CONTENTS

1. INTRODUCTION

Outcomes4Me is an application to assist cancer patients with their treatment and care. The application provides treatment options, clinical trials, and health tracking tools based on the medical history and health data provided by the user. This supports patients in making informed decisions.

Key Features:

● Provides information on latest treatment options based on the user's medical history.
● Integrates guidelines from leading cancer organisations like NCCN (National Comprehensive Cancer Network).
● Matches users with relevant clinical trials based on their individual health profiles and treatment history.
● Allows users to track symptoms, side effects, medications, and other health metrics.
● Provides insights into how treatments and lifestyle changes are affecting the user's health.
● Integration with electronic health records (EHRs) to pull in relevant medical data.
● Supports manual entry of health information to keep a comprehensive record of their health.
● Support through care navigators or coaches who can help users understand their treatment options and manage their care.

Benefits:

● The users can make informed decisions with the tools and services the system provides.
● Uses personal health data to tailor treatment options and recommendations.
● Makes it easier for patients to find and enrol in clinical trials, potentially accessing new and innovative treatments

2. GOAL

Enhancing the analytical capabilities of the proposed application Outcomes4me will improve the effectiveness in supporting cancer patients. This can significantly increase the efficiency of personalised recommendations and better decision-making tools.

The users can also track what they eat while going through treatment as nutrients are crucial to any treatment.

Yuka is a mobile application aimed to help consumers make informed decisions about the products they use, particularly food and cosmetics. The app allows users to scan the barcode of a product and instantly receive detailed information about its nutritional value, ingredients, and potential health impacts.

Yuka rates products on a scale and provides recommendations for healthier alternatives when applicable. The two applications Outcomes4me and Yuka can integrate to provide a user experience not only during a specific period of time but until the user deems necessary.

- Leveraging Outcomes4me predictive healthcare capabilities with Yuka's product data to provide personalised experience to the user
- Enable the user to understand their consumption patterns and keeping a close check on them
- Enables the user to choose the product that is right for them rather than just 'healthy'.
- Provide seamless user experience where they will be able to both product evaluations and personalised advice.
- Create a comprehensive health ecosystem where users can evaluate their food choices and receive personalised recommendations.

3. OBJECTIVES

- Ensuring users receive personalised health recommendations based on medical history, when they evaluate food or cosmetic products.
- Implement the integration of personalised health predictions in the app for 100% of active users.
- Achieve a user satisfaction of 85% or higher (surveys) regarding the relevance of personalised health insights provided by the integration within the next 3 months of the proposed plan.
- Track if users are receiving accurate, personalized recommendations based on Outcome4Me data.
- Ensure 90% of product scans provide personalized health recommendations within 3 months of integration
- Ensure the number of personalized product recommendations increases by 20% within the first 6 months.
- Increase the frequency of users engaging with personalized recommendations by 25% within the first 3 months of integration.
- Improve user interface by offering a seamless, unified platform.
- Increase user retention rates by 15% within 6 months of launching the integrated platform.
- Increase the percentage of users who report positive health changes (weight loss, improved cholesterol, etc.) by 10% within the first year, measured through in-app surveys and health tracking features.
- Ensure 60% of users receive monthly feedback reports on their health progress based on product choices within the first 6 months.
- Implement feedback loops and continuous learning systems that improve the accuracy of recommendations.
- Gather user feedback via in-app surveys, aiming for a response rate of 20% within the first 3 months, to continuously refine the system based on real-world usage.
- Deliver educational content to 100% of users when making product decisions, with at least 50% of users engaging with the educational content within the first 3 months.

The objectives focus on clear, actionable, and measurable outcomes to ensure the success of the integration. Each measurable action provides specific targets to assess the performance and impact of the integration.

4. PROJECT REQUIREMENTS

4.1 BUSINESS REQUIREMENTS

- **Objective**: Enable seamless integration between Yuka's nutritional and product data and the Outcomes4Me platform, helping users in making informed health decisions, especially for those battling with cancer or chronic conditions.

- **Target Users:** Cancer sufferers regularly utilize Outcomes4Me to monitor their symptoms, therapy, and dietary guidance.

- **Business Goals:** Personalised food and product recommendations based on users' health data and conditions by utilising the data from both platforms. Symptom and Product Usage Tracking

- **Project Scope:** Utilise Outcomes4Me's health information (such as past symptoms and dietary restrictions) to customise Yuka's product insights.

- **Requirements for User Interface and Experience:** A Single Interface for Product Scan and Search which enables users to get immediate health and safety information by quickly scanning barcodes dietary recommendations from Outcomes4me. Creating a system for reporting and dashboard which has product Insights. Dashboard that shows safety insights, health scores, and recently scanned and logged products. Personalized Alerts & Reminders that provide users with alerts regarding symptom correlations, ingredient problems, and product health scores.

- **Security and privacy requirements:** Obtain users' full permission for sharing data between Outcomes4Me and Yuka. Verify that all data transactions follow HIPAA, GDPR, and other standards.

- **Infrastructure and Technical Needs:** A system that can manage large amounts of data, particularly for tracking symptoms and real-time product scanning. Before deployment carry out end-to-end testing to confirm functionality, delay, and data accuracy.

4.2 SOLUTION REQUIREMENTS

4.2.1 Functional requirements

- Users profile personalization: personalized Suggestions that provide product advice
- Data Integration: Product Database Access by giving users in Outcomes4Me access to Yuka's database, which contains component lists, nutritional data, and product health scores. Product data alignment in real time, including changes to health scores.

- Analytics and Reporting Perspectives Dashboard: A dashboard for continued analysis and reporting.
- Alerts and Notifications in Real Time: Safety Notifications to give users immediate warnings if they scan a product that has components that could be dangerous for their medical conditions.

4.2.2 Non-functional requirements

- Performance requirement- low latency and high availability
- Requirements for Usability-User-Friendly Interface which require new users little training to use the product search, scan, and alert functionalities.
- Smooth Navigation to reduce the need for app switching by integrating the Yuka product data in a manner that feels natural to the Outcomes4Me user interface.
- Data Handling Capacity: Without compromising Outcomes4Me's operation, the integration should be able to manage large amounts of data from Yuka's product database.
- Reliability Error Handling and Resilience: To handle any possible API breakdowns or data transmission problems between Yuka and Outcomes4Me, put strong error handling in place.
- Documentation: To help developers and technical teams, provide clear technical documentation for future updates, troubleshooting, and continuing maintenance.

4.3 TRANSITION REQUIREMENTS

- Migration of Data
  User Data Preparation: Locate and map essential user information in Outcomes4Me, such as food restrictions, medical conditions, and symptom histories, that will be utilised to customise Yuka's product insights.

- Integration of APIs and Technical Infrastructure
  System Testing and Validation: Verify that all features (such as product scanning and symptom tracking) operate as intended and that product data from Yuka enters Outcomes4Me effectively by conducting end-to-end testing.

- Instruction for Users and Documentation
  Support and Help Resources: create a special help centre section and FAQs.
  Customer Support Training: To assist in responding to user questions and resolving any early problems, train the Outcomes4Me support staff on Yuka's integration features.

- Communication and Change Management
  Providing pre-launch, launch and post launch support
  Pilot Testing: To get input, find problems, and improve the integration experience, deploy the integration to a small set of users before a complete rollout.

- Assurance of Compliance and Security
  User Consent Management: Provide clear consent procedures in Outcomes4Me that let users choose whether to share their data with Yuka and access choices to change their preferences.

- Observation and Performance Evaluation
  Feedback Gathering and Iteration: regularly collect input from stakeholders and users.
  User Engagement Metrics: Keep checks on user input regarding the usability of the integration and how frequently users interact with the new capabilities (such as product scanning and symptom tracking).

4.4 QUALITY REQUIREMENTS

- Proactive Understanding and Suggestion Need
  Based on a user's condition and recorded symptoms, the system should provide contextual health information. For instance, the system ought to show instructive data on the possible effects of substances on medical conditions when a user scans a product that contains such ingredients. Provide personalised dietary recommendations and product usage best practices according to each user's health profile.

- Requirements for User Empowerment and Autonomy
  To promote autonomy and empower users to make the healthy decision.

