Software Requirements Specification

for

AMBULANCE TRACKER(JANRAKSHAK)

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

At the Time of Emergency, To Bring the Fast Service of Ambulances and Providing the green corridor, It will help in to reduce the Traffic so that the Ambulance reach their destination at fast pace and it will save many lives.

1.2 Document Conventions

The Document Was created based on the IEEE Template for System Requirement Specification Document.

1.3 Intended Audience and Reading Suggestions

- Project guides
- Externals
- Mentors
- Faculties
- Examiners

1.4 Product Scope

Our Application has a wide scope in the upcoming world, As people always need Ambulances therefore people will always use our app for Booking and Tracking an ambulance, This WEBAPP can find nearby ambulances as well as can be used by other various functions such as learning basic First-Aid, adding with their Abha-Id for future reference and will provide many services in society.

1.5 References

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3.Brito, J. & Castillo, A. (2013). Bitcoin: a Primer for Policymakers. Mercatus Center, GeorgeMason University.
4.Bearman, J. (2015, May). The Untold Story of Silk Road, Pt. 1. Retrieved fromWired.com Website: https://www.wired.com/2015/04/silk-road-1/
5.Bitcoin: A New Global Economy. (2015, August 4). Retrieved July 2016, from BitPay, Inc.Website: https://blog.bitpay.com/bitcoin-a-new-global-economy/
6.Bovaird, C. (2016, June 24). Bitcoin Rollercoaster Rides Brexit As Ether Price Holds AmidDAO Debacle. Retrieved June 2016, from CoinDesk Website: http://www.coindesk.com/bitcoin-brexit-ether-price-rollercoaster/

2. Overall Description

2.1 Product Perspective

- PRODUCT OVERVIEW- This section provides an overview of the ambulance tracker application , its purpose and its target audience.
- PRODUCT FUNCTIONS- This section describes the functions of the application, including user registration , ambulance registration, real time tracking, emergency response, navigation, communication, and feedback system.

2.2 Product Functions

- USER REGISTRATION – The Application should allow users to create accounts and register with the service.
- AMBULANCE REGISTRATION- The Application should allow ambulance services to register and provide information about their fleet.
- REAL TIME TRACKING – The Application should provide real time tracking of ambulances.
- EMERGENCY RESPONSE- The Application should provide emergency response capabilities that allow users to quickly summon an ambulance to their location.

2.3 User Classes and Characteristics

- PATIENTS AND GENERAL PUBLIC – This user class includes people who may require emergency medical assistance such as patients, their family members, or bystanders.
  Characteristics- They may not be familiar with the application and its features, may be in a state of distress, and may not have technical knowledge or experience with similar applications.
- AMBULANCE DRIVERS- This user class includes drivers who operate ambulances and respond to emergency calls.
  Characteristics- They require access to real time information about the location of patients and hospitals, as well as navigation tools to help them reach their destination as quickly as possible.

2.4 Operating Environment

- Hardware Requirements
- Software Requirements
- Network Requirements
- Data Storage Requirements
- Third Party APIs
- Security Requirements
- Accessibilty Requirements
- Regulatory Requirements

2.5 Design and Implementation Constraints

- Budget Constraints
- Time Constraints
- Technical Constraints
- Regulatory Constraints
- Integration Constraints
- Usability Constraints
- Performance Constraints

2.6 User Documentation

- Overview of the Application
- Getting Started
- User interface
- Features
- Data Entry
- Data Output
- Troubleshooting
- Contact Information

2.7 Assumptions and Dependencies

- GPS TECHNOLOGY- The Application relies on gps technology to track ambulance track ambulances locations and provide real-time updates. The accuracy and availability of gps signals can be affected by environmental factors such as weather.
- MOBILE DEVICE COMPATIBILTY- The Application is designed to be used smartphones and tablets. The application may not be compatible with all mobile devices or operating systems.

3. External Interface Requirements

3.1 User Interfaces

- Map View
- Ambulance Icons
- Filter and Search
- Notification
- User Profile
- Emergency contact

3.2 Software Interfaces

- User Interface
- Emergency Medical Interface
- GPS Interface
- Medical Interface

- Messaging Interface
- Electronic Health Record Interface

3.3 Communications Interfaces

- Real Time data feed
- GPS Tracking
- Push Notifications
- User Input
- Emergency Contact

4. System Features

4.1 System Feature 1

- Real time ambulance tracking: The application should provide real-time tracking of nearby ambulances, including their location, status, and estimated time of arrival (ETA).

