



# *NEW MEDTECHSOFT COMMUNICATION AND EVALUATION SYSTEMS*

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# Activity Diagrams

## Development Process Current State Diagram

Diagrams.net link: [https://app.diagrams.net/#G1w6PdN3f3jgWECdlsxM1Uyk9iFNum\\_0m](https://app.diagrams.net/#G1w6PdN3f3jgWECdlsxM1Uyk9iFNum_0m)

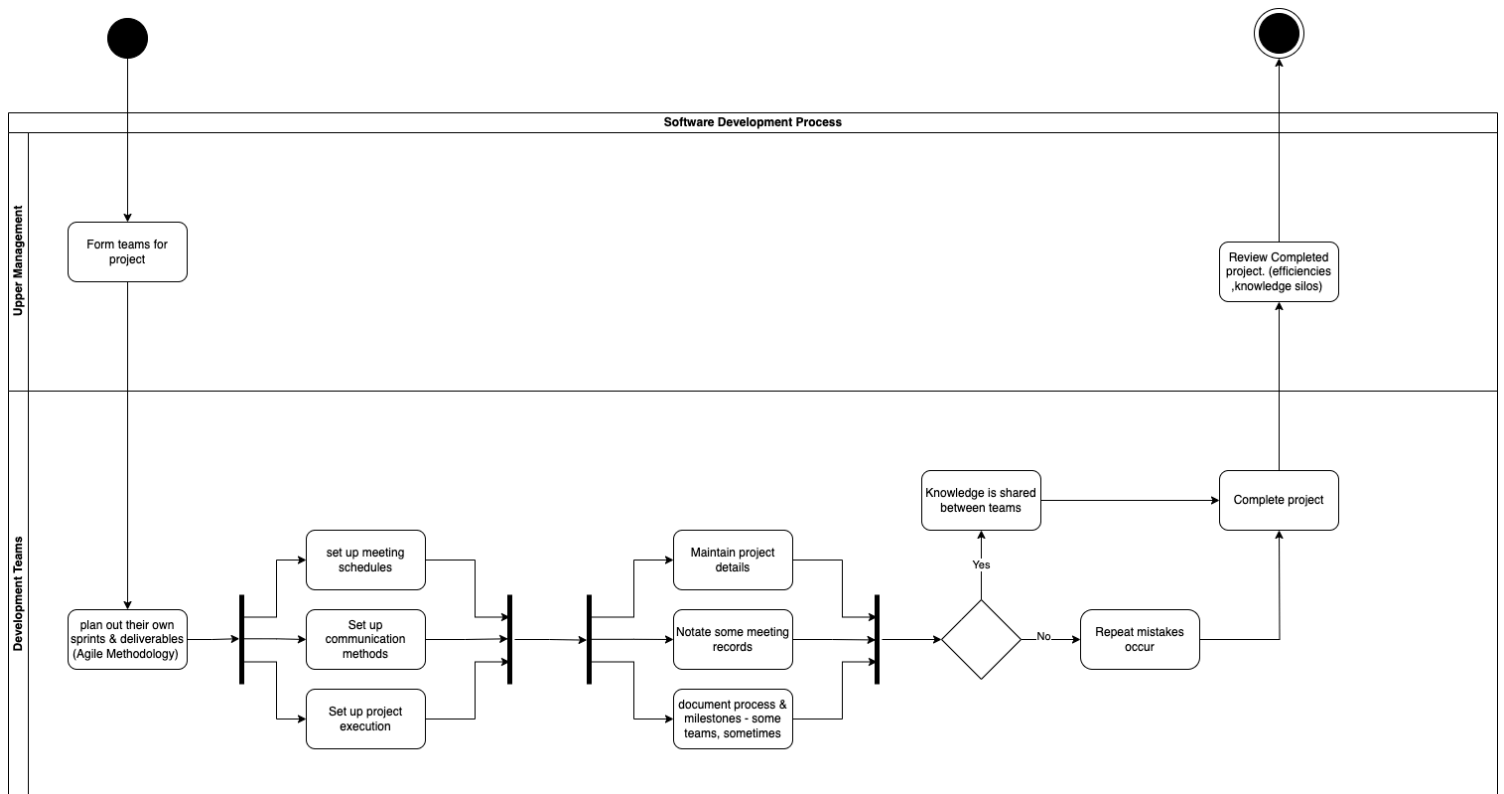


Fig 1

## Development Process Future State Diagram

Diagrams.net link: <https://app.diagrams.net/#G1lr30BV5cIPsMpAXqgiFlwer3VC9m4Twa>

