Milestone 1

CNIT 280

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Group 22

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Introduction:

We are Rescue911, an emergency response company dedicated to enhancing emergency medical services by improving coordination between response teams and callers. Our goal is to implement the Emergency Response Information System (ERIS), a system that will optimize the dispatch and management of emergency response units, ensuring prompt and accurate responses to incidents across our service area. By enhancing our internal workflows through ERIS, we aim to reduce the time spent coordinating teams, improve the allocation of resources, and increase customer satisfaction. This will ultimately lead to faster response times, more efficient handling of emergencies, and better documentation with regards to incidents.

Project Vision Statement:

Our vision at Rescue911 is to improve our Emergency Response Information System (ERIS) and build an efficient platform that develops how Rescue911 can handle emergency medical services. We realize that as our company expands, we will receive more and more calls everyday; our system needs to account for that. Our ERIS will streamline the process of dispatching and managing emergency response teams by ensuring the appropriate teams respond to every incident, provide emergency response teams with the correct and current information, and optimize our allocation of resources. The system will improve our internal operations and reduce any delays in our care. Ultimately, ERIS will elevate our service and lead to faster and more accurate responses for the community.

Context Diagram:
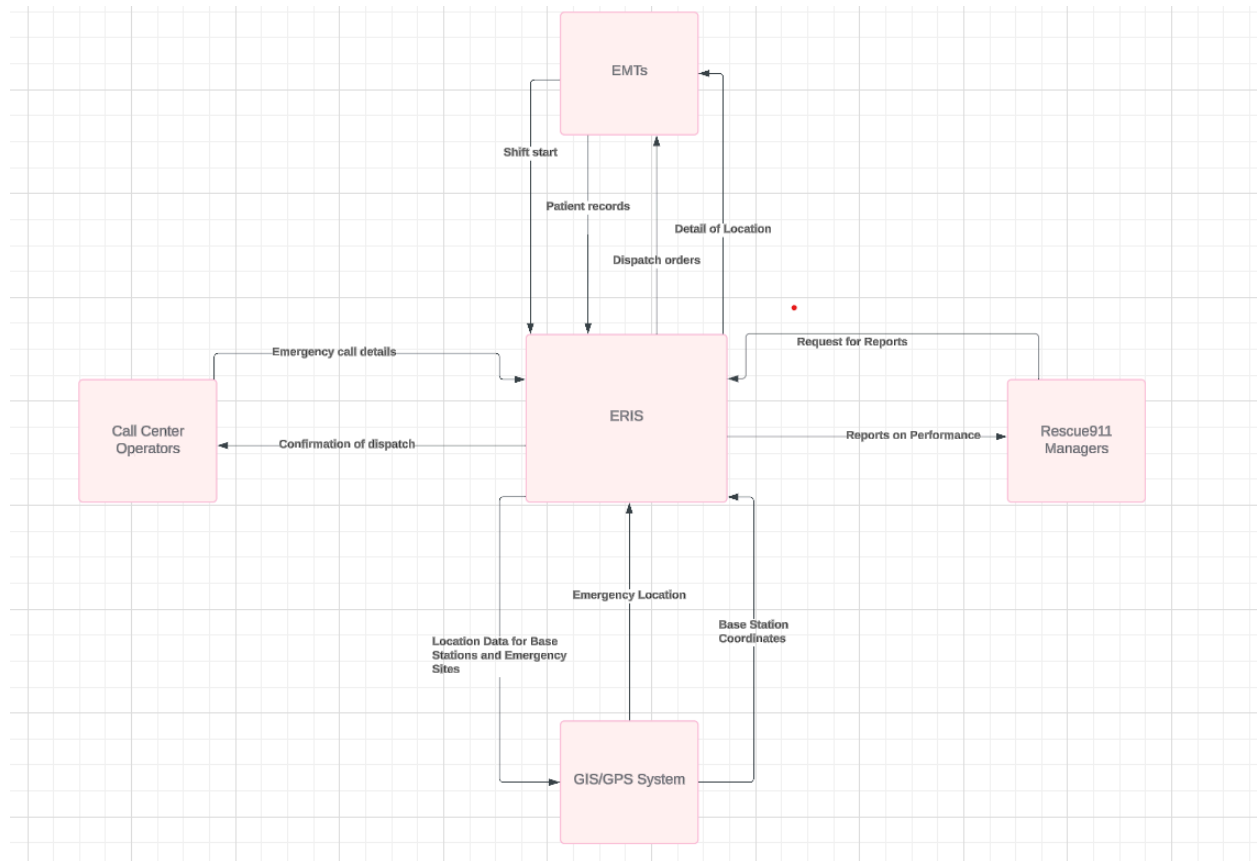
System Request:

Project Sponsor:
Ima Cranky, Chief Executive Officer (CEO) of Rescue911

Business Need:

- *User Experience:*
    - Individuals that require assistance should receive better help in emergency cases.
    - Customers should have reduced wait times for Emergency Medical Technicians (EMTs).
- *Operators Experience:*
    - Operators should be able to have better ways to assign response teams and EMTs.
    - Operators should have more information about the EMTs and response teams.

- ● Operators should have better ways to document the cases/situations.
- *EMTs Experience:*
  - ● EMTs should have better ways to log their shifts.
  - ● EMTs should have more efficient ways to provide their assistance .

Business Requirements:

- *User Experience:*
  - ● Users should receive assistance quicker and receive assistance from the best suiting EMT as per their situation.
  - ● Users should not have to wait for EMTs for longer than 30 minutes, depending on the severity of their situation.
    - ○ High-severity cases should be responded to within 10 minutes.
  - ● Users should receive improved pre-hospital treatment.
- *Operator Experience:*
  - ● The operators should be able to reduce response time.
  - ● The operators should be able to keep track of the emergency case.
  - ● The operators should be able to document the emergency case.
  - ● The operators should be able to access and edit the information of each EMT such as their base location, grades, and dispatch the appropriate team to the emergency scene.
  - ● The operators should be able to evaluate emergency cases and prioritize more critical cases.
  - ● The operators should be able to move cases that they couldn't handle to the supervisors.
  - ● The operators should be able to flag the cases that have been assisted, still need help, ongoing, or ended.
- *EMT Experience:*
  - ● The EMT team members should be able to document the emergency case that they are in charge of.
  - ● The EMT team members should be able to log their shifts.
- *Accountant Team Experience:*
  - ● The accountant team should be able to access the EMT's time log.
- *Manager Experience:*
  - ● The manager should be able to generate and access reports for response times and team performance.

Business Value:

Tangibles:

- Reduced/faster response times
  - By providing real-time data and more efficient dispatching, this will reduce the time it takes to respond.
- Better use of resources
  - Ensuring that the necessary teams are dispatched to emergencies, this will optimize the use of resources.
- Improvement in reporting
  - The system will provide more accurate information resulting in more in-depth reports.
- Increased revenue
  - Increased data organization of the accounting department will improve business scalability.

Intangibles:

- Increased customer satisfaction
  - Faster and more accurate responses will lead to higher satisfaction among subscribers.
- Increased employee satisfaction
  - EMTs will be able to manage their shifts and log patient care better allowing EMTs to focus on patient care.
  - Increases employee engagement throughout the company, leading to successful results.
- Improved organization
  - All patient and employee information will be in one system.
    - This increases our functionality, and makes it more convenient for operators and administration for both reacting to 911 calls, and creating reports.
- Increased community trust
  - The community will feel more confident in the Rescue911's services because of reduced response times and improved care.
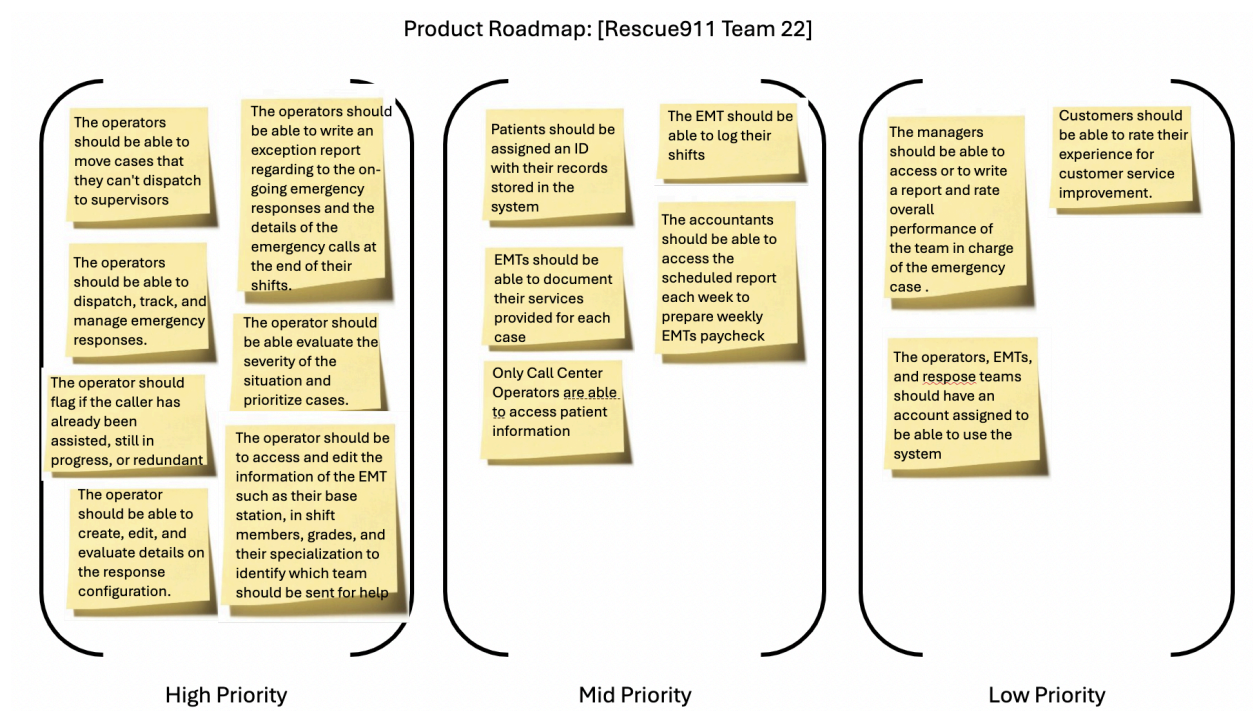
Special Constraints

The system must be able to scale if there is a surge in emergency calls.

The system must be able to integrate with any existing systems.

The system must be able to have usability across platforms.

The system must comply with regulations such as HIPAA.

Product Roadmap:

Product Roadmap: [Rescue911 Team 22]

High Priority	Mid Priority	Low Priority
The operators should be able to move cases that they can't dispatch to supervisors	Patients should be assigned an ID with their records stored in the system	The EMT should be able to log their shifts
The operators should be able to write an exception report regarding to the on-going emergency responses and the details of the emergency calls at the end of their shifts.	EMTs should be able to document their services provided for each case	The accountants should be able to access the scheduled report each week to prepare weekly EMTs paycheck
The operators should be able to dispatch, track, and manage emergency responses.	Only Call Center Operators are able to access patient information	The managers should be able to access or to write a report and rate overall performance of the team in charge of the emergency case .
The operator should flag if the caller has already been assisted, still in progress, or redundant		Customers should be able to rate their experience for customer service improvement.
The operator should be able evaluate the severity of the situation and prioritize cases.		The operators, EMTs, and respose teams should have an account assigned to be able to use the system
The operator should be able to create, edit, and evaluate details on the response configuration.		
The operator should be to access and edit the information of the EMT such as their base station, in shift members, grades, and their specialization to identify which team should be sent for help		

Product backlog:

Functional Requirements :

