed to send. Please try again later”), and allow the patient to retry sending the message.

**User Story 6-**

As a patient, I want to be able to track my treatment protocols (e.g., medication, exercise), so I can stay motivated and follow my care plan accurately.

1. ***Acceptance Criteria- Navigates Treatment Protocols***

Given- the patient has logged into the system,

When- the patient navigates to the ‘treatment protocol’ section,

Then- the system should display the patient’s current treatment protocol (e.g., medication, exercise) or other activities as part of the patient’s care plan, and each protocol should show details such as frequency (for exercise), dosage (for medications), and any special instructions for patient.

1. ***Acceptance Criteria- Tracking Medication and exercise***

Given- the patient has medication and exercise listed in their medication protocol,

When- the patient take the prescribed medicine and completes the prescribed activity (e.g., 30 min walk, yoga)

Then- the system should allows conformation that the medication and exercise/activity has been completed for specific day and time.

**2. Health care Provider User Stories**

**User Story 1-**

As a health care provider, I want to receive real-time data from my patients’ health monitoring devices, so I can monitor their condition remotely.

1. ***Acceptance Criteria- Real-Time data transmission from patient’s device***

Given- the patient’s health monitoring device is connected to the system,

When- the patient’s takes the reading (e.g., blood pressure, glucose level) using their device, and the system should automatically transmit the data to the health care provider in real time,

Then- the provider should receive the data without delay in their patient monitoring dashboard.

1. ***Acceptance Criteria- Notification f Critical Readings***

Given- the patient’s reading exceeds a predefined critical threshold,

When- the system detects that a patient’s reading is abnormal,

Then- the system should immediately notify the health care provider via their preferred communication channel (e.g., SMS, email, mobile app), and the notification should include the patient's name, reading value, and recommended action.

1. ***Acceptance Criteria- Viewing Patient’s Health data Dashboard***

Given- the Health Care Provider is logged into the system,

When- the provider navigates to the Patient’s monitoring section,

Then- the should display a real time dashboard with the real time data from all connected patient’s health monitoring device, and the provider should be able to view data (e.g., graphs showing blood pressure fluctuations).

1. ***Acceptance Criteria- Data Filtration or Data Metric***

Given- the health care provider is reviewing multiple patients’ data,

When- the provider wants to focus on specific patient

Then- the system should allow to filter and display the dashboard according to specific patient’s real time data and previous data history and the system should display a history of all the patient’s readings from their health monitoring devices (e.g., daily, weekly, monthly), and with the help of graphs, bar, charts provider analyze changes in the patient’s condition.

1. ***Acceptance Criteria- Alert for Missing or Delayed data***

Given- the patient’s connected health monitoring device is expected to send regular or real time data (e.g., daily on time readings)

When- the health care provider’s system detects missing or delayed data

Then- system should send an alert to the health care provider and suggest connecting to the patients.

1. ***Acceptance Criteria- Health Care Provider Action***

Given- the health care provider receives real-time data,

When- the provider reviews a patient’s reading and takes action (e.g., send prescription, adjusts medication, contacts the patient),

Then- the system should ensure that these actions are time stamped or record and available for future review.

1. ***Acceptance Criteria- Integration with Electronic Health Records (EHR)***

Given- the provider receives real-time data from the patient’s device,

When- the system stores this data,

Then- the system should automatically integrate the readings into the patient’s electronic health record (EHR), and ensure that the provider can access the data within the patient’s full medical history.

**User Story 2-**

As a health care provider, I want to set personalized thresholds for my patients' vital signs, so I receive alerts only when necessary.

1. ***Acceptance Criteria- Access to Threshold Settings***

Given- the health care provider is logged into the system,

When- the provider accesses a specific patient’s profile

Then- the system should display an option for the provider to set personalized threshold for the patient’s vital signs (e.g., Blood Pressure, glucose level).

1. ***Acceptance Criteria- Threshold Display in Patient’s Profile***

Given- the provider has set personalized threshold for the patient

When- the provider views the patient’s profile or health monitoring data,

Then- the provider should be able to quickly compare the patient’s current readings with the set thresholds.

1. ***Acceptance Criteria- Alerts Summary***

Given- the provider has set personalized threshold for multiple patient.