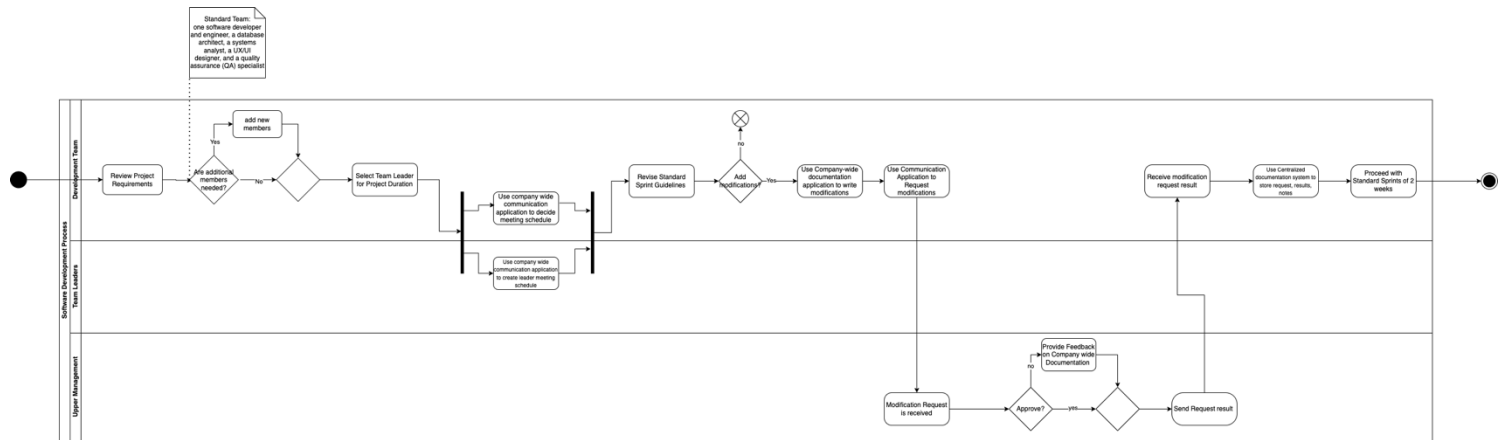


Fig 2

## Employee Evaluation Current State Diagram

Diagrams.net link: <https://app.diagrams.net/#G1kVLmK0B0DYJ93vTd70Tgn6s1MCUq1wWd>

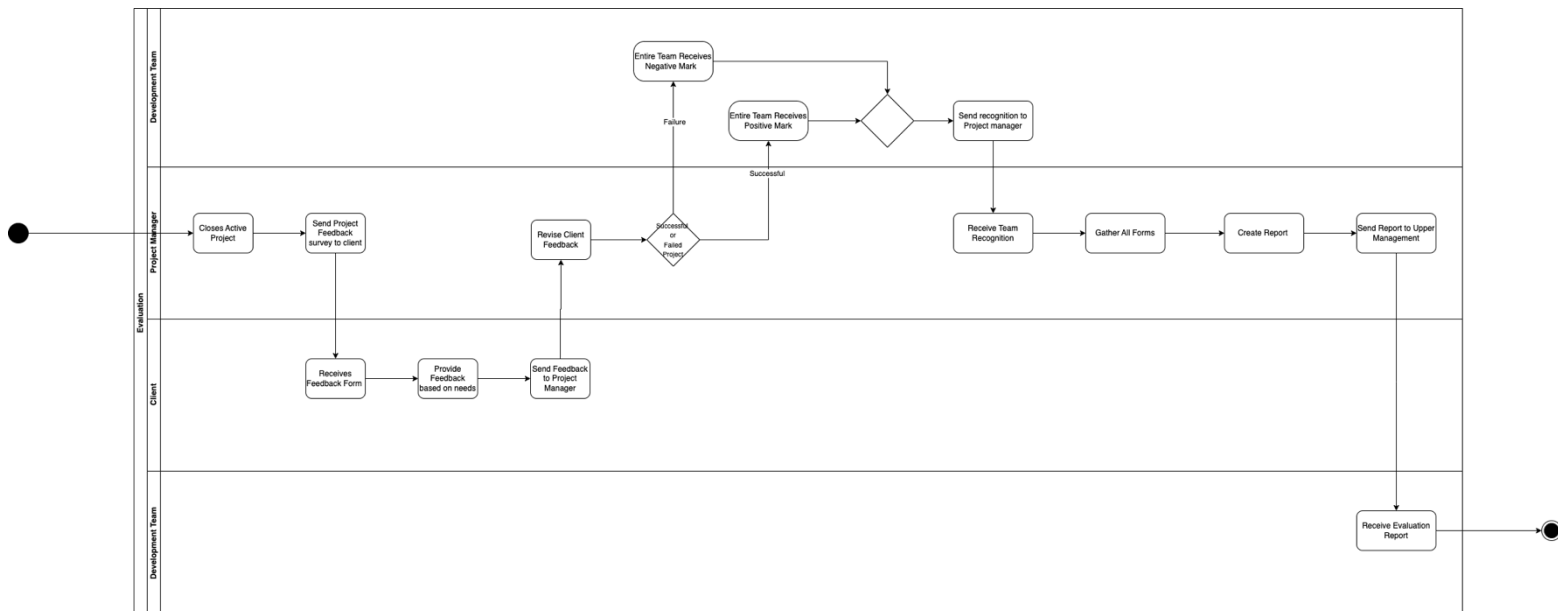


Fig 3

## Employee Evaluation Future State Diagram

Diagrams.net link: <https://app.diagrams.net/#G1hf1gUaiV4xUuF7qKWPLmWKksZbdT2zcA>