- User Location tracking: The application should be able to track the user's location in real-time, using GPS technology. This information should be used to provide the user with information about nearby ambulances.

- Ambulance status updates: The application should receive real times updates about the status of nearby ambulances, including whether they are available, en route, on scene, or transporting a patient.

- Ambulance Filtering and Search: The application should allow the user to filter and search for nearby ambulances based on various criteria, such as location, status, and vehicle type.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- Response time: The application should respond to user requests within a specified time frame, such as 2 seconds, to ensure a fast and seamless user experience.

- Scalability: The application should be designed to handle a large volume of requests and users, without experiencing performance degradation or downtime. The system should be scalable to meet increasing demand as the user base grows.

- Availability: The application should be available 24/7, with a minimum uptime requirement of 99%, to ensure that users can access the service at all times.

- Reliability: The application should be reliable, with a low error rate and minimal downtime, to ensure that users can access the service when needed.

5.2 Safety Requirements

The safety requirements for an ambulance tracker application in a software requirements specification (SRS) should consider the following factors:

- Reliability: The application should be reliable and accurate in tracking the location of the ambulance. The system should also have a backup plan in case of technical failures.

- Security: The application should have robust security features to prevent unauthorized access to the system and protect patient data.

- Privacy: The application should ensure the privacy of patient data and comply with data protection regulations.

- User interface: The user interface of the application should be user-friendly and easy to use for ambulance staff.

5.3 Security Requirements

The security requirements for an ambulance tracker application in a software requirements specification (SRS) should consider the following factors:

- Access control: The application should have robust access control measures to ensure that only authorized personnel can access patient data and track the location of the ambulance.

- Data encryption: All patient data should be encrypted during transmission and storage to prevent unauthorized access.

- Authentication and authorization: The application should use secure authentication and authorization mechanisms to verify the identity of users and ensure that they have the necessary permissions to access and use the application.

- Secure communication: The application should use secure communication protocols to protect the confidentiality and integrity of data transmitted between the ambulance and the control center.

5.4 Software Quality Attributes

When defining the software requirements for an ambulance tracker application, it is important to consider the quality attributes that the application should possess. Here are some key software quality attributes that should be included in the System Requirements Specification (SRS) for an ambulance tracker application:

- Availability: The application must be available 24/7 to ensure that emergency services are always accessible.
- Reliability: The application must be reliable in terms of tracking ambulance locations and providing real-time information to emergency services.
- Performance: The application must have the ability to handle a high volume of requests and provide real-time updates on ambulance locations.
- Usability: The application must be user-friendly and easy to use for both emergency responders and dispatchers.

5.5 Business Rules

An ambulance tracker application can be designed to automate and optimize the dispatch process for emergency services. To ensure that the application meets the business requirements, it is important to define the business rules that should be included in the System Requirements Specification (SRS). Here are some key business rules that should be considered:

- Dispatch Priority: The application should prioritize ambulance dispatch based on the severity of the emergency, such as life-threatening situations, serious injuries, and medical emergencies.

- Geographic Coverage: The application should ensure that ambulance dispatch is optimized based on geographic coverage, ensuring that the nearest available ambulance is dispatched to the emergency location.

- Dispatch Time: The application should ensure that the dispatch time is minimized, with the goal of dispatching the ambulance as quickly as possible to the emergency locations.

- Ambulance Capacity: The application should track the capacity of each ambulance, including the number of available beds and medical supplies, to ensure that the appropriate ambulance is dispatched based on the needs of the patient.

6. Other Requirements

Appendix A: Glossary

An ambulance tracker application may have a variety of technical terms and concepts that are specific to the application. It is important to create a glossary to define these terms and ensure that all stakeholders have a clear understanding of the application. Here are some key terms and definitions that may be included in the glossary for an ambulance tracker application:

- Ambulance: A vehicle used for transporting patients to and from medical facilities.
- Dispatch: The process of sending an ambulance to an emergency location.
- Emergency Response Time: The time it takes for an ambulance to reach the emergency location from the time the emergency is reported.
- Geographic Information System (GIS): A system for capturing, storing, analyzing, and managing geographic data and information.
- Location-Based Services (LBS): A service that provides information based on the location of a user or device.
- Patient Information: Information about the patient, including name, age, gender, medical history, and current medical condition.
- Real-Time Tracking: The ability to track the location of an ambulance in real-time using GPS technology.
- Route Optimization: The process of optimizing the route for an ambulance based on traffic, road conditions, and other factors to minimize travel time.
- User Interface (UI): The graphical interface used by users to interact with the application.
- Vehicle Maintenance: The process of maintaining and repairing ambulance vehicles to ensure they are in good working condition.