When- the provider access their notification or alert dashboard,

Then- the system should provide a summary of all threshold separation across patients, and allow the provider to filter or prioritize alerts based on urgency (e.g., most critical breaches first).

**User Story 3-**

As a health care provider, I want to view a patient’s health data history in a summarized format, so I can make more informed decisions during consultations.

1. ***Acceptance Criteria- Access to Health data summary***

Given- the health care provider is logged into the system,

When- the provider opens a patient’s health care profile,

Then- the system should display an option to view specific patient’s health data summary, and the summary should include key health metrics (e.g., blood pressure, glucose levels, heart rate) over a specified time period.

1. ***Acceptance Criteria- Time Period Selection***

Given- the provider needs to review the patient’s data history,

When- the provider selects a time period (e.g., last 7 days, last 30 days, last 6 months),

Then the system should display the patient’s health data summary for the selected time range, and the provider should be able to switch between different time periods for comparison with the help of charts, graphs and bars.

1. ***Acceptance Criteria- Integration with Electronic Health Records (EHR)***

Given- the provider is reviewing the patient’s health data summary,

When- the provider needs to access the full medical history,

Then- the system should integrate the summarized health data with the patient’s Electronic Health Record (EHR), and allow the provider to switch between the summary view and the detailed EHR data for a comprehensive understanding.

1. ***Acceptance Criteria- Data Security and Privacy***

Given- the provider is viewing a patient’s health data,

When- the summary is displayed,

Then- the system should ensure that the data is securely stored and accessed in compliance with privacy regulations (e.g., HIPAA), and limit access to authorized users only.

**User Story 4-**

As a health care provider, I want to receive alerts if a patient’s vital signs are abnormal, so I can immediate consultant what next to do in that situation if necessary.

1. ***Acceptance Criteria- Real-Time Alert for Abnormal Vital Signs***

Given- a patient’s health monitoring device is transmitting data to health care provider,

When- the system detects an abnormal reading (e.g., blood pressure, glucose, heart rate) outside the provider-set or system-defined thresholds,

Then- the system should automatically send a real-time alert to the health care provider, and the alert should include the patient’s name, the abnormal reading, and the specific vital sign that triggered the alert.

1. ***Acceptance Criteria- Critical Alert Notification***

Given- a patient’s vital sign exceeds a critical threshold (e.g., extremely high blood pressure or dangerously low glucose levels),

When- the system generates the alert,

Then- the system should flag it as a “Critical Alert” and send it via the provider’s preferred communication method (e.g., SMS, email, mobile app), and ensure that the critical nature of the alert is highlighted to indicate immediate attention is required.

1. ***Acceptance Criteria- Suggested Actions Based on Abnormal Readings***

Given- the health care provider receives an alert for abnormal vital signs,

When- the provider opens the alert,

Then- the system should provide a list of suggested actions or clinical recommendations (e.g., medication adjustments, contacting the patient, scheduling an urgent consultation), and the provider should be able to choose and document a follow-up action based on the recommendation.

1. ***Acceptance Criteria- Alert Integration with Patient Record***

Given- the provider receives an alert for a patient’s abnormal vital signs,

When- the provider views the patient’s record,

Then- the system should automatically integrate the alert with the patient’s electronic health record (EHR), and display the abnormal reading, the time it was recorded, and any subsequent actions taken by the provider.

1. ***Acceptance Criteria- Alerts Summary Dashboard***

Given- the provider has multiple patients with health monitoring devices,

When- the provider accesses the alert dashboard,

Then- the system should provide a summarized view of all active and resolved alerts for all patients, and allow the provider to filter by priority (e.g., critical vs. non-critical) and view which alerts need immediate attention.

1. ***Acceptance Criteria- Alert Resolutions and Documentation***

Given- the provider responds to an abnormal vital sign alert,

When- the provider takes an action (e.g., contacts the patient or adjusts treatment),

Then- the system should prompt the provider to document the response within the alert, and mark the alert as resolved with a time stamped note of the action taken.

**User Story 5-**

As a health care provider, I want to schedule virtual consultations with my patients, so I can discuss their health data without requiring in-person visits.