Order	Requirement ID	User Story ID	Item	Type	Status	Estimate
Req. ID-1. Data Entry for Emergency Dispatches						
1	1	101	As a dispatcher, I	Functional	Not	2

			want to enter the information of the emergency case quickly so that I can assign the assisting team appropriately and accurately.	Requirement	Started	
2	1	102	As a dispatcher, I want to ensure that all necessary fields are filled before dispatching, so that incomplete information doesn't affect the overall assistance performance.	Functional Requirement	Not Started	4
Req. ID-2. Automated Assignment of Emergency Response Teams						
3	2	201	As a dispatcher, I want the system to assign the call to the available operators to reduce the caller's wait time.	Functional Requirement	Not Started	4
4	2	202	As a dispatcher, I want the ability to manually assign a team, so that I can assign the EMT based on the critical of the situation.	Functional Requirement	Not Started	2
Req. ID-3 Real-Time Tracking of EMTs and Response Teams						
5	3	301	As a supervisor, I want to know the availability of all response teams so that I can contact another emergency if no team is available.	Functional Requirement	Not Started	5

6	3	302	As a supervisor, I want to monitor all dispatched teams in real time, so I can manage and coordinate resources efficiently.	Functional Requirement	Not Started	6

Req. ID-4 Integration with Existing GPS and AVL Systems

7	4	401	As a dispatcher, I want to access the data of vehicle location so I can assign the closest available team.	Functional Requirement	Not Started	6
8	4	402	As an IT administrator, I want to ensure seamless integration with GPS and Automatic Vehicle Location(AVL) systems so that all data is consistently synchronized automatically.	Functional Requirement	Not Started	7

Req. ID-5 Incident Prioritization Based on Emergency Type

9	5	501	As a dispatcher, I want to access the information from the EMT so that I can assign the appropriate team to the emergency scene.	Functional Requirement	Not Started	5
10	5	502	As an operator, I want to manually adjust the priority level of an incident if needed, so that exceptional cases can be addressed	Functional Requirement	Not Started	3

			accordingly			
Req. ID-6 Incident Escalation and Follow-up						
11	6	601	As a dispatcher, I want the system to automatically assign incidents as priority if a team doesn't respond within a set time so that it is not delayed.	Functional Requirement	Not Started	2
12	6	602	As a supervisor, I want to receive alerts if incidents are not handled within the set time, so I can intervene and ensure an immediate response.	Functional Requirement	Not Started	3
Req. ID-7 Reporting and Logging of All Incidents						
13	7	701	As an administrator I want to create detailed reports and all incidents handled so that I can review data of response times and operator performance.	Functional Requirement	Not Started	1
14	7	702	As a manager, I want the system to categorize the reports by date, severity, and patients for easier follow	Functional Requirement	Not Started	1
Req. ID-8 User Access Control and Role Management						
15	8	801	As an IT administrator, I want to assign access levels to users based	Functional Requirement	Not Started	3

			on their roles, so that certain confidential and sensitive information is only available to authorized employees.			
16	8	802	As a system administrator, I want to manage user roles and permissions, so that the system remains secure and within company policies.	Functional Requirement	Not Started	3
Req. ID-9 Search and Filter of Historical Incidents						
17	9	901	As a dispatcher, I want past emergency incidents to be able to be searched by date and location so that relevant information can be accessed during a new call	Functional Requirement	Not Started	4
18	9	902	As a manager, I want to filter past incidents based on severity, response times, and outcomes, so that I can analyze performance data		Not Started	4
Req. ID-10 Audit Trails for User Actions						
19	10	1001	As a system administrator, I want the system to log the actions of users, so that there is some sort of	Functional Requirement	Not Started	6

			accountability for each user			
20	10	1002	As a manager, I want to be able to review logs of users, so that I am able to investigate whether or not proper procedures were followed.		Not Started	5

Non-Functional Requirements:

- The system should be fast and reliable.
- The system should allow for all important data to be protected.
- The system should allow for easy User Experience and Interface.
- The system should have efficient scalability.
- The system should comply with legal requirements.

Team Retrospective:

Our team comprises four students, three females and one male, who are pursuing both CIT and Data Analytics majors. We all have culturally diverse backgrounds, representing Vietnam, Southern India, and North American cultures. These identities influence our interactions and teamwork styles, since we bring distinct perspectives shaped by our own past experiences. For instance, our natural roles in a team of being a leader versus a follower or bringing in certain cultural ideas. These experiences have exposed us to numerous teamwork styles that we can bring to our team today.