Appendix B: Analysis Models

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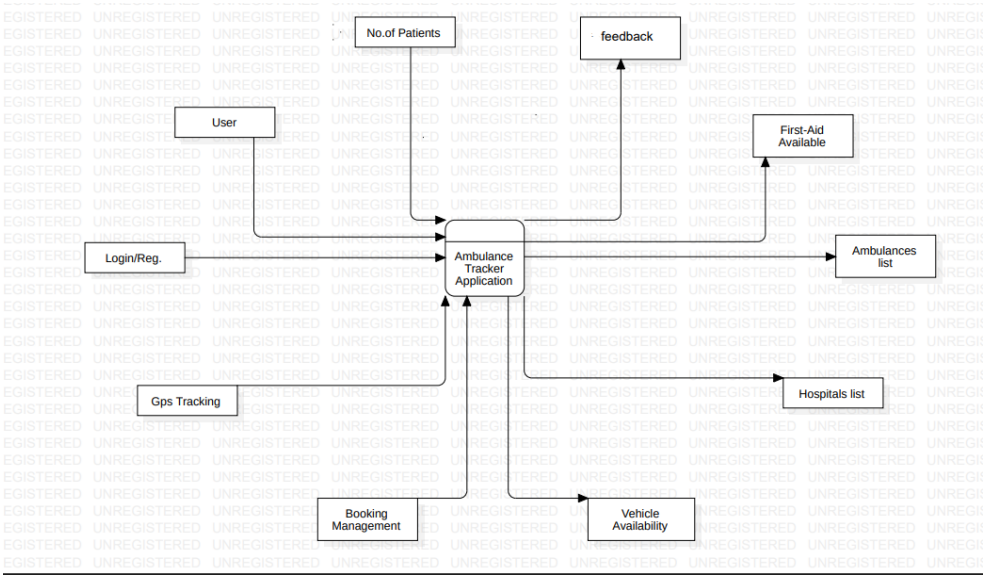

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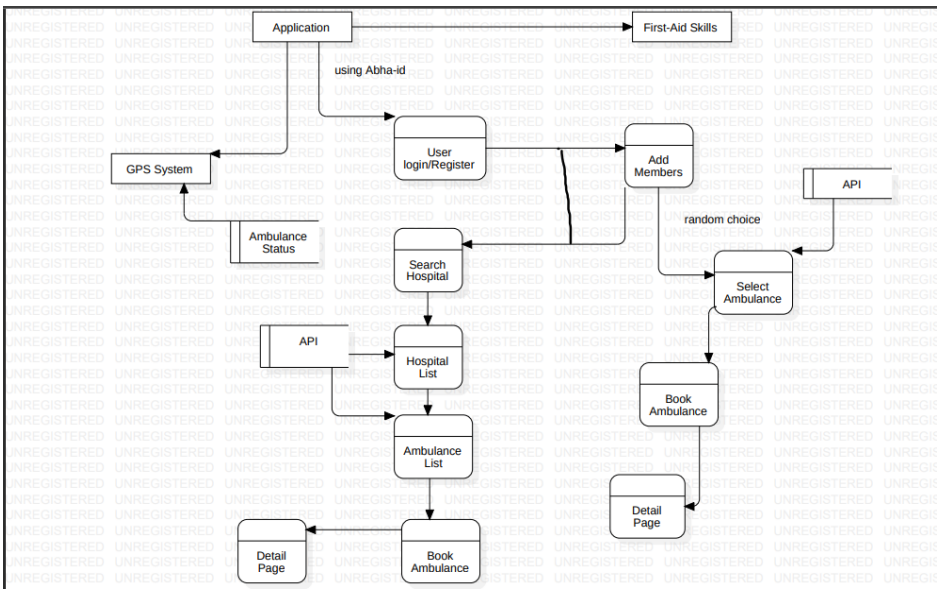