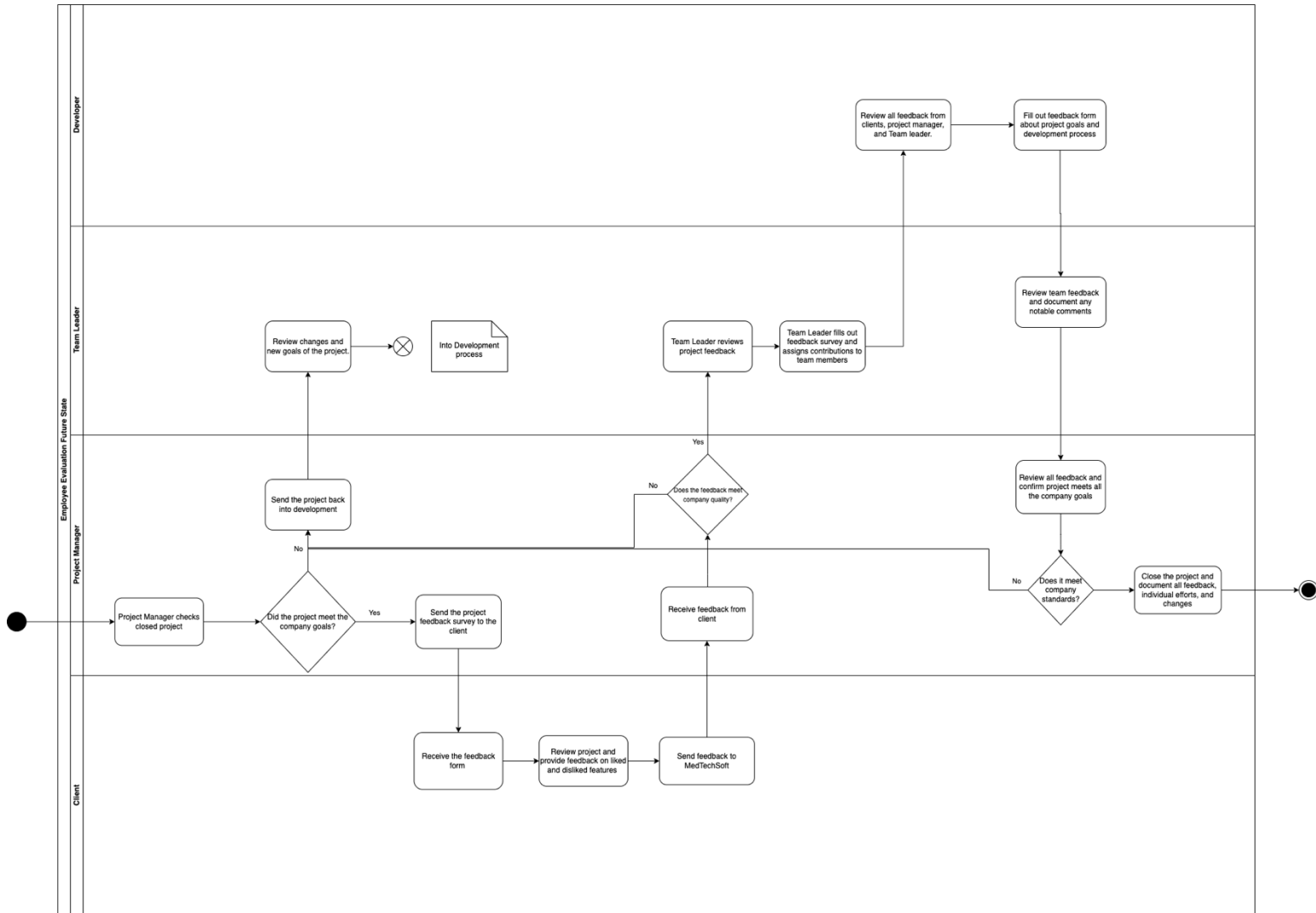


Fig 4

## Entity-relationship Diagram

Diagrams.net link: [https://app.diagrams.net/#G18on\\_o8XBdyeFJbR8scivV-tVun4Gdb-h](https://app.diagrams.net/#G18on_o8XBdyeFJbR8scivV-tVun4Gdb-h)

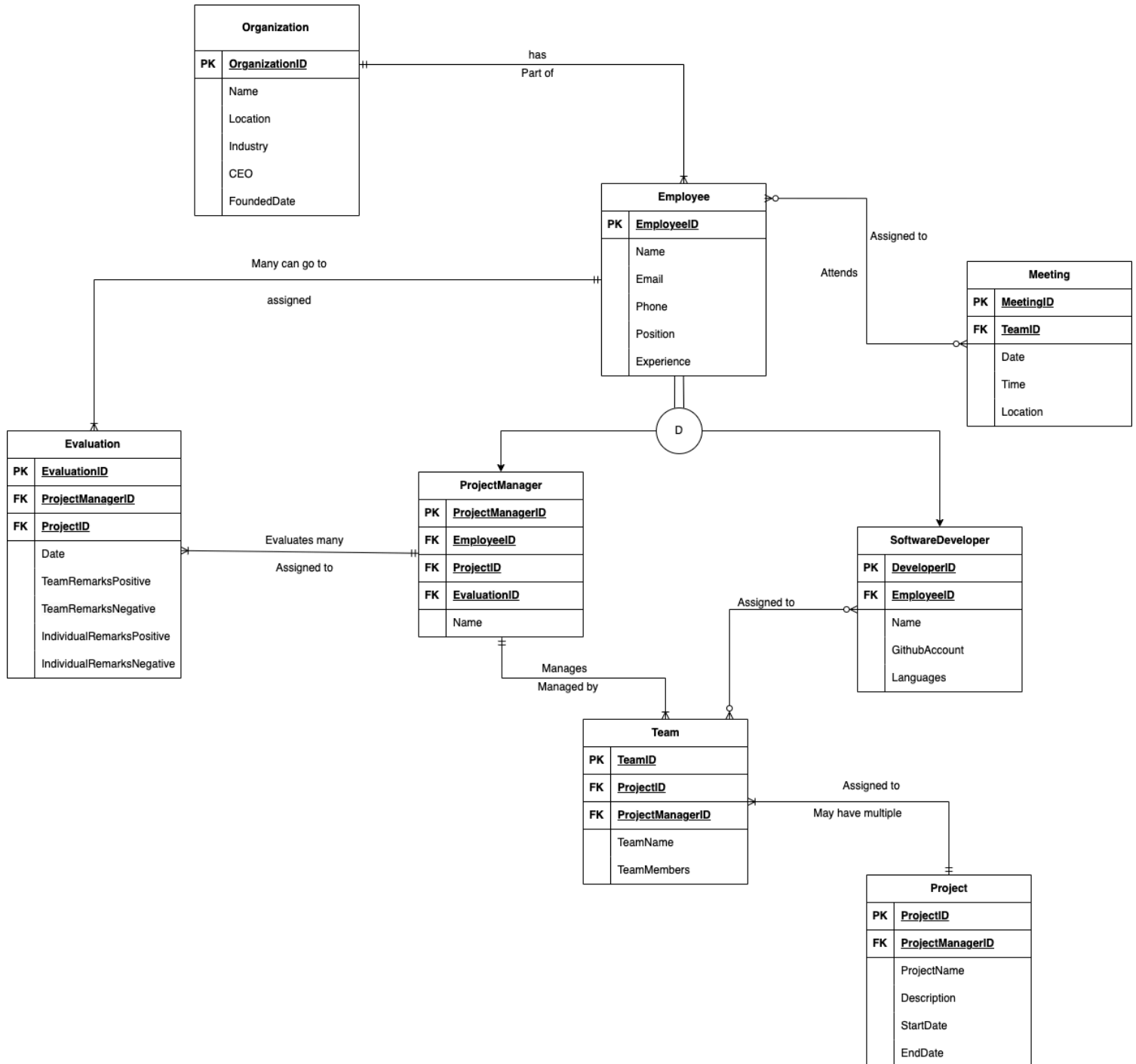


Fig 5

## User Stories

### **Epic 1: Project manager evaluation of the team and individual members, including documentation supporting the conclusions.**