- Transparency of Data and Educational Needs
  To help users understand where and how Yuka's data is gathered and updated, clearly display the information for each product's health rating and ingredient safety data.

- Needs for Adaptive Learning and Development
  Use machine learning to identify patterns in product usage and user symptom reports. Add user feedback into the system on a regular basis for improving general usability, notification clarity, and ingredient data correctness.

- Transparency in Data Science and Analytics
  Transparency in data by applying accurate ratings to predicted insights and utilising intervals to demonstrate to consumers the dependability of health alerts and symptom connections.

5. ACCEPTANCE CRITERIA

- **User Registration**
  Easy and user-friendly user registration and login system
- **Data privacy**
  All the patients' data in Outcomes4me is highly confidential. This data needs to be secured and ensure GDPR/HIPAA compliance.
- **Handling errors**
  Good team to handle errors in the development phase in conjunction with both applications
- **Feedback loops**
  Constant feedback from the client can help make necessary changes this should be frequent.
- **Real Time Sync**
  Updates to user health data on Outcomes4Me are reflected on Yuka within a specified time frame (e.g., within 5 minutes of update).
- **User Interface (UI) Consistency** Both applications present integration-related information (e.g., login prompts, recommendations) in a visually consistent manner.
- **Performance and Load Management** The integration should be able to handle peak user loads without slowing down or crashing, meeting performance standards (e.g., 99.9% uptime)

6. PROJECT ASSUMPTIONS

- **Technical Assumptions**

  API Availability and Stability: Both the applications have stable, well-documented APIs that support the required functionalities (e.g., user data access, dietary recommendations, product data, and barcode scanning).

  Data Compatibility: The data formats and types between the applications are compatible or can be easily transformed to support integration.

  Error Handling: Both applications are equipped to handle errors with appropriate error codes, especially when data or network issues might interrupt data sharing.

- **User and Privacy Assumptions**

  User Consent: Users are willing to share data between Outcomes4Me and Yuka for personalised recommendations.

  Data Privacy Compliance: Both applications comply with relevant data protection regulations (e.g., GDPR, HIPAA) to safeguard user data during transfer, storage, and processing.

  User Data Accuracy: It is assumed that users will provide accurate health and dietary data on Outcomes4Me, which is essential for generating reliable and personalised recommendations.

- **Functional Assumptions**

  Real-Time Data Access: Data updates on either platform will be accessible in real-time or near-real-time for up-to-date recommendations and product scores.

  Barcode Data: Yuka's barcode-scanning feature will support products recommended or relevant for Outcomes4Me's cancer patient demographic.

  Product Database Availability: Yuka's database of products and alternatives is extensive and regularly updated to provide meaningful recommendations to Outcomes4Me users.

- **Project Scope Assumptions**

  Single-Sign-On: SSO functionality between Outcomes4Me and Yuka is assumed feasible, making the registration and login process seamless for users.

System Interoperability: Both applications are technically capable of supporting the required integration and interoperability, with development resources available for customization if required.

Defined Data Scope: Only specific, relevant health data from Outcomes4Me will be shared with Yuka (e.g., dietary needs, allergies), focusing on minimising data exposure.

- **Operational Assumptions**

Maintenance and Support: Both Outcomes4Me and Yuka have dedicated support and maintenance teams to troubleshoot and support the integration post-launch.

User Education: Users will be provided with clear guidance on using integrated features.

Language and Localization: Both applications support the languages needed by their target user bases.

6.1 PROJECT CONSTRAINTS

- **Technical**

API Limits: Both Outcomes4Me and Yuka may have rate limits on their APIs, potentially limiting the frequency of data requests.

Data Synchronisation Delays: Real-time synchronisation may not always be feasible due to network latency, API response time, or processing delays, impacting the timeliness of personalised recommendations.

Platform Compatibility: Outcomes4Me and Yuka might have application-specific features or limitations (e.g., mobile vs. web), which could restrict full integration on certain devices or operating systems.

Data Transformation Complexity: Differences in data structures (e.g., user health data from Outcomes4Me vs. Yuka's product data) may require additional transformation steps, increasing integration complexity.

- **Security and Privacy**

User Data Privacy: Compliance with GDPR, HIPAA, or other regional privacy regulations may limit the types and frequency of data shared between applications.

User Consent Requirements: Explicit user consent is required before data sharing, which could add complexity to the user experience.

- **Resource**

Resources: Both the applications require adequate developer resources for the integration.

Testing Environment: A lack of a robust, sandboxed testing environment could complicate the validation process, especially for features like data synchronisation and recommendation accuracy.

Project Budget: Financial resources are required for development, security, and maintenance efforts. A limited budget could constrain the scope or quality of the integration.

- **Operational**

Customer Support: Increased support might be required post-launch to help users navigate new integration features. Limited customer support resources could impact user satisfaction.

Scalability: Both applications must be able to handle increased usage after integration without performance degradation, which could require upgrades on either side.

- **Product Constraints**

Barcode Database: Yuka's database of products may not cover all items relevant to Outcomes4Me's user base, potentially limiting the usefulness of product scoring or alternative recommendations.

Recommendation Accuracy: Yuka's product recommendations and Outcomes4Me's dietary suggestions need to align well to ensure accuracy and relevance for users with specific health needs.

7. SCOPE MANAGEMENT

The scope for the project is the initial steps

The integration focuses on creating two primary functionalities:

- **Dietary Recommendations**: Outcomes4me query the Yuka API to fetch product data and provide recommendations to the user.
- **Barcode Scanning**: Yuka query the Outcomes4me API to fetch user details and provide the user with the best recommendation.

Tools:

- API Development Tools
- Project Management Software: Jira
- Collaboration Tools: Google Drive or Confluence for documentation sharing.
- Data Integration Tools: Python for data transformation.
- Testing Tools: Selenium (for UI testing), JUnit or Postman (for API testing).

Technology:

- Integration Technologies: RESTful APIs for real-time data sharing. OAuth 2.0 for secure user authentication.
- Data Analytics: Python or R for analyzing and aligning health and product databases.
- Infrastructure: Cloud-based solutions such as AWS or Azure for scalability and data hosting.

Approval Process:

- Stakeholder Validation: Deliverables like APIs, dashboards, and integration workflows will be demonstrated in sprint reviews.
- Quality Check : Quality assurance team will validate that deliverables meet functional and non-functional requirements (e.g., performance, security).
- User Acceptance Testing (UAT): A sample of end-users will validate usability and functionality.
- Formal Sign-off: Stakeholders (project sponsors, product managers from both Yuka and Outcomes4Me) will provide written approval (via email or a sign-off form) based on predefined acceptance criteria.

7.1 WORK BREAKDOWN STRUCTURE

Agile is well-suited for integration projects because of its

- Iterative
- User-focused
- Adaptable nature.