1. ***Acceptance Criteria- Scheduling a Virtual Consultation***

Given- the health care provider is logged into the system,

When- the provider selects a patient’s profile,

Then- the system should display an option to schedule a virtual consultation, and the provider should be able to choose a date, time and duration of consultation.

1. ***Acceptance Criteria- Patient Notification of Scheduled Consultation***

Given- the health care provider schedules a virtual consultation with a patient,

When- the consultation is confirmed,

Then- the system should automatically send a notification to the patient via their preferred communication channel (e.g., email, SMS, mobile app), and the notification should include date, time and a link to join the virtual consultation.

1. ***Acceptance Criteria- Virtual Consultation Link Generation***

Given- the virtual consultation is scheduled,

When- the appointment details are finalized,

Then- the system should generate a unique, secure link for the virtual consultation, and the link should be provided to both the patient and their provider respective calendar ans notification.

1. ***Acceptance Criteria- Patient Health Data Access During Consultation***

Given- the health care provider is conducting a virtual consultation,

When- the provider opens the consultation window,

Then- the system should display the patient’s relevant health data (e.g., recent vital signs, treatment adherence) alongside the virtual meeting interface, and allow the provider to reference or discuss the data in real time during the consultation.

1. ***Acceptance Criteria- Secure Virtual Consultation Platform***

Given- the provider and patient are using the virtual consultation feature,

When- the consultation begins,

Then- the system should ensure that the virtual meeting platform is secure and HIPAA- compliant, and the video, audio, and data shared during the consultation should be encrypted.

**User Story 6-**

As a health care provider, I want to assign care plans to patients within the system, so they know what steps to take for managing their health.

1. ***Acceptance Criteria- Access to Care Plan Assignment***

Given- the health care provider is logged into the system,

When- the provider views a patient’s profile,

Then- the system should display an option to assign or create a care plan for the patient, and the provider should be able to select from predefined templates or create a customized care plan.

1. ***Acceptance Criteria- Customizing Care Plan Elements***

Given- the provider is assigning a care plan,

When- the provider selects a care plan template or creates a new plan,

Then- the system should allow the provider to customize specific elements such as medications, exercises, dietary recommendations, and scheduled monitoring, and the provider should be able to specify goals, frequency of activities, and instructions for each care plan component.

1. ***Acceptance Criteria- Care Plan Time frames and Deadlines***

Given- the provider is creating or customizing a care plan,

When- the provider sets tasks or milestones for the patient,

Then- the system should allow the provider to assign start dates, end dates, and deadlines for each step or action within the care plan, and these dates should be communicated to the patient in their care plan overview.

1. ***Acceptance Criteria- Patient Notification of Assigned Care Plan***

Given- the provider has assigned a care plan to the patient,

When- the care plan is finalized,

Then- the system should automatically notify the patient through their preferred communication method (e.g., email, SMS, mobile app), and the notification should include an overview of the care plan and instructions on how to access detailed information.

**User Story 7-**

As a health care provider, I want to securely share patient data with other specialists, so we can collaborate on complex cases.

1. ***Acceptance Criteria- Access to Secure Data Sharing Feature***

Given- the health care provider is logged into the system,

When- the provider views a patient’s profile,

Then- the system should display an option to securely share the patient’s data with other authorized specialists, and the provider should be able to choose specific data (e.g., medical history, lab results) to share.

1. ***Acceptance Criteria- Selecting Specific Data for Sharing***

Given- the provider is sharing patient data with a specialist,

When- the provider initiates the sharing process,

Then- the system should allow the provider to select specific data types (e.g., imaging results, recent lab reports, consultation notes), and the provider should be able to exclude sensitive or irrelevant information if needed.

1. ***Acceptance Criteria- Specialist Selection for Data Sharing***

Given- the provider is ready to share patient data,

When- the provider selects specialists to collaborate with,

Then- the system should allow the provider to search for and select authorized specialists within the network, and only authorized specialists with valid credentials should be allowed to access the shared data.

1. ***Acceptance Criteria- Notification of Data Sharing to Specialists***

Given- the provider shares patient data with a specialist,

When- the data is successfully shared,

Then- the system should notify the specialist via their preferred communication method (e.g., email, in-app notification), and the notification should include instructions on how to access the shared data securely.