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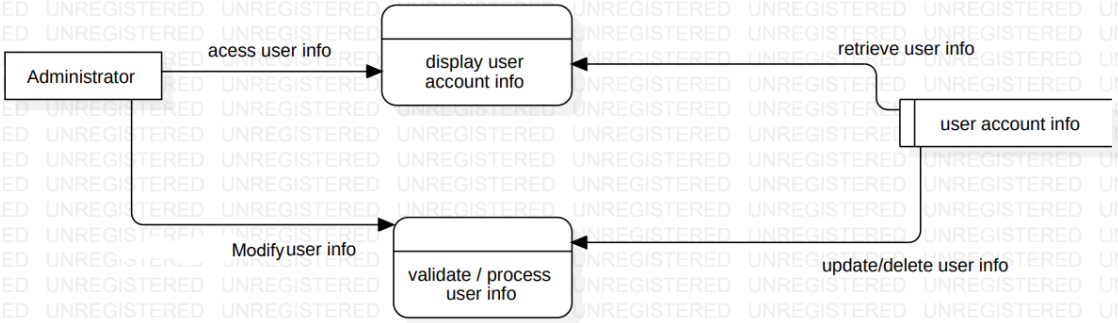

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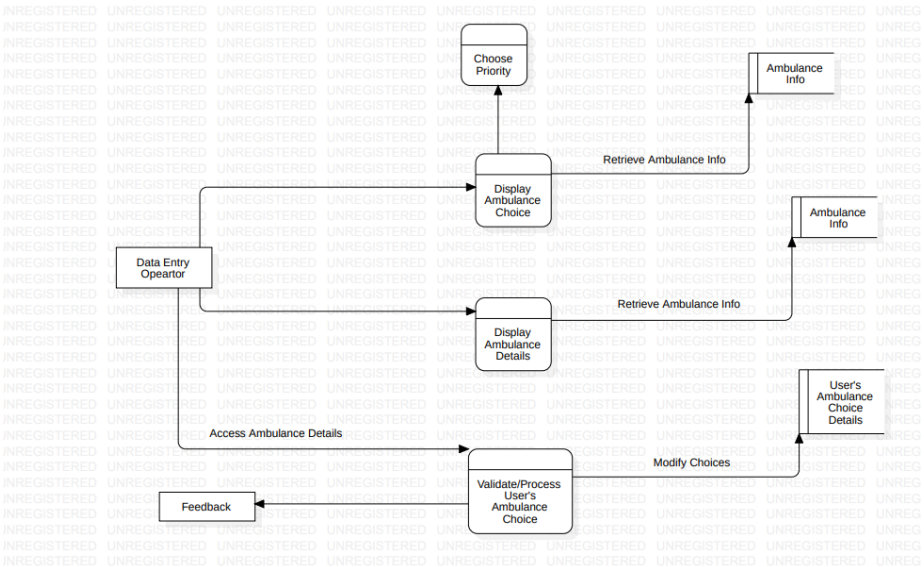