#### *Developer Teams*

1. As a Senior Software Engineer, I want to develop a more structured recognition system that would boost morale and motivate us to excel even further.
2. As Software developers, we need to develop a system that provides accountability for certain tasks and recognizes individual contributions for potential promotions.
6. As a QA Specialist, we need a system that gives accurate feedback on individual performance and gives a more balanced workload for everyone.
9. As a Database Architect, I want our clients to be able to see what contributions each individual made to their projects.

#### *Mid-Level Management*

3. As a Human Resources Director, we need to find a fairer way to assess individual contributions rather than relying solely on team-level reviews.
5. As a solutions Manager, we need to improve our performance evaluation system while balancing individual assessment with maintaining our culture of team accountability.

#### *Upper Management*

2. As CEO, we need to improve collaboration, recognize individual contributions, and have a clear record of our accomplishments and how we built them to elevate our company's success.
4. As a Chief Operations Officer, we need to implement a fair and transparent performance evaluation system that will empower our employees and promote a culture of excellence.

### **Epic 2: Meeting scheduling and communication methods within a team**

#### *Developer Teams*

4. As a Systems Analyst, I want an application to show team progress, so that teams are not confused on the status of a project.

#### *Mid-level Management*

2. As a Product Manager, I want a centralized communication application, so that every team member is on the same page in terms of updates and requirements for projects.

### *Upper Management*

1. As a client of MedTechSoft, I want a clearer line of communication between medical staff and the development team, so that patient needs are better met.
3. As a Chief Security Officer, I want a consistent form of communication across all teams, so that communication can be secure to reduce data leaks and risks.

## **Epic 3: Sharing of progress, knowledge, and insights within a team**

### *Developer Teams*

8. As a QA engineer, I want software to be developed that will facilitate self-management in teams when appropriate. This will allow us to identify and address issues early in the development process.
12. As a UX/UI Designer, I want a centralized knowledge base accessible to all team members to reference, so we can stop making the same mistakes.

### *Mid-level Management*

1. As a Project Manager, I want software that enhances coordination and encourages the sharing of best practices among our highly skilled, independent teams.
4. As Project Manager, I want software that will establish a knowledge-sharing system to centralize documentation, so that we can reduce time on tasks.

## **Epic 4: Company-wide maintenance of project details, documentation, and meeting records**

1. As the Chief Officer I want one software to manage all the projects so that we can optimize our services
2. As the Director of software development, I want one software, so that we know all the employees working on or not on a project.
3. As the Chief Officer, I want one software that has all the software developers' tools integrated.

## **Epic 5: Communication of individual team member responsibilities and accomplishments, including peer evaluations, to the project manager**

1. As developers, we want one software so that we can have good communication.
2. As developers, we want one software so that our efforts are recognized



3. As developers, we want one software so that each developer is assigned a task we can keep track of.
4. As developers, we want one software so that we can keep track of the solution to current issues and difficulties the team encounters, and good documentation
5. As developers, we want one software so that we can have a good decision-making process.
6. As developers, we want one software so that we can keep track of the feedback received to improve the team's services.

<b>Epic ID</b>	<b>User Story ID</b>	<b>Description</b>	<b>Priority (MoSCoW)</b>	<b>Dependency</b>
EPC1	1	Analyze Current Performance Evaluation Process	MH	
	2	Define Criteria for individual & Team Contributions Assessment	MH	
	3	Establish Standards for Individual & Team Performance Evaluation	SH	EPC1-2
	4	Design System for Individual Contribution Documentation (ICD)	MH	EPC1-2, EPC1-3
	5	Design System for Team Contribution Documentation (TCD)	MH	EPC1-2, EPC1-3
	6	Design system that distributes all workload evenly among team; overload optional	SH	
	7	Implement User-friendly Interface for ICD & TCD Input	CH	EPC1-4, EPC1-5
	8	Develop System for Recognizing and Rewarding Individual/Team Achievements	MH	EPC1-4, EPC1-5
EPC2	1	Have an open and transparent project status communicated to the entire organization	MH	
	2	A central platform to collaborate so everyone is on the same page	MH	

<b>Epic ID</b>	<b>User Story ID</b>	<b>Description</b>	<b>Priority (MoSCoW)</b>	<b>Dependency</b>
	3	Clearer line of communication between hospital teams and development teams	SH	
	4	Consistent development and communication platform for better security	MH	
EPC3	1	System that facilitates self-management in teams when appropriate.	SH	
	2	A centralized knowledge base accessible to all team members	MH	EPC2-2
	3	The system allows coordination and sharing of best practices(ideas) across teams	MH	EPC2-2
	4	System supports knowledge-sharing to centralize documentation	MH	EPC3-2
EPC4	1	The system allows to have multiple project directories	MH	
	2	The system allows to see what employee is assigned to a task and not	MH	EPC4-1
	3	The system contains all the development tools integrated	SH/CH	EPC4-1
EPC5	1	The system allows the hierarchization of the team for every project(decision-making)	MH	EPC4-1 , EPC4-2
	2	The system allows communication among team members of each project	MH	
	3	The system allows each team member to be responsible for a task	MH	EPC4-1
	4	The system contains a repertory of issues and solutions for reference	MH	
	5	The system contains a feedback process to allow the team to perform better	MH	