We hope to approach our case project with the "divide and conquer" strategy where our tasks are split evenly amongst our team members; this will be led by our scrum master. Our collective experiences have taught us an understanding of group dynamics. One of us has had experience in strong communication and project management as part of an internship, and the other has extensive experience in User Experience Design (UX). As a team, we intend to utilize our shared proficiency in data analysis and systems design during our process.

Our journeys to this point in our careers have been shaped by a collective interest in technology and problem-solving, as well as a way to explore outside our comfort zones. We are eager to grow in this field, and this class serves as a step towards our goals in the technology

industry. Moving forward, we are eager to explore different methods of teamwork. We hope to foster a team of open communication, respect, and friendship. As we look for future teamwork roles, we plan to explore cross-training and ensure that we are flexible with our roles. Our team is collaborative, purpose-driven, and are committed to fostering a team that reflects that as we work together.

Team orientation	• Attitudes that team members have toward one another and the team task
Team leadership	• Providing direction, structure and support for other team members. Not necessarily a single individual
Communication	• Exchange of information in the prescribed manner and by using the proper terminology
Monitoring	• Observing the activities and performance of the entire team and of individual team members
Feedback	• Giving, seeking, and receiving of information among team members
Backup behavior	• Assisting the performance of other team members.
Coordination	• Team members executing their activities in a timely and integrated manner.

Planning:

During our planning stage, we assigned roles and responsibilities to all team members. As outlined in our Team Contract, Srinija is the Scrum Master, Vy and Anya are part of the Development Team, and Cameron is the Product Owner. We distributed these roles based on each individual's strengths and interests. For instance, Srinija was chosen as Scrum Master because she is a great communicator and stays organized, making it easier to set internal deadlines and keep us on track. We agreed that all tasks would be completed two days before our official deadline, allowing us time to review each other's work and make any necessary changes.

We assigned our activity responsibilities based on each team member's expertise. Vy and Anya are responsible for developing the core components of our project since they are skilled in development. Cameron is responsible for the product vision. Srinja is responsible for the website design and ensuring all deadlines are met. Our communication was handled through Microsoft Teams; we had regular check-ins and weekly in-person meetings to make progress on our assignments. We also shared a calendar to manage our internal deadlines and review each other's work. This included regular feedback and comments to ensure that everyone had the chance to contribute.

Monitoring:

  While completing the milestone, we maintained effective communication with regular check-ins ensuring everyone was on the same page. We successfully delegated tasks, which helped speed up the process. Team members were proactive in sharing updates and clarifying when something was confusing. Prior to starting the milestone we should have maintained better communication, which would have allowed us to be on the same page earlier in the process. This caused minor setbacks as we had to clarify roles and reassign certain tasks. To avoid challenges as a team, we clearly outlined tasks and responsibilities using a shared document, ensuring that everyone understood their part in the project. A potential concern is maintaining a strong level of communication and coordination as the project becomes more complex. As we move into later stages there may be a need for a more detailed tracking of tasks and progress, so each team member should remain equally as engaged as the workload rises.

Evaluation:

  Overall, the team collaborated well and communicated effectively during the project. All the assigned work was completed by the team's deadline for review. None of the members were hesitant to seek help, and the team had constructive feedback on each member's work. Meetings outside of class time were also conducted to deliver better project quality. The team should have started the project earlier as each member has a different working style so it was difficult to work at first.

Plan of Action:

  For the next milestone, a meeting could be had to briefly assign roles at the start of each milestone to make sure that everyone understands their roles and responsibilities. During this meeting we could assign each team member their role based on their strengths. We could also schedule frequent check-ins to make sure everyone is on track with their responsibilities. These meetings and check-ins should be in person rather than over Microsoft Teams because we found that we are able to communicate better in this way. Communication between team members could have been more frequent in order to address any problems or issues. Time could be assigned during milestones to have peer-reviews of each other's work so that feedback can be given. For the last milestone we started working on it later than we should have so for the next milestone we will start the work for it earlier.