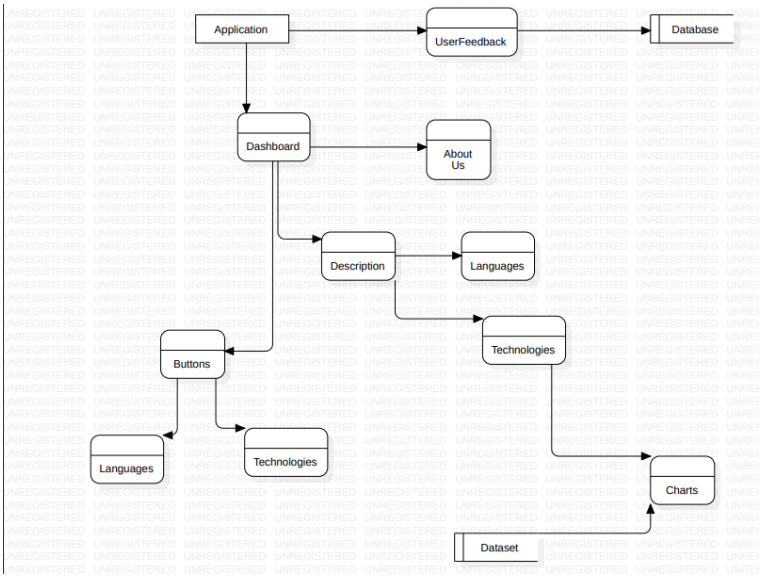
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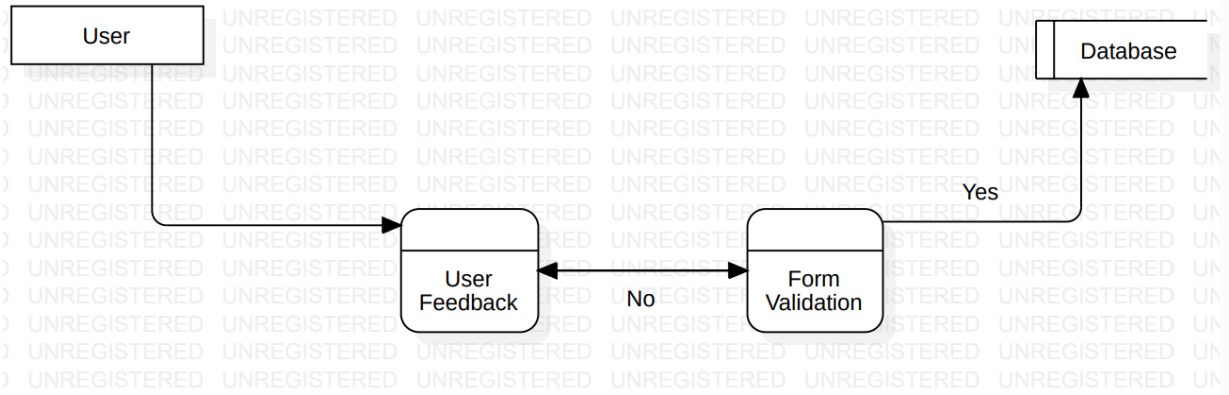
UserFeedback
Database
Dashboard
About Us
Description
Languages
Technologies
Buttons
Languages
Technologies
Charts