<b>Epic ID</b>	<b>User Story ID</b>	<b>Description</b>	<b>Priority (MoSCoW)</b>	<b>Dependency</b>
	6	The system contains an evaluation process for employee recognition	MH	

# User Interface Prototypes

## Communication Application User Interface

Figma link:

<https://www.figma.com/proto/PGTktUsNOGDP0CXGQMAjyq/Team-Communication?type=design&node-id=2-39&t=pfaOk03Az64PSkP0-0&scaling=scale-down&page-id=0%3A1&starting-point-node-id=2%3A39>

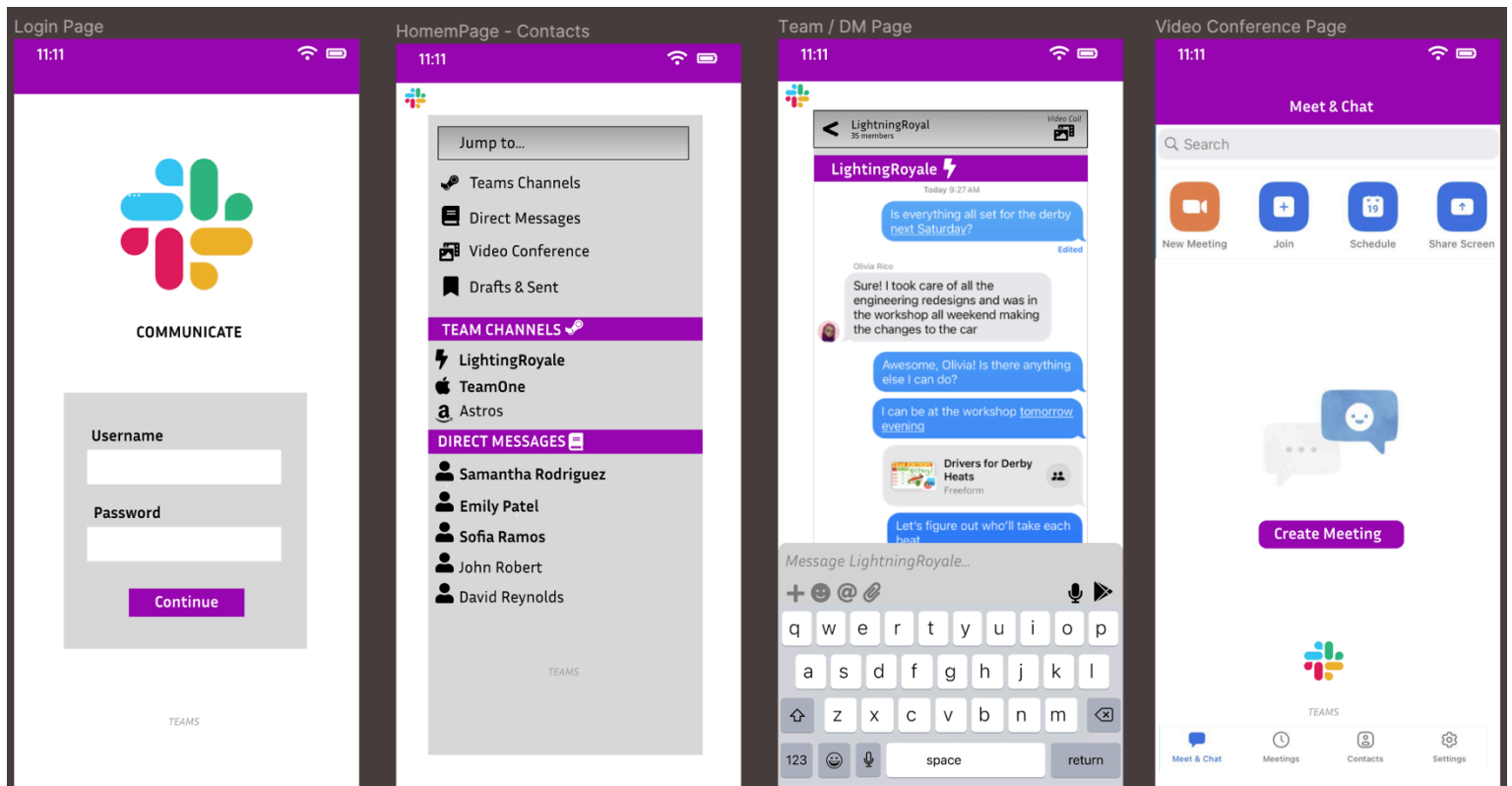


Fig 6

## Evaluation Application User Interface

Figma link:

<https://www.figma.com/file/aYx1gV1c8nEBBaE7yOWhLq/Evaluation?type=design&node-id=0-1&mode=design&t=ru8LuaXKx4d9crZ2-0>