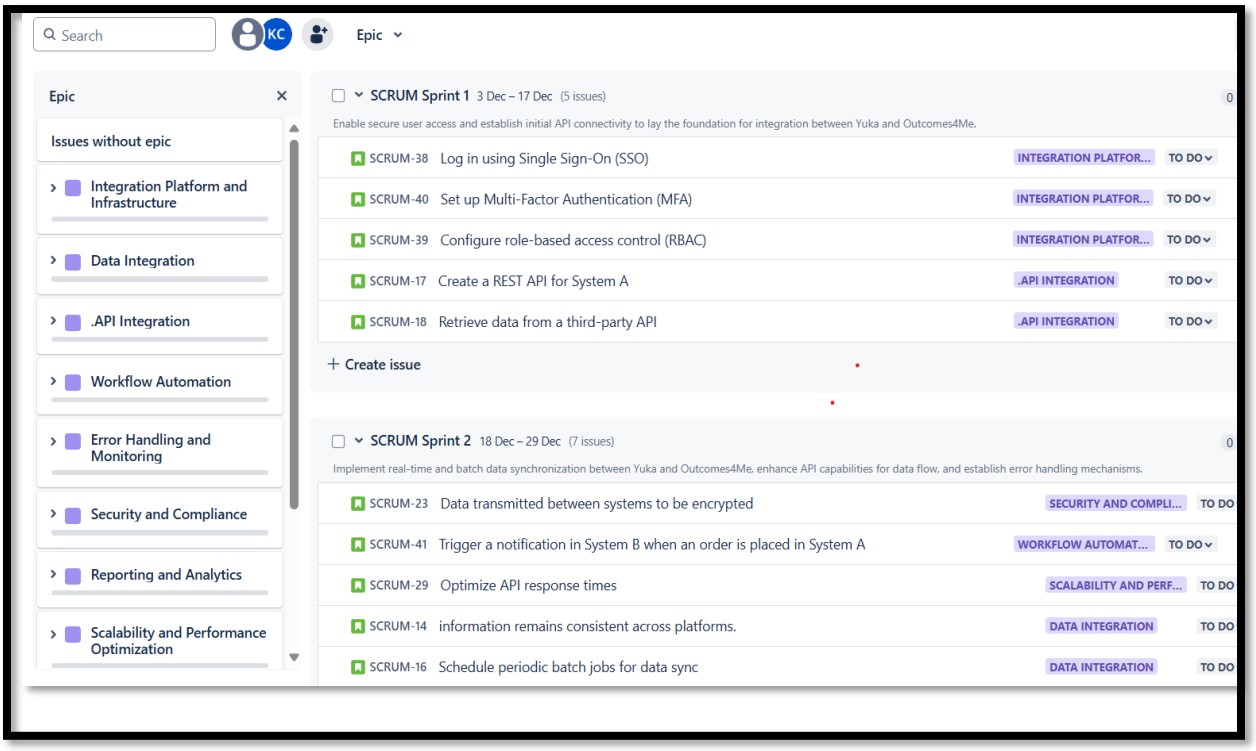
This method ensures that the integration between Yuka and Outcomes4Me is efficient, user-friendly, and aligned with evolving requirements, while also minimizing risks and delivering value incrementally.

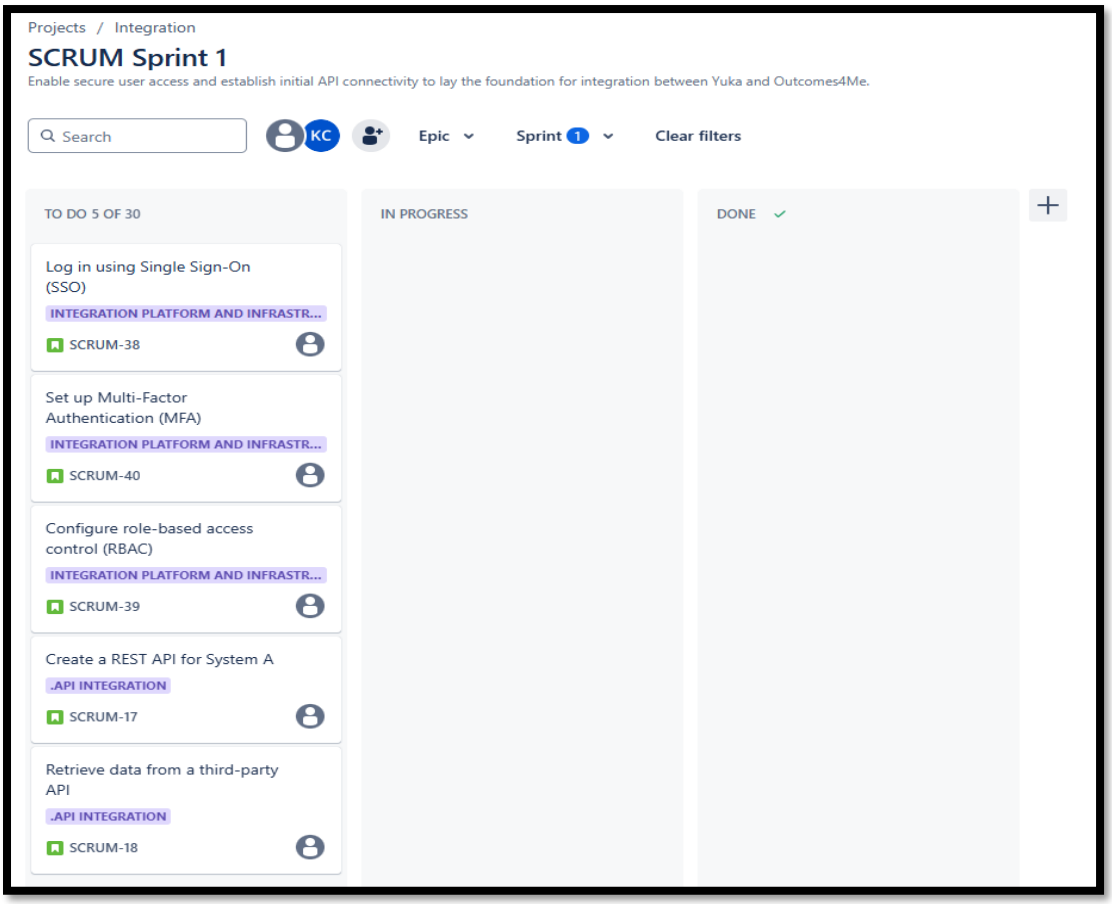
The scope for this project has been structured in Jira. Below is the screenshot of the project that has been created in Jira.

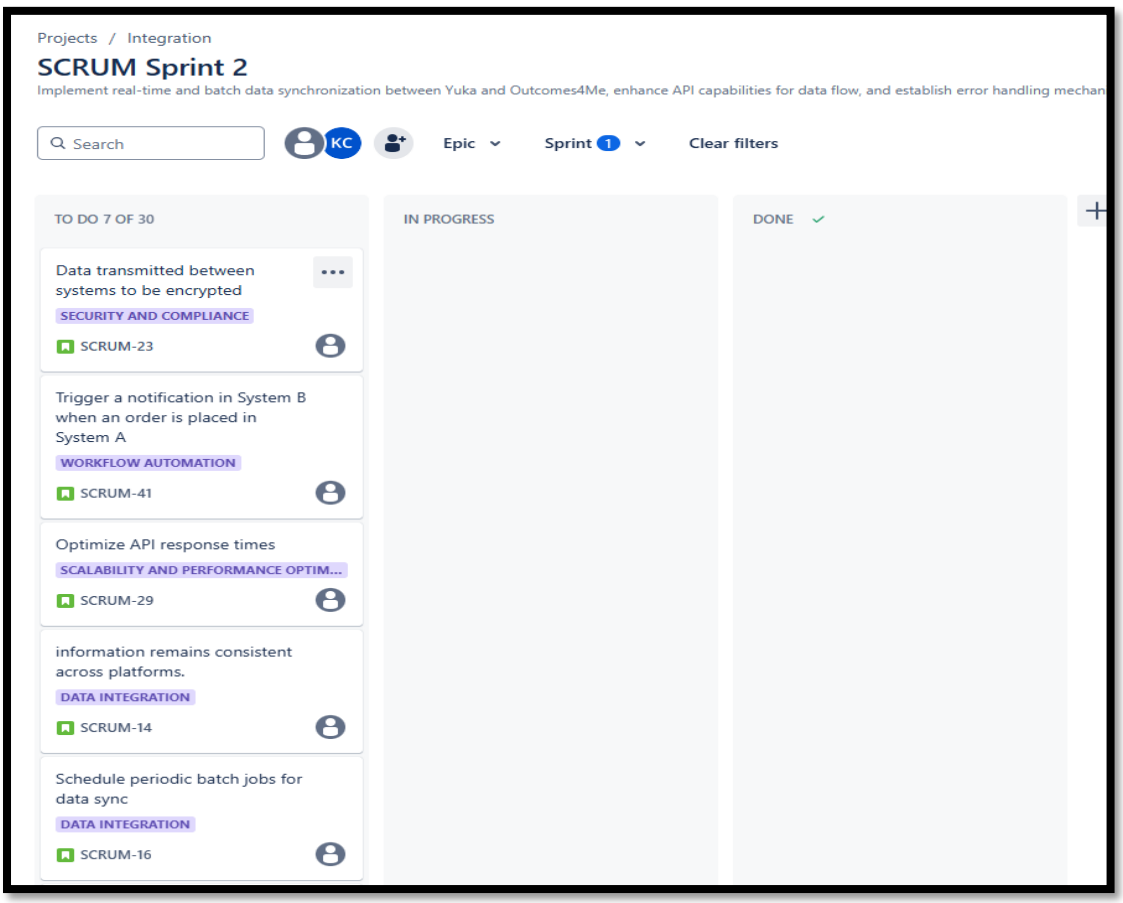
Firstly, Epics were created so that the tasks and user stories can be broadly classified. Teams can focus on high-priority outcomes first by segregating them into smaller user stories that fit into sprints.