Dataset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User Feedback
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Form Validation

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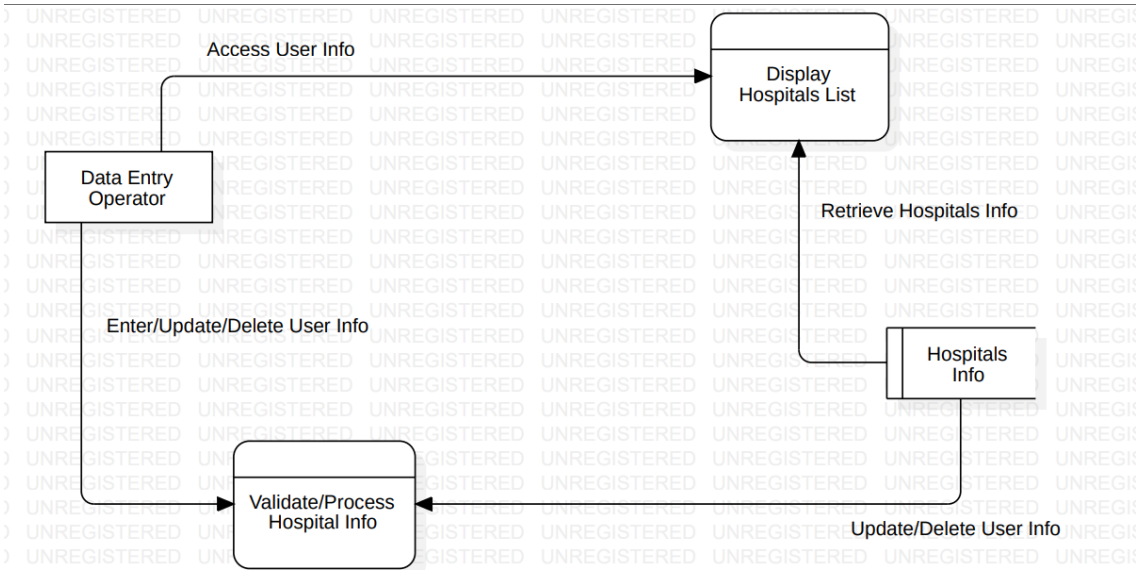
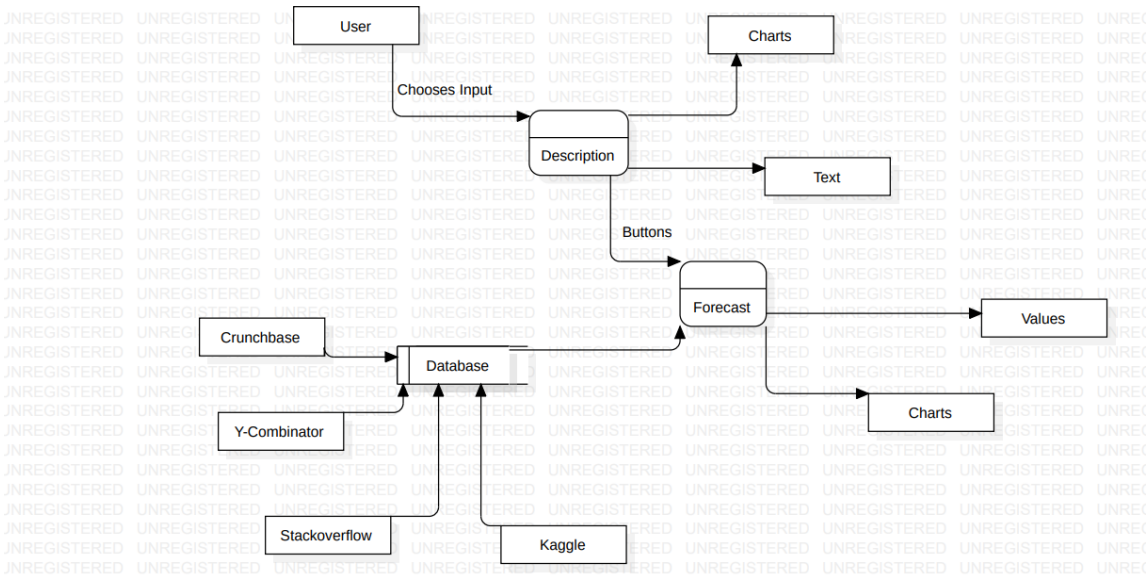