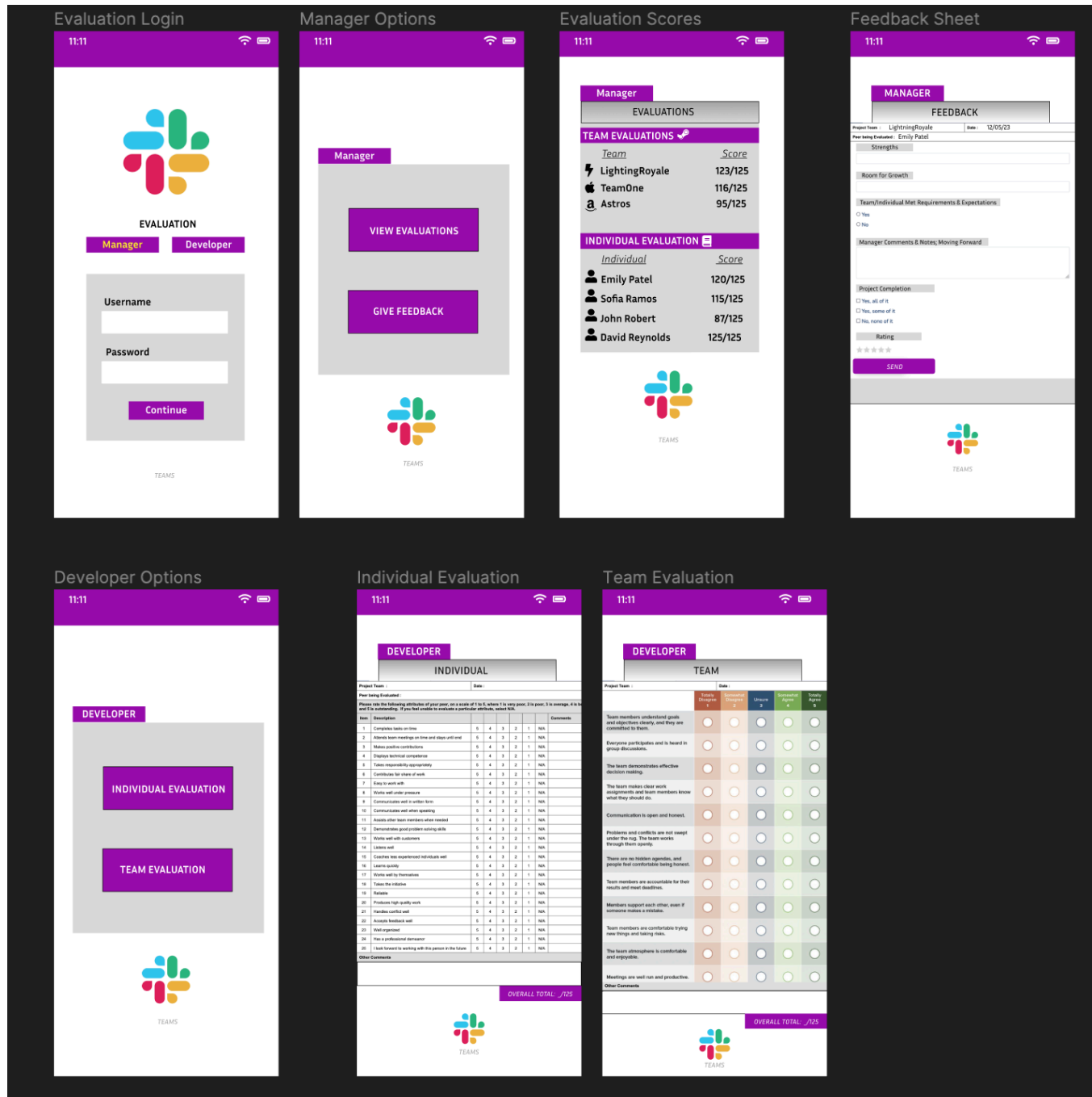


Fig 7



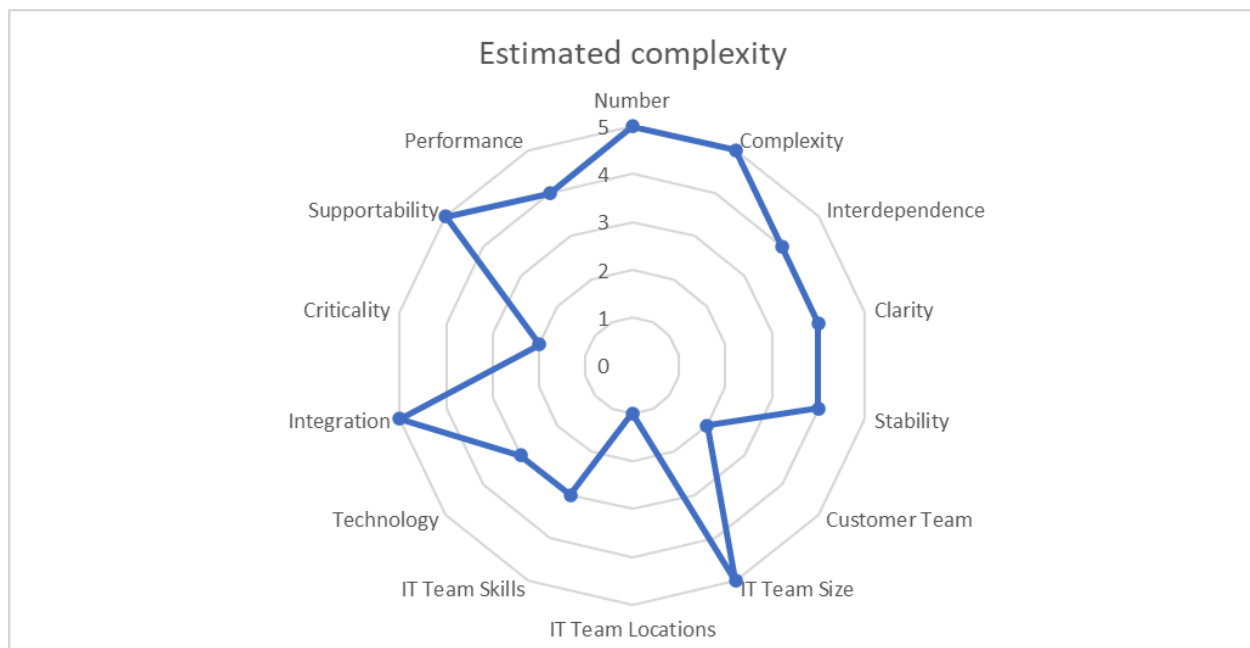
## Fully Dressed Use Case

**First User Story:** As a Product Manager, I want a centralized communication application, so that every team member is on the same page in terms of updates and requirements for projects.