1. ***Acceptance Criteria- Access Control and Expiry for Shared Data***

Given- the provider shares patient data with a specialist,

When- the specialist receives the shared data,

Then- the system should allow the provider to set access permissions (e.g., read-only, time-limited access), and the provider should be able to set an expiry date for access to the shared data.

1. **Admin/Technical Support User Stories**

**User Story 1 -**

As a system administrator, I want to create an admin user for the application with specific privileges, so that the admin user can view and manage the monitoring dashboard.

1. **Acceptance Criteria-** Create Admin User with Monitoring Privileges

Given- the system administrator is logged into the system,

When- the administrator selects the option to create a new user,

Then- the system should allow the administrator to designate the user as an admin, and the system should provide an option to assign specific privileges, including access to the monitoring dashboard.

**User Story 2-**

As an admin, I want to manage user accounts for both patients and health care providers, so I can ensure that only authorized users have access to the system.

1. ***Acceptance Criteria- Manage User Accounts***

Given- the admin is logged into the system,

When- the admin selects the option to create a new user account or edit existing user account,

Then- the system should allow the admin to choose the user type (e.g., patient, health care provider), and the admin should be able to input the user’s personal details (e.g., name, contact info, role) and set login credentials.

When- the admin assigns a user role (e.g., patient, health care provider, specialist),

Then- the system should automatically apply role-based access controls, ensuring the user only has access to features and data relevant to their role, and the admin should be able to manually adjust permissions as needed for special cases.

1. ***Acceptance Criteria- Modification Notification***

Given- the admin changes or modifies a user account,

When- the account is successfully Modified or changes are saved,

Then- the system should automatically notify the user via email or SMS with their login credentials or changes, and the notification should include instructions on how to log in and access the system.

**User Story 3-**

As an admin, I want to ensure that the system complies with data privacy regulations (e.g., HIPAA), so patient data is securely stored and transmitted.

1. ***Acceptance Criteria- Encryption of Data at Rest and in Transit***

Given- the system is storing or transmitting patient data,

When- data is saved in the system or shared with authorized users (e.g., health-care providers, specialists),

Then- the system should ensure that all data is encrypted both at rest and in transit using industry-standard encryption protocols, and only authorized users should have access to the decryption keys.

1. ***Acceptance Criteria- Data Encryption and Masking***

Given- the system handles sensitive patient data,

When- the data is used for purposes like analytics, research, or other non-care-related operations,

Then- the system should encrypted or mask personal identifiers (e.g., name, date of birth, social security number), and the encryption data should comply with privacy regulations ensuring that no identifiable information is inadvertently exposed.

1. ***Acceptance Criteria- Secure User Sessions***

Given- a user is logged into the system,

When- the user session is idle for a predefined period (e.g., 15 minutes),

Then- the system should automatically log the user out to prevent unauthorized access, and the system should notify the user before logging them out with the option to extend the session if actively in use.

1. ***Acceptance Criteria- Data Retention and Deletion Policies***

Given- patient data is stored in the system,

When- the data reaches its retention limit as specified by regulations (e.g., after a set number of years),

Then- the system should automatically notify the admin, and the admin should be able to securely delete or archive the data as required, ensuring compliance with data retention laws.

1. ***Acceptance Criteria- Backup and Disaster Recovery***

Given- patient data is stored in the system,

When- there is a system failure, disaster, or data corruption event,

Then- the system should have a secure and compliant backup process in place to restore patient data without violating privacy regulations, and the backup process should include encrypted storage and restricted access to backups.

**User Story 4-**

As an admin, I want to monitor the system’s performance and uptime, so that I can address technical issues promptly.

1. ***Acceptance Criteria- Access to System Performance Dashboard***

Given- the admin is logged into the system,

When- the admin navigates to the system performance section,

Then- the system should display a dashboard with key metrics (e.g., CPU usage, memory usage, response time, and uptime percentage), and the admin should be able to view real-time data and historical performance trends.

1. ***Acceptance Criteria- Real-Time Alerts for Performance Issues***

Given- the system is experiencing a performance issue (e.g., high CPU usage, memory leak),

When- performance metrics exceed predefined thresholds,

Then- the system should immediately send real-time alerts to the admin via email, SMS, or in-app notification, and the alert should include details about the issue, such as affected services and severity level.