Access User Info
Display Hospitals List
Data Entry Operator
Retrieve Hospitals Info
Enter/Update/Delete User Info
Hospitals Info
Validate/Process Hospital Info
Update/Delete User Info

- **DFD**
  Level-2.3



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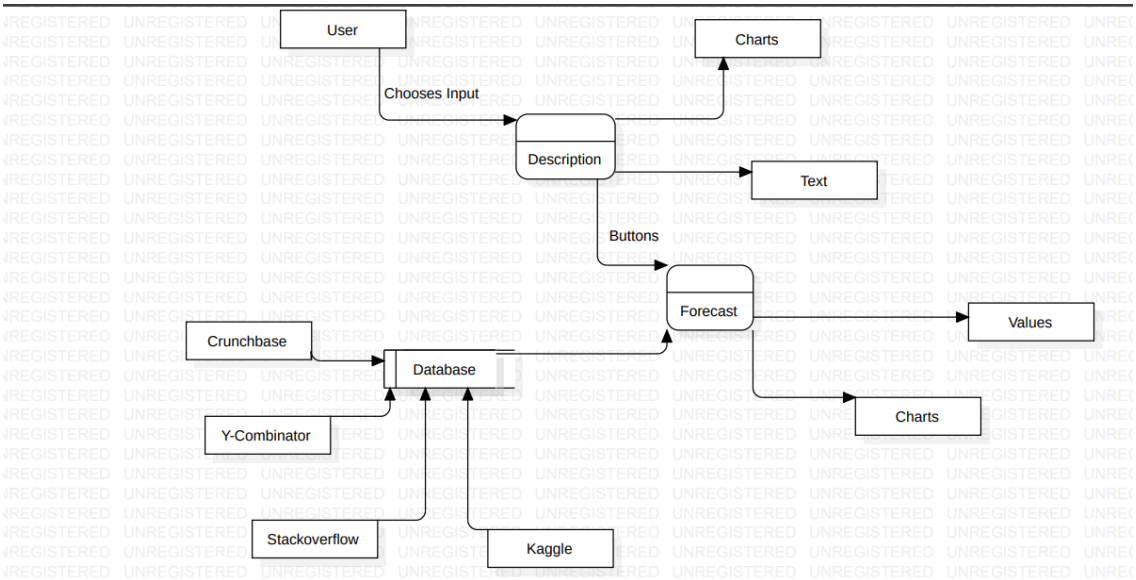
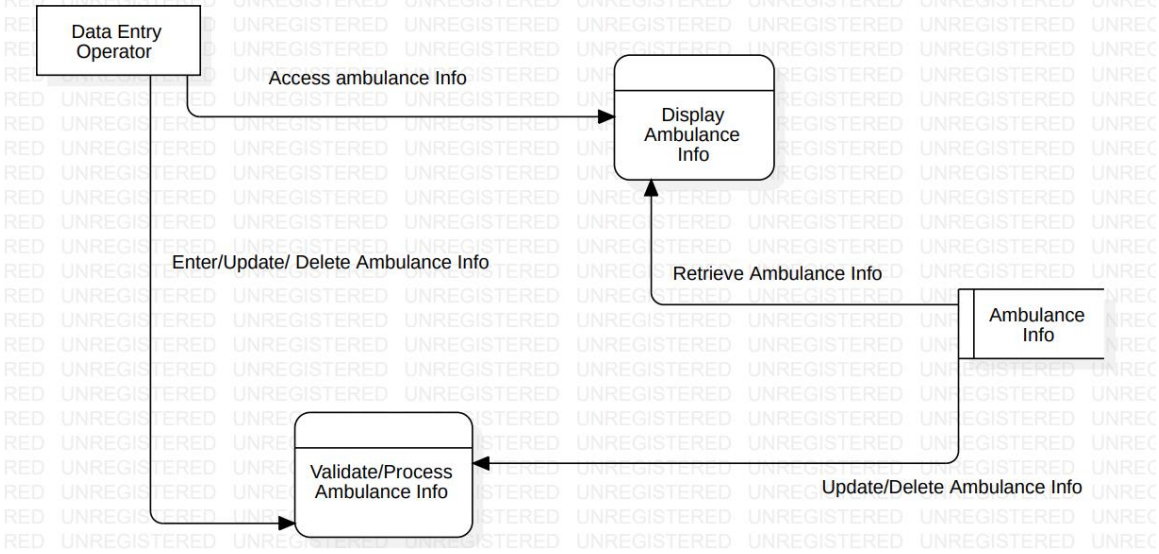
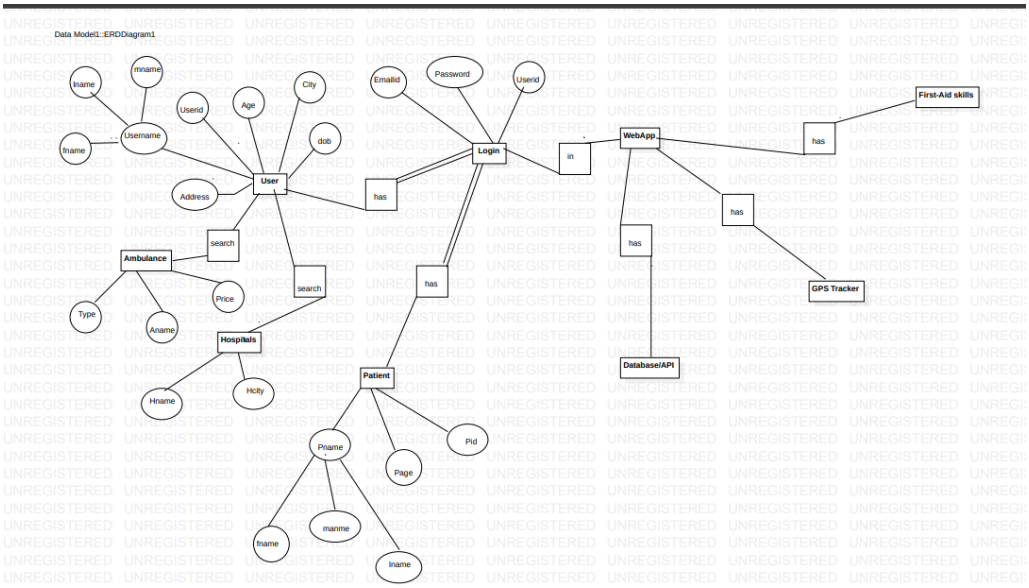


ER-Diagram


Data Entry Operator
Access ambulance Info
Display Ambulance Info
Enter/Update/ Delete Ambulance Info
Retrieve Ambulance Info
Ambulance Info
Validate/Process Ambulance Info
Update/Delete Ambulance Info


Data Model1::ERDiagram1
Fname
Mname
Lname
Username
Userid
Age
City
dob
Address
User
Emailid
Password
Userid
Login
has