### Home Grounds Model:

Project Characteristics	Level of Complexity (1 -5)	Description
<b>Functional Requirements Characteristics</b>		
Number	5	This project implementation will require a large budget and a lot of features to be implemented such as text, voice, file file-sharing options...)
Complexity	5	Complex features, the building of the features can be done separately and incorporated together within one software and a very complex data schema
Interdependence	4	Will need to be new software because the previous way is no longer usable since the projects the team is now working on are much more complex. The management of the project was causing a problem. It doesn't have to be built in a specific way but will need to meet the user story.
Clarity	4	Well, the current business state has been explained (the study case has been very clear). The new requirements might need to be a little bit more explicit.
Stability	4	The requirements will be changing slowly because all the features will be known before the beginning of the project.
<b>Non-functional requirements characteristics</b>		
Performance	4	The software will be used by the developers, the directors, and all the employees working at the company MedTechSoft.
Supportability	5	It requires a strategic approach to the development of the software because of how complex and the many features it incorporates.
Criticality	2	It's more like internal access for the employees only. As the case study said to improve the working conditions of the team for better services and software delivery.

Integration	5	This is where all the features play a role ( For communication the software will require a specific interface, for managing the various projects, the system will give the possibility to choose a project and allow the user to communicate with the team on the project.) The app may be integrated into another one.
Technology	3	This isn't to learn new technology but more to use coding knowledge to create software for easy communication.
<b>Team characteristics</b>		
IT team size	5	With many team members, the project can be developed by the organization's team
IT team locations	1	They are all in the same location on-site. It wasn't explicit in the case study. Let's suppose they are at the same location.
IT team skills	3	The team already has experience in coding and developing software because they were successful and that's why they need to upgrade their internal management software for better services. They may have to work with new/different teams to achieve the goal.
Customer team	2	It's more for a single department, the developer's team.





According to the Home Ground Models and the radar chart the project will require a hybrid approach because of how big and complex it is. It will require a Big Deployment Up Front. It will be helpful to have a big image of the software before starting it.

### Fully Dressed Use Case:

Use case section	Comments
Title	Communication app
Story	As a Product Manager, I want a centralized communication application, so that every team member is on the same page in terms of updates and requirements for projects.
Story owner	MedTechSoft Software Development Team
Story creator	Senior Software Engineer
Revisions and approvals	Version 1, Initial Draft
Stakeholders and interests	Samantha Rodriguez, Project Manager Emily Patel, Product Manager Sarah Thompson, Project Manager James Williams, Solutions Manager Liam Johnson, Director of Software Development David Reynolds, CEO Dr. Lisa Adams, Chief Medical Officer (Client Feedback) Dr. Rebecca Turner, Chief Security Officer John Roberts, Chief Operations Officer Sofia Ramos, Chief Technology Officer
Scope, context, and background	After the communication app is developed, it will allow the developers to communicate on project developments. This will help keep all the developers working in a centralized way and improve efficiency and results.
Dependencies	The developers would have to be affected/working on a project
Actor roles	Communicate with each other using the communication app features.
Preconditions	All developers must agree on the communication app to be used and be an employee of MedTechSoft.
Success guarantee	The developers can communicate through the app effectively throughout all projects and teams.

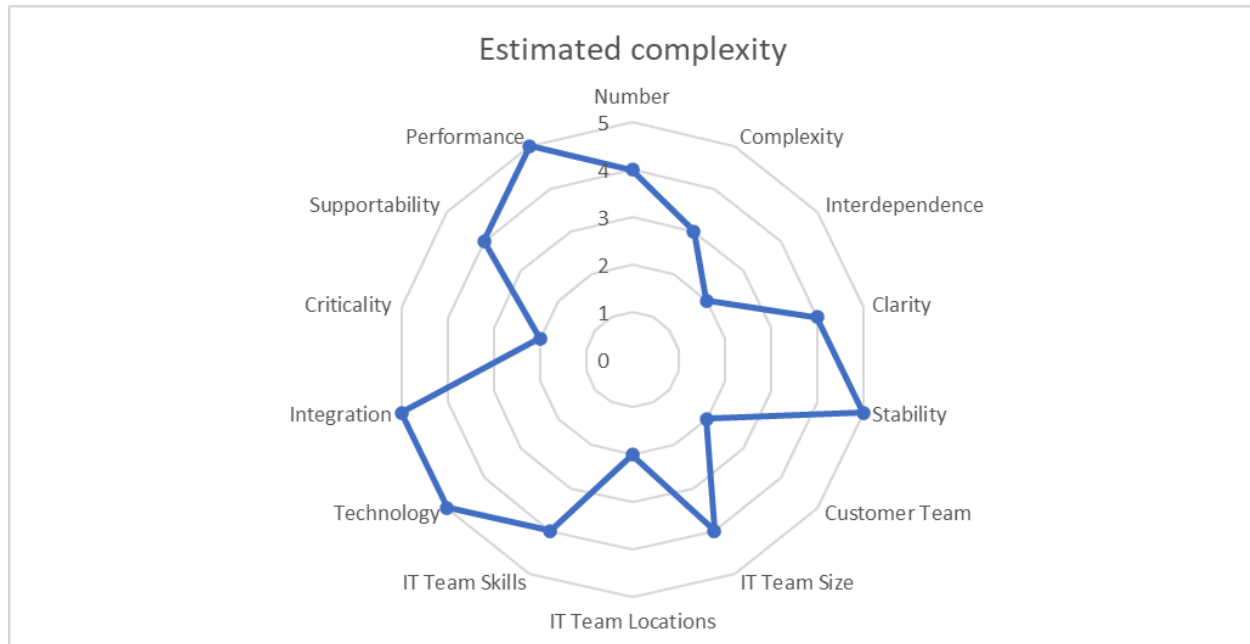
Minimal guarantee	Developed communication app that allows employees to communicate.
Trigger	A successful and working implementation of the communication app.
Main scenario	The developers will log in to the software using their credentials, choose the project group, and will be able to communicate and share within the project.
Alternative scenarios or extension	<ol style="list-style-type: none"> <li>1. If a developer can't access the app, he will have to reset his/her account credentials</li> <li>2. Let the Project Manager know so that he/she can be added manually.</li> </ol>
Acceptance criteria	<p>The minimum viable solution must have:</p> <ol style="list-style-type: none"> <li>1. Text, voice, tag, and file sharing</li> <li>2. Video Conferencing option</li> </ol> <p>The Should-haves:</p> <ol style="list-style-type: none"> <li>1. Automated meeting recording/ record the meeting into a written document for documentation purposes.</li> </ol> <p>Nice-to-Have: Avatar customization</p>
Test cases	<ol style="list-style-type: none"> <li>1. Test reception and send of file, text, and voice.</li> <li>2. Test video conference</li> <li>3. Test encryption end-to-end</li> <li>4. Test server for files, videos, auto-saving, retrieving</li> </ol>
Assumptions	Unforeseen issues, such as glitches within the apps, will be addressed immediately, server errors.
Out of scope	The app is not for the customers.
Non-functional requirements	<p>The app should be working 24/7</p> <p>End-to-end encryption</p> <p>Ensure the three principles of security CIA (Confidentiality Integrity Availability)</p> <p>Can handle multiple users</p>
Story details, open issues, and conversations	<p>We need to determine how to integrate all the other app features into the software.</p> <p>Need to determine how many days the communication data should be stored before destroyed.</p>