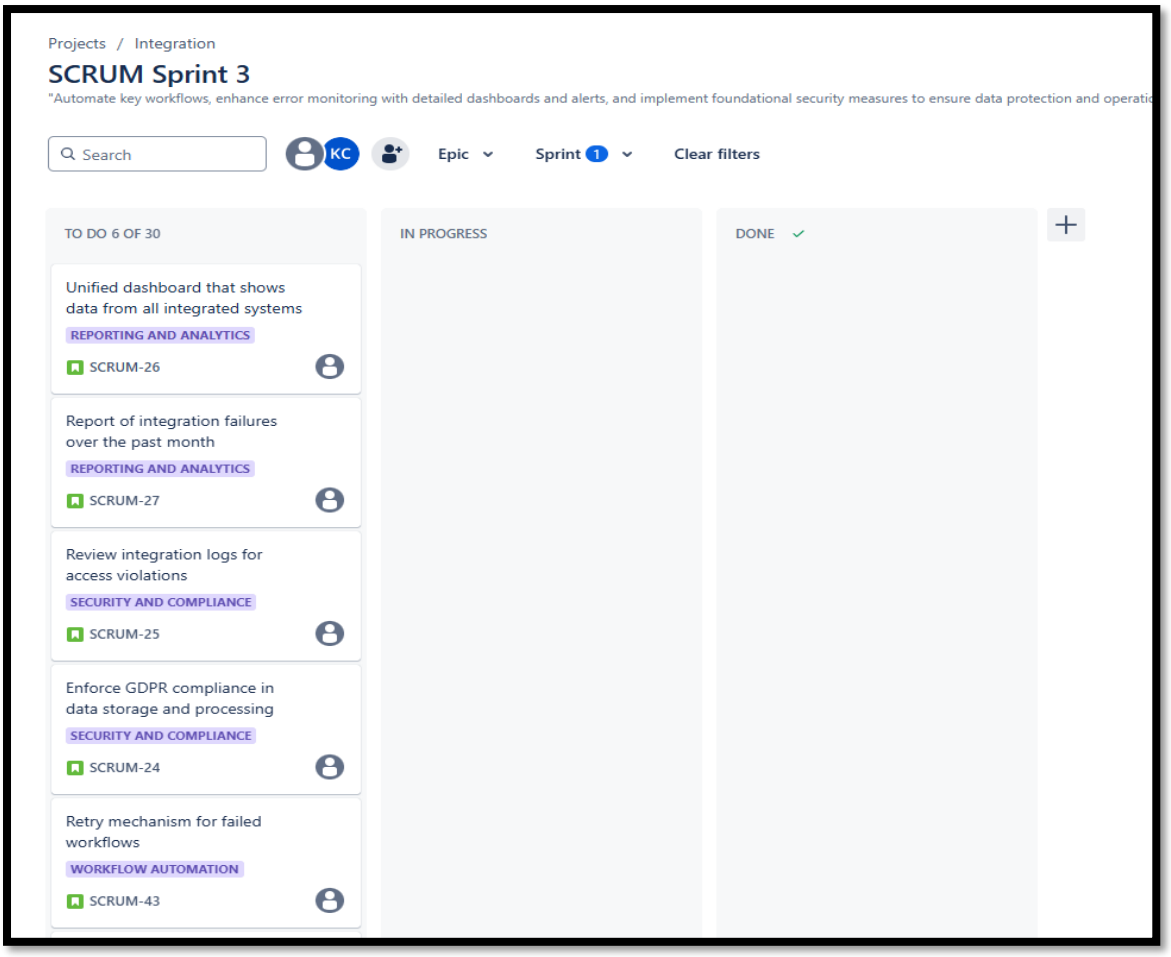
User stories were then created under each Epic as it simplifies requirements. It facilitates smooth communication between all the stakeholders (developers, testers, product owners).

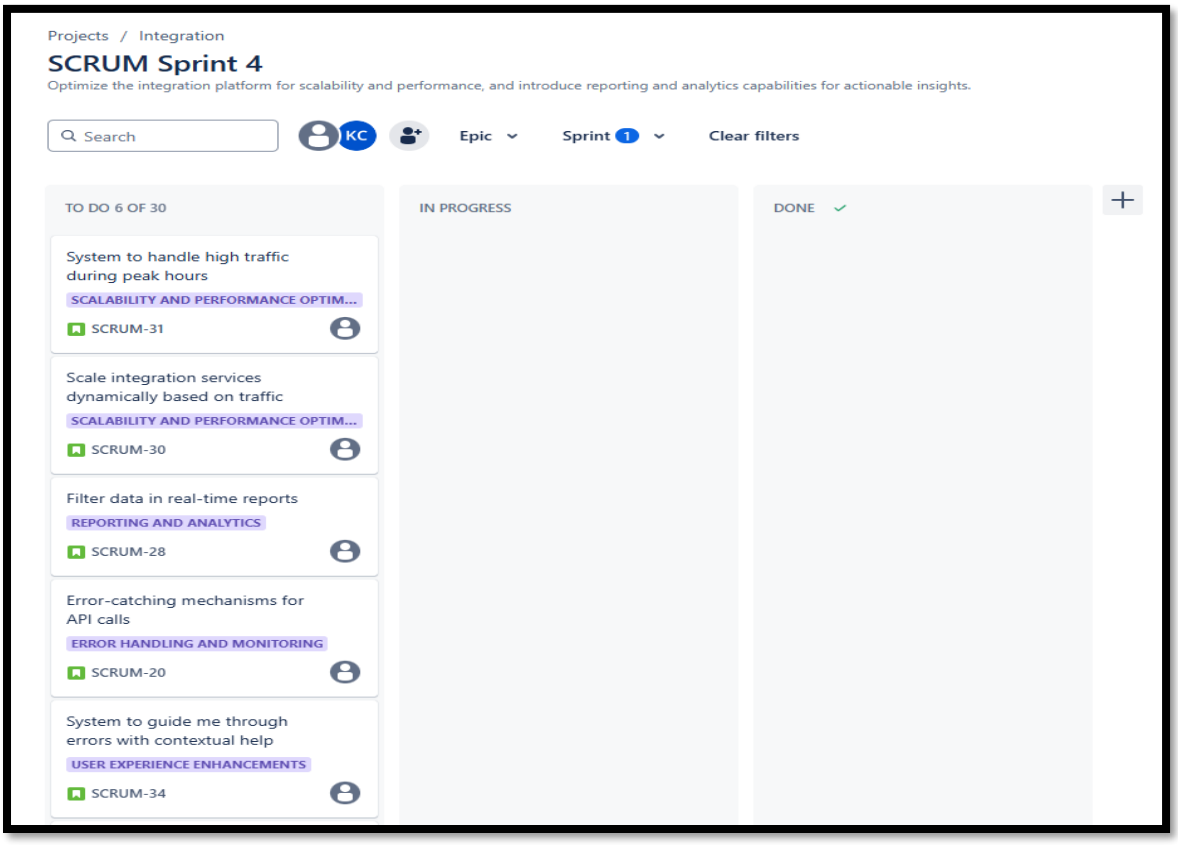
Sprints are then created to achieve specific goals in a specific time period. It supports iterative delivery.

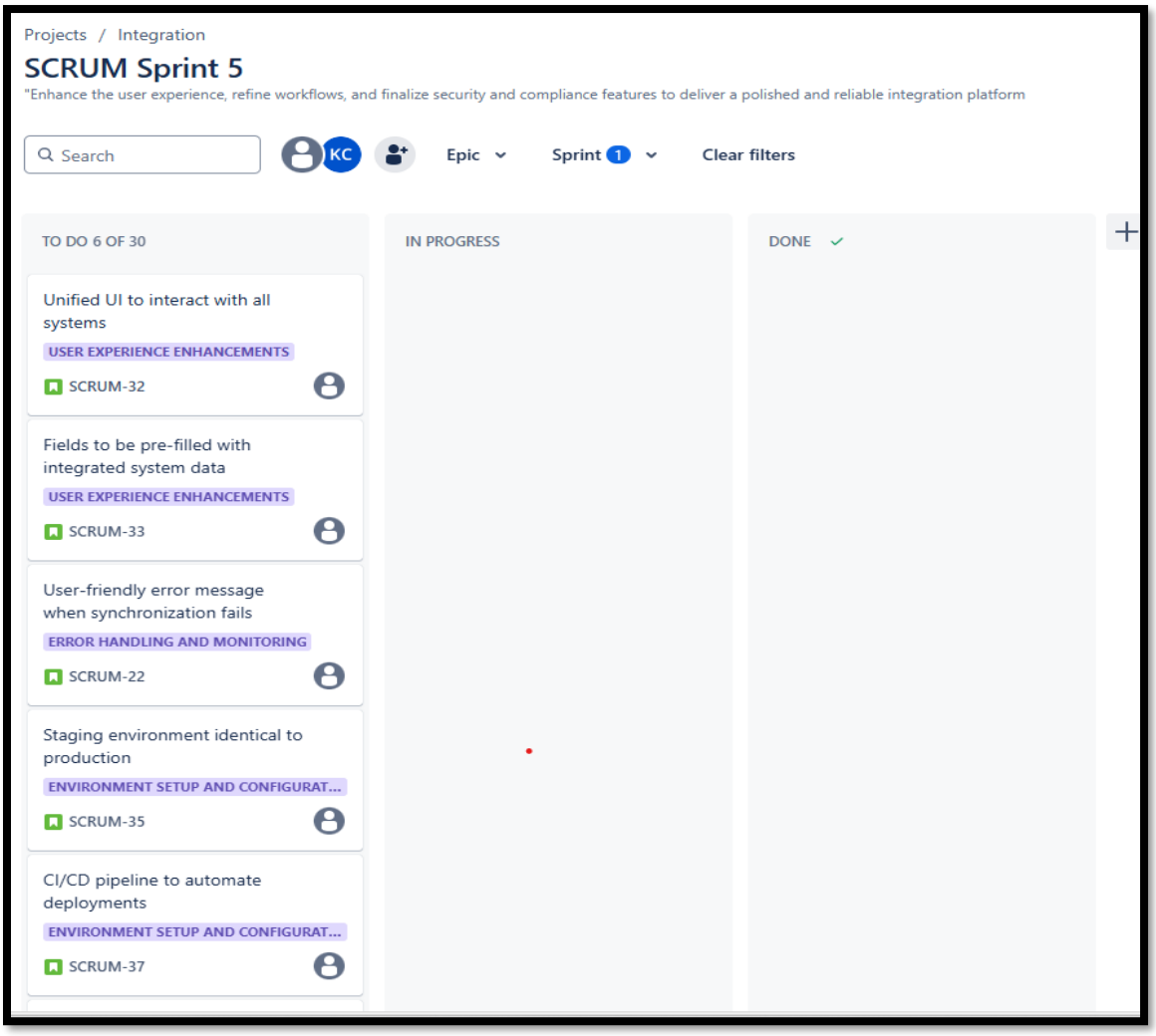



Projects / Integration
SCRUM Sprint 1
Enable secure user access and establish initial API connectivity to lay the foundation for integration between Yuka and Outcomes4Me.
Search
KC
Epic
Sprint 1
Clear filters
TO DO 5 OF 30
IN PROGRESS
DONE
Log in using Single Sign-On (SSO)
INTEGRATION PLATFORM AND INFRASTR...
SCRUM-38
Set up Multi-Factor Authentication (MFA)
INTEGRATION PLATFORM AND INFRASTR...
SCRUM-40
Configure role-based access control (RBAC)
INTEGRATION PLATFORM AND INFRASTR...
SCRUM-39
Create a REST API for System A
.API INTEGRATION
SCRUM-17
Retrieve data from a third-party API
.API INTEGRATION
SCRUM-18


Projects / Integration
SCRUM Sprint 2
Implement real-time and batch data synchronization between Yuka and Outcomes4Me, enhance API capabilities for data flow, and establish error handling mechan
Search
KC
Epic
Sprint 1
Clear filters
TO DO 7 OF 30
IN PROGRESS
DONE
Data transmitted between systems to be encrypted
SECURITY AND COMPLIANCE
SCRUM-23
Trigger a notification in System B when an order is placed in System A
WORKFLOW AUTOMATION
SCRUM-41
Optimize API response times
SCALABILITY AND PERFORMANCE OPTIM...
SCRUM-29
information remains consistent across platforms.
DATA INTEGRATION
SCRUM-14
Schedule periodic batch jobs for data sync
DATA INTEGRATION
SCRUM-16


Projects / Integration
SCRUM Sprint 3
"Automate key workflows, enhance error monitoring with detailed dashboards and alerts, and implement foundational security measures to ensure data protection and operati
Search
KC
Epic
Sprint 1
Clear filters
TO DO 6 OF 30
IN PROGRESS
DONE
Unified dashboard that shows data from all integrated systems
REPORTING AND ANALYTICS
SCRUM-26
Report of integration failures over the past month
REPORTING AND ANALYTICS
SCRUM-27
Review integration logs for access violations
SECURITY AND COMPLIANCE
SCRUM-25
Enforce GDPR compliance in data storage and processing
SECURITY AND COMPLIANCE
SCRUM-24
Retry mechanism for failed workflows
WORKFLOW AUTOMATION
SCRUM-43


Projects / Integration
SCRUM Sprint 4
Optimize the integration platform for scalability and performance, and introduce reporting and analytics capabilities for actionable insights.
Search
KC
Epic
Sprint 1
Clear filters
TO DO 6 OF 30
IN PROGRESS
DONE
System to handle high traffic during peak hours
SCALABILITY AND PERFORMANCE OPTIM...
SCRUM-31
Scale integration services dynamically based on traffic
SCALABILITY AND PERFORMANCE OPTIM...
SCRUM-30
Filter data in real-time reports
REPORTING AND ANALYTICS
SCRUM-28
Error-catching mechanisms for API calls
ERROR HANDLING AND MONITORING
SCRUM-20
System to guide me through errors with contextual help
USER EXPERIENCE ENHANCEMENTS
SCRUM-34



WBS Maintenance

- Regular updates during the sprint to consider changes in priorities or tasks.
- Jira will be used to manage tasks smoothly.

Key Responsibilities:

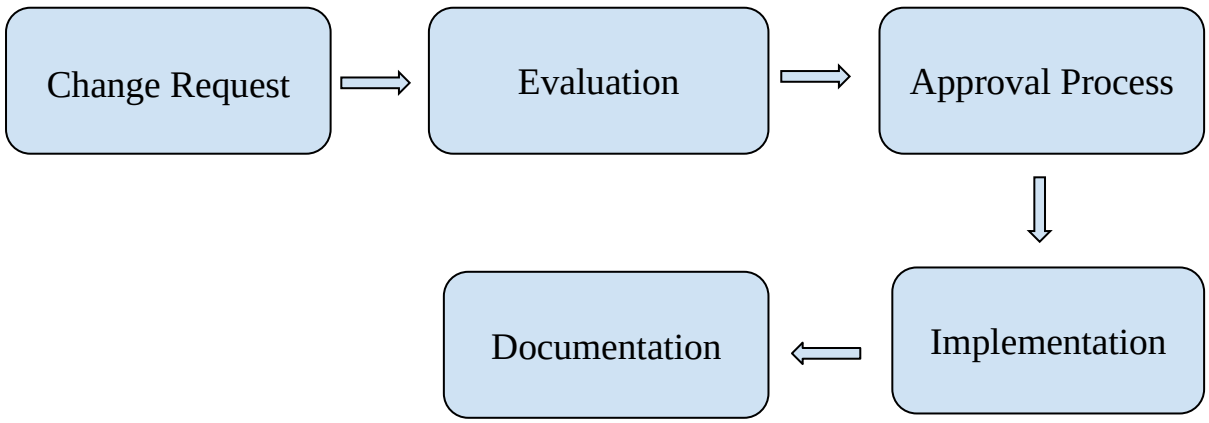
- Project Manager (PM): Overall management for scope and WBS maintenance. Manage change control meetings and implement scope adherence.
- Product Owners from Both Applications: Ensuring integration deliverables align with business goals. Reviewing proposed changes for alignment with strategic priorities.
- Development Team Leads: Managing tasks under the WBS.

7.2 DELIVERABLES

SPRINTS	DURATION	DELIVERABLES
SPRINT 1	3 Weeks	User access and initial API connectivity for the integration.
SPRINT 2	3 Weeks	Real time and batch data sync between the two applications, enhanced API and error handling mechanisms
SPRINT 3	3 Weeks	Error monitoring with detailed dashboards and alerts. Data protection and operational efficiency
SPRINT 4	3 Weeks	API optimization for performance. Reporting and analytics for actionable feedback
SPRINT 5	3 Weeks	Improved user experience and final security features for a reliable integration platform

7.3 CHANGE MANAGEMENT

Change management is an integral part of project planning-it makes sure that changes to the project scope, schedule, or deliverables are controlled and aligned with project goals. The process involves the following steps:



7.3.1 CHANGE REQUEST FORM

Below is the change request form created on Atlassian (Collaboration software for software, IT and business teams).

Change Control Process:

Submission: Stakeholder or any team member can submit a Change Request Form

Evaluation: The Change will be evaluated by the PM, product owners, and relevant stakeholders. Criteria for evaluation: Alignment with project objectives, Impact on scope, timeline, budget, and resources.

Approval status: Changed will be approved as per the impact and priority level.

Implementation: Updates will be communicated during sprint planning.

Documentation: All approved changes will be added in the **Change Request Log**. The rejected changes will be archived with the reason for rejection for future reference.

Change ID	
Date	
Requestor Name	
Change Description	
Change Reason	
Impact	
Priority	LOW / MEDIUM / HIGH
Approval status	ACCEPTED / PENDING / REJECTED
Implementation date	
Completion status	COMPLETED / IN PROGRESS

8. SCHEDULE MANAGEMENT

The integration project will have a schedule management which helps with the smooth timeline for the project.

The Project Manager oversees the project timeline and coordinates with the Scrum Master to align sprints with the milestones. The Scrum Master investigates the sprint schedule, ensuring the task is completed within the stipulated timelines, and addressing any scheduling conflicts.

At the end of each sprint (every three weeks) the schedule will be updated during sprint planning. Adjustments will be made according to sprint reviews if there are any significant feedback or issues.

Jira boards will help track individual tasks, sprint progress, and backlog items.
Bi-weekly calls and look back at the sprints when it ends, which will provide real-time updates on progress and blockers.

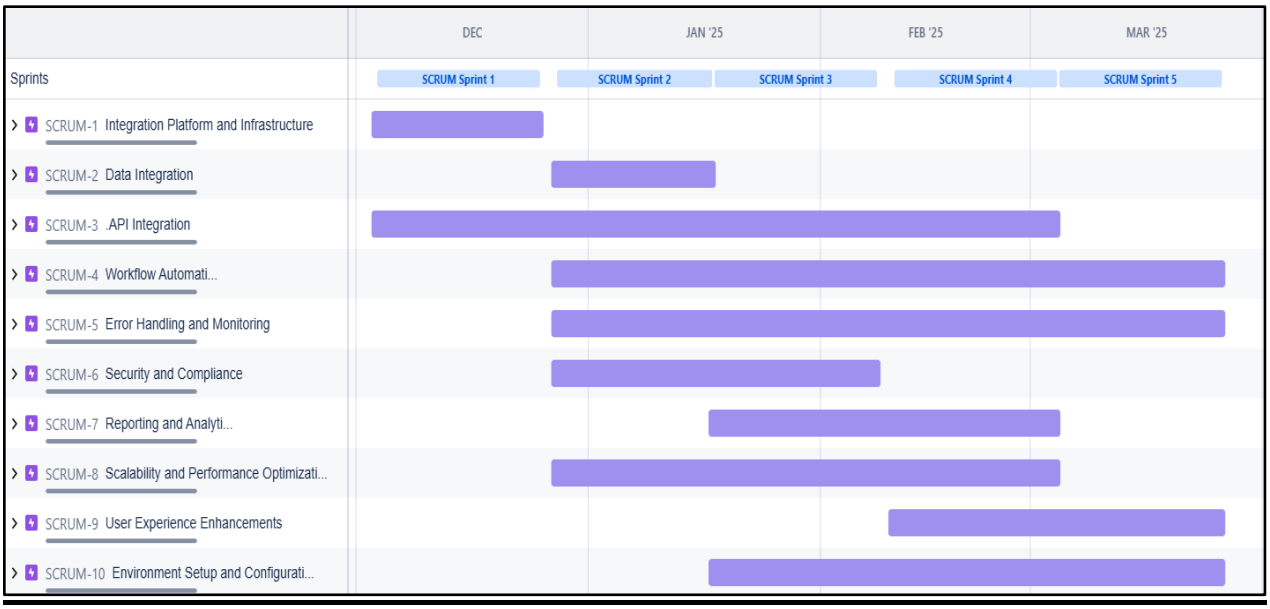
Changes in the schedule will be managed by following the Change Management Plan which is:

- Formal change request.
- Analysing the impact on scope, resources, and timelines.
- Approvals from the Product Owner and stakeholders.
- Integrate changes into the backlog and reprioritize tasks if necessary.

The Scrum Master and Product Owner evaluates the feasibility, and the risks associated with the changes, important schedule changes are then approved by the Project Manager.
All the stakeholders are informed, and the schedule is updated through Jira.

- Regular assessment during sprint planning is done to identify potential delays or resource conflicts.
- Contingency buffers will be built into the timeline for high -risk tasks.
- Resources will be reallocated to prioritize critical tasks.
- Tasks will be have incremental deliverables for steady progress
- Tracking risk register to avoid major risks

Below is the roadmap that has been created on Jira which aligns with the product backlog of this project. This roadmap clearly shows how each sprint aligns with the Epics. This helps in smooth communication between all stakeholders.



8.1MILESTONES

Milestones have been made in a hybrid approach. This approach helps in understanding segregation of epics and the sprints. The alignment of Epics with the milestones will help in external reporting whereas adding sprints to the milestones will help in internal reporting.

Below are the milestones as per the sprints which will help the Scrum master and the team to complete the work within the timeline for smooth transition between the sprints.

SPRINT	**TIMELINE**
Sprint 1	3-24 Dec
Sprint 2	27 Dec- 16 Jan
Sprint 3	17 Jan- 7 Feb
Sprint 4	10 Jan- 3 Mar
Sprint 5	4 Mar- 25 Mar

Below milestone is for external reporting and shows the broader view. The milestones reflect tangible functionality delivered. This will help the Stakeholders who are more interested in seeing completed features (epics) rather than the internal sprint. Each epic may contain one or more sprints as per the user stories or tasks.

MILESTONES	**EPIC**	**SPRINTS**	**TIMELINE**
Milestone 1	Integration Platform	Sprint 1	3-25 December
Milestone 2	Data Integration	Sprint 2	27 Dec-17 Jan
Milestone 3	API Integration	Sprint 1,4	3 Dec- 4 Mar
Milestone 4	Workflow Automation	Sprint 2,3,5	27 Dec- 26 Mar
Milestone 5	Error handling and monitoring	Sprint 2, 4,5	27 Dec - 26 Mar
Milestone 6	Security and Compliance	Sprint 2,3	27 Dec- 8 Feb
Milestone 7	Reporting and Analytics	Sprint 3,4	17 Jan- 4 Mar
Milestone 8	Scalability and Performance	Sprint 2,4	
Milestone 9	User Experience Enhancement	Sprint 4,5	10 Feb - 26 Mar
Milestone 10	Environment setup and configuration	Sprint 3,5	17 Jan - 26 Mar

9. BUDGET

CATEGORY	DETAILS	COST
RESOURCES	Senior Developers	€20000
	QA Engineers	€16000
	DevOps Engineer	€13,000
TOOLS	Jira	€600
	AWS cloud services	€2,000
	Postman Pro (API testing)	€1,000
	CI/CD Tool	€400
LICENSE	OAuth Provider	€1,500
	API Management Tools	€3,000
TESTING AND QA	Automated testing tools	€6,000
	Security tools	€4,000
MANAGEMENT	Project manager	€10,000
CONTINGENCY RESERVE	Unexpected Costs	€10,000
TOTAL		**€87,500**

A contingency reserve of 10% has been created to accommodate for any unforeseen expenses.

9.1 EVM (Earned value Management)

A technique used to integrate scope, schedule, and cost measures to assess project performance.

Each sprint is allocated story points. Story points are a unit of measure used in Agile methodologies (especially Scrum. It is used to estimate the effort required to complete a user story or a task. Unlike hours, story points reflect effort- considering factors like complexity, uncertainty, and volume of work.

Below is the story points allotted to each sprint and also the justification for the story points.

SPRINT	STORY POINTS	REASON
Sprint 1	30	Foundation for API connectivity -low risk
Sprint 2	40	Real time data sync is important and requires significant effort.
Sprint 3	35	Creating error monitoring dashboards and data risk is moderately complex
Sprint 4	38	Optimising API and advanced reporting require significant effort for performance checks
Sprint 5	37	Improving user experience and security features requires moderate to high effort.

The planned % complete has been calculated for each sprint on the basis of the story points

SPRINT	CUMULATIVE STORY POINTS	PLANNED % COMPLETE
Sprint 1	30	30/180=0.1667 (16.67%)
Sprint 2	30+40=70	70/180=0.3889 (38.89%)
Sprint 3	30+40+35=105	105/180=0.5833 (58.33%)
Sprint 4	30+40+35+38=143	143/180=0.7944 (79.44%)
Sprint 5	30+40+35+38+37=180	180/180=1.0000 (100%)

The actual % complete has been calculated as follows:
Each sprint might have different story points from the allotted. If the actual story points is more than the planned as there was scope creep, few adjustments and team completed work more than planned. If the actual story points are less then it indicates that the team was unable to complete the task in the time frame.

SPRINT	CUMULATIVE STORY POINTS	ACTUAL % COMPLETE
Sprint 1	28	28/180=0.1556 (15.56%)
Sprint 2	28+42=70	70/180=0.3889 (38.89%)
Sprint 3	28+42+33=103	103/180=0.5722 (57.22%)
Sprint 4	28+42+33+36=139	139/180=0.7722 (77.22%)
Sprint 5	28+42+33+36+35=174	174/180=0.9667 (96.67%)

The actual cost has been calculated as per the efforts of each sprint.

SPRINT	EFFORT %	EFFORT (Decimal)	ACTUAL COST (budget*effort)
Sprint 1	16%	0.16	€14000
Sprint 2	25%	0.25	€21875
Sprint 3	19%	0.19	€16625
Sprint 4	25%	0.25	€21875
Sprint 5	15%	0.15	€13125

The total story points allotted to this project is 180. Based on the above story points EVM analysis has been computed. Cost per Story Point=€87,500/180 =€486.11

Planned Value (PV)= Budget at Completion (BAC) * Planned % Complete
Sprint 1= **€87,500***0.1667= €14,586.25
Sprint 2=**€87,500***0.3889= €34,028.75
Sprint 3=**€87,500***0.5833=€51,038.75
Sprint 4= **€87,500***0.7722=€67,567.50
Sprint 5=**€87,500*** 1=**€87,500**

Earned Value (EV) = Budget at Completion (BAC) * Actual % Complete
Sprint 1= **€87,500***0.1556= €13,615
Sprint 2=**€87,500***0.3889= €34,028.75
Sprint 3=**€87,500***0.5722=€50,067.50
Sprint 4= **€87,500***0.7722=€67,567.50
Sprint 5=**€87,500*** 0.9667=€84,586.25

SPRINT	PV	AC	EV	CV(EV-AC)	SV(EV-PV)	CPI (EV/AC)	SPI (EV/PV)
Sprint 1	€14,586.25	€14000	€13,615	-€388.89	-€971.25	0.97	0.93
Sprint 2	€34,028.75	€21875	€34,028.75	€12,154	€0	1.56	1.00
Sprint 3	€51,038.75	€16625	€50,067.50	€33,443	-€971.25	3.01	0.98
Sprint 4	€67,567.50	€21875	€67,916.67	€46,042	-€349.17	3.10	1.00
Sprint 5	€87,500.00	€13125	€84,586.25	€71,461	-€2913.75	6.40	0.96

INTERPRETATION

SPRINT 1-

- CV (Cost variance) is negative that means cost is over budget for that sprint.
- SV (Schedule variance) is negative which indicates that the sprint is behind schedule.
- CPI (Cost Performance Index) indicating that the sprint is over budget
- SPI (Schedule Performance Index) is slightly below 1 indicating schedule delay.

The sprint experienced overrun in terms of cost and schedule.

SPRINT 2-

- CV (Cost variance) - the sprint is under budget
- SV (Schedule variance) is zero which indicates the sprint is on schedule
- CPI (Cost Performance Index) indicates that the sprint is under budget
- SPI (Schedule Performance Index) is 1 which means the sprint is on schedule

The sprint has performed better than sprint 1. The planned work was completed within the expected cost.

SPRINT 3-

- CV (Cost variance) - the sprint is under budget
- SV (Schedule variance) is negative which indicates the sprint is behind schedule
- CPI (Cost Performance Index) indicates that the sprint is under budget
- SPI (Schedule Performance Index) less than 1 which means the there is delay

The sprint has performed well with cost but is facing delays in schedule.

SPRINT 4-

- CV (Cost variance) - the sprint is under budget
- SV (Schedule variance) indicates the sprint is ahead of schedule
- CPI (Cost Performance Index) indicates that the sprint is under budget
- SPI (Schedule Performance Index) more than 1 which means the sprint is ahead of schedule

The sprint has performed well with cost and with the schedule.

SPRINT 5-

- CV (Cost variance) - the sprint is under budget
- SV (Schedule variance) is negative indicating the sprint is behind schedule
- CPI (Cost Performance Index) indicates that the sprint is under budget
- SPI (Schedule Performance Index) less than 1 which means there is delay

The sprint has performed well with cost but with slight delays.

Overall-

- CPI is mostly above 1 which indicates that the project is doing well under the budget.
- SPI remains close to 1 in most sprints which indicates good scheduling except for some slight delays.
- Sprint 1 had cost issues and delays but through sprint 5 the project stayed within the budget and delays were improved except for some slight delays.

10. RESOURCE MANAGEMENT

10.1 RESOURCE OVERVIEW

RESOURCE	NUMBER OF PEOPLE	RESPONSIBILITY
Senior Developers	4	-API integration -Core system development -Technical architecture design
QA Engineers	3	-Automated testing -Performance testing -Integration testing
DevOps Engineer	1	-Cloud management -CI/CD pipeline setup -Performance optimization
Scrum Master	1	-Sprint planning -Removing team impediments -Agile process facilitation
Project Manager	1	-Overall project coordination -Stakeholder communication -Scope and timeline management

This table consists of the overview of the resources. The resources required are senior developers 4 people, QA engineers 1 person, DevOps engineer 1 person, scrum master 1, and project manager 1. Each member is required for the above-mentioned responsibilities.

10.2. RESOURCE ALLOCATION BY SPRINT

SPRINTS	AIM	KEY RESOURCES
Sprint 1	Initial API connectivity	-2 Senior Developers -1 QA Engineer -DevOps Engineer
Sprint 2	Real-time data sync	-3 Senior Developers -2 QA Engineers -DevOps Engineer
Sprint 3	Error monitoring dashboards	-2 Senior Developers -2 QA Engineers -DevOps Engineer
Sprint 4	API optimization and reporting	-3 Senior Developers -2 QA Engineers -DevOps Engineer
Sprint 5	User experience and security	-2 Senior Developers -1 QA Engineer -DevOps Engineer

10.3. Plans for resource management

FOCUS	RESOURCE MANAGEMENT PLAN
Resource Utilization	-Change the team's makeup according to the sprint's needs. -Promote the sharing skills and information. -Track each person's workload to avoid burnout.
Skill Matrix	-Keep a maintained record of every team member's talent. -Identify gaps in skills and create personal training. -Make sure that important roles have backup resources.
Tools and Infrastructure	-**Jira**: Project management and task tracking -**Confluence**: Documentation and collaboration -**Collaboration Platforms**: Slack, Microsoft Teams -**Development Environments**: Separate development, staging, and production

10.4 RACI MATRIX

Task/Deliverable	Project Manager	Product Manager	Development Team	QA Team	Compliance Officer	Scrum Master	End Users (Patients)	Third-Party Providers	Executive Sponsor
Project Kickoff	R	A	I	I	C	C	I	I	A
Requirement Gathering	A	R	C	C	C	I	I	I	I
User Story Creation and Prioritization	C	R	C	C	I	A	I	I	I
API Development	I	I	R	C	C	A	I	R	I
Data Synchronization Implementation	I	I	R	C	C	A	I	C	I
Barcode Scanning Module Development	I	I	R	C	I	A	I	C	I
Testing and Quality	I	C	C	R	I	A	I	C	I
Security and Data Compliance Validation	I	I	C	C	R	A	I	I	I
Sprint Planning	C	A	R	C	I	R	I	I	I
Sprint Execution	I	I	R	C	I	A	I	I	I
Sprint Review	R	A	R	R	C	A	I	I	I
Retrospectives	R	C	R	R	I	A	I	I	I
Integration Testing	I	I	R	R	C	A	I	C	I

11.COMMUNICATION PLAN

The communication between the stakeholders will help in smoothing the project. This plan will be integral for gathering all the management and discussing the details.
Below is the plan for communications between all stakeholders

Communications Plan
Project Name: Integration

Rialtas na hÉireann
Government of Ireland

Communications Plan - Client Name/Project Name								
Audience	**Message/Purpose**	**Content**	**Channel**	**Frequency**	**Next Date**	**Sender**	**Status**	**Feedback Mechanism**
Sprint Planning								
Kick off project								
Development Team	Engagement	sprint goals, allocate tasks, clarify technical r	Jira, meetings	Start	03/12/2024	Scrum master	Planned	Jira or meetings
Project Manager	Commitment	acceptance criteria	Sprint Planning Meeting	Start	03/12/2024	Scrum master	Planned	Jira or meetings
QA team	Engagement	testing strategies for sprint deliverables.	Email, Meetings	Start	03/12/2024	QA lead	Planned	Jira or meetings
Daily meetings								
Development Team	Engagement	Progress, plans for the day	meeting	Daily	04/12/2024	Scrum master	Active	Feedback during meetings
QA team	Awareness	Identify bugs, updates on testing	Email, meetings	Daily	04/12/2024	Scrum master	Active	Feedback during meetings
Sprint execution								
Development Team	Engagement	Updates on tasks, issues and completed features	Jira, email	Continuous		Scrum master	Ongoing	Jira or sprint reviews
QA team	Engagement	Provide results on testing or check for bugs or issues	Jira, Reports	Continuous		QA lead	Ongoing	Sprint reviews
Project Manager	Awareness	Sprint updates and progress	Sprint reviews and jira	Bi-weekly	17/12/2024	Scrum master	Ongoing	Sprint reviews
Sprint reviews	Engagement	review sprint deliverables	Meeting	Sprint end	24/12/2024	Scrum master	Planned	Sprint reviews
All stakeholders								
Retrospective								
Development Team	Engagement, reflection	Discuss pros and cons along with ares of improvement	Retrospective meeting	Sprint end	24/12/2024	Scrum master	Planned	Boards, jira
Project Manager	Awareness	insights on the features of delivery	Retrospective meeting	When required		Scrum master	planned	Email, meetings
Release planning								
All stakeholders	Commitment ,	details of release timelines	release meeting, email	When required		Project manager	Planned	App surveys
Post- deployment								
End users	Awareness	Product updates , guides on usability	App notification	Post - deployment	02/03/2025	Customer support team	Planned	App surveys
Compliance officer	Commitment	Audit logs and compliance reports	Email, report	Post - deployment	02/03/2025	Compliance manager	Planned	App surveys

STAKEHOLDER ANALYSIS

STAKEHOLDER	ROLE	INFLUENCE (1-5)	STRATEGY
Sponsor	Provides funds	5	ROI reports
Project Manager	Overall project	4	Sprint reviews
Development team	Performs tasks	4	Tracking via Jira
QA Team	Testing	3	Testing updates
Compliance team	Ensures legal standards	4	Compliance reviews
Users	Feedback	2	App surveys
Third party	API support	3	Integration updates
Executive stakeholders	Decision making	5	Reports and presentations

12. RISK MANAGEMENT

Risk assessment table

Risk Matrix & Risk Impact Scores									
PROBABILITY	5	Almost Certain	5	10	15	20	25		Risk Ratings
	4	Likely	4	8	12	16	20		Extreme
	3	Possible	3	6	9	12	15		High
	2	unlikely	2	4	6	8	10		Medium
	1	Rare	1	2	3	4	5		Low
			Slight	Minor	Moderate	Major	Catastrophic		
			1	2	3	4	5		
			IMPACT						

Risk Register

Date: to be completed

Ref No	Category	Risk Description (cause and effect) (IF/THEN scenario)	P	I	Score	Risk Response (actions)	Owner	Status
1	Scope	If change is required during a sprint then the team may face issues with delay in delivering commitments	4	4	16	Mitigate - Create strict change control process	Scrum master	Open
2	Technical	If API fails due to documentation issues, then timelines and deliverables will be delayed	4	4	16	Mitigate-API testing in the initial stages	Porject manager	Open
3	Compliance	If the GDPR/HIPAA standards have not been adhered to, then shutdown may occur	5	5	25	Mitigate- Frequent compliance reviews and train s	Compliance officer	Open
4	User Adoption	If users find that the new feature is not user-friendly, then dislike may lead to reduced value of the feature	3	3	9	Mitigate- Continuos feedback before deployment	Porject manager	Open
5	Quality Assurance	If testing was insufficient then bugs may arise which could impact users and rework cost	4	4	16	Mitigate- Perform testing thoroughly and implemer	QA lead	Open
6	Resource	If key team members are unavailable due to unforeseen situation then this impact with the timelines	3	4	12	Accept- Cross train other members	Scrum master	Open
7	Budget	If additional costs are required this may exceed the budget limit	2	5	10	Accept- Maintain a contingency reserve maybe m	Project manager	Open
8	Deployment	If deployment fails, then system may face issues, which could impact user trust	3	5	15	Mitigate- Pre deployment tests to ensure all mecha	QA lead	Open

13. STAKEHOLDER DEFINITION OF DONE

STAKEHOLDER	DELIVERABLE	COMPLETION CRITERIA	VERIFICATION	APPROVAL
Project Sponsor	ROI, Milestones	-Complete milestones -Adherence to the budget -ROI calculations	Final reports, milestone dashboard	Executive sponsor
Project Manager	Project goals	-User stories meet the acceptance criteria -Features deliver business goals -Testing and performance goals	Sprint reviews	Project manager
Development Team	Implementation and delivery	-Reviews and approval - Tasks all marked as done in Jira	Testing results	Scrum master
QA Team	Quality assurance	-Successful test cases -All critical bugs resolved	Test dashboards, bug tracker reports	QA lead
Compliance Officers	Privacy and Security Compliance	-Adherence to GDPR/HIPAA standards -Verification of all audit trails -implementation of user consent	Compliance checklists, audit logs	Compliance manager
Users	Usability	-Features are user friendly -Positive feedback - No major issues	Feedback surveys on the app	Customer support team
Third-Party Providers	API Integration	-API is functional -Data exchange is smooth -All integration issues resolved	Integration reports	Project Manager
Executive Stakeholders	Outcome	-Objectives achieved\ -risks mitigated - Project outcomes align with the project goals	Presentation, reports	Executive team

14. CRITICAL EVALUATION

AREAS	ISSUES	ALTERNATIVES /SOLUTIONS
Scope management	Prioritising task to create sprints was challenging	Better understanding of tasks helped with the issues.
JIRA	Using Jira for the first time took a lot of time to navigate and create projects.	YouTube helped navigate most of the creation on Jira and there were few resources from Atlassian to help with new users.
Budget	Assumptions of cost was difficult as this cost cannot be too high or too low	Few websites like Glassdoor helped in assigning costs to such a budget based on averages
RISK	Analysing each area and understanding what risks might occur is challenging.	Using the jira tools it was easier to understand the priority of each tasks and hence foresee risk according to those task became easy

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