**Second User Story:** As a Senior Software Engineer, I want to develop a more structured recognition system that would boost morale and motivate us to excel even further.

**Home Grounds Model:**

Project Characteristics	Level of Complexity (1-5)	Description
<b>Functional Requirements Characteristics</b>		
Number	4	Includes both feedback function and evaluation
Complexity	3	Not too complex, but the development of an app gives it a 3
Interdependence	2	New software creation
Clarity	4	It's more of a new requirement well understood instead of a new start-up business.
Stability	5	It doesn't require changing rapidly.
<b>Non-functional requirements characteristics</b>		
Performance	5	Many users will be using this app
Supportability	4	A strategic approach for the application
Criticality	2	For internal use, no regulations
Integration	5	This app can be integrated into another one.
Technology	5	New tech to learn to make the app respond to the specific need.
<b>Team characteristics</b>		
IT team size	4	Many members of MedTechSoft will work on its implementation
IT team locations	2	All will be in a single location

IT team skills	4	The team will certainly have to adopt a new project approach since such apps are not the primary knowledge, they build more hospital software.
Customer team	2	Single product owner for the team itself.



According to the Home Ground Models and the radar chart, this project also will require a hybrid approach because of the complexity and the fact it is new knowledge that the new has to learn to create the app. It will require a Big Deployment Up Front. With the Big Deployment Up Front, you will know where to start and where you are heading in the process of the creation of the app.

#### Fully Dressed Use Case:

Use case section	Comments
Title	Evaluation & feedback system
Story	As a Senior Software Engineer, I want to develop a more structured recognition system that would boost morale and motivate us to excel even further.
Story owner	MedTechSoft Software Development Team

Story creator	Emily Patel, Product Manager
Revisions and approvals	Version 1, Initial Draft
Stakeholders and interests	Samantha Rodriguez, Project Manager Emily Patel, Product Manager Sarah Thompson, Project Manager James Williams, Solutions Manager Liam Johnson, Director of Software Development David Reynolds, CEO Dr. Lisa Adams, Chief Medical Officer (Client Feedback) Dr. Rebecca Turner, Chief Security Officer John Roberts, Chief Operations Officer Sofia Ramos, Chief Technology Officer
Scope, context, and background	With the evaluation/feedback app, the developers/employees will be able to evaluate their works and projects and give feedback to improve services in the future. This contrary to the previous system will help recognize the employee of their work.
Dependencies	Would have to be working on a project or be an employee for at least 6 months.
Actor roles	Take the evaluation and give feedback on either the project or a fellow employee
Preconditions	Must be an employee of MedTechSoft
Success guarantee	If the teams and project manager receive feedback and developers are recognized for their individual effort.
Minimal guarantee	The forms to fill out should be accessible to the employee with the app.
Trigger	The developers or employees would click on the link to the evaluation /feedback in the app either for a project or for an employee
Main scenario	The developers willing to take the evaluation or give feedback will have to be logged into the app, choose either submit an evaluation for a project or employee / submit feedback on a project or employee. Fill out the forms and hit submit.
Alternative scenarios or extension	If the developer can't access the app, contact the admin. If the developer can't access the form, contact the admin

Acceptance criteria	Simple and informative Google forms integrated into the app
Test cases	n/a
Assumptions	n/a
Out of Scope	The app does not include the customers and clients. The app does not include the HR team.
Non-functional requirements	The app must be available 24/7 including the form should be working. All employees/developers should have access to the Google form

## Feasibility Analysis

Aspect	Analysis
Economic Analysis	The project demonstrates a positive cost-benefit ratio, with anticipated improvements in team efficiency leading to increased incoming requests and revenue. Addressing autonomy issues is pivotal for maximizing overall project benefits.
Financial Overview	The company's historical success positions it well for financial support. A strong commitment to change is evident, indicating a substantial financial investment. The budget analysis suggests adequacy for communication and evaluation/feedback enhancements. Specific budget figures are required for precision.
Project Scheduling	Leveraging the team's extensive software development experience, the project can adhere to the stipulated schedule aligned with overarching objectives. Granular details, including the number of developers and a detailed timeline, are essential for precise scheduling.
Legal Compliance	The project, being internal software for exclusive team use, is expected to have minimal, if any, legal issues.
Operational Readiness	The project is not operational, pending development.
Technical Infrastructure	The existing team possesses the technical capabilities needed for a seamless transition to the proposed infrastructure. Communication tools and evaluation/feedback mechanisms align with the new operational framework. Specific budget details are imperative for precision.
Political Landscape	Additional information about project owners is necessary for a comprehensive assessment of political viability.

Environmental/Ethical Considerations	Aligned with organizational core values, the project aims to improve operations while adhering to ethical and environmental standards. The project design explicitly addresses specified ethical requirements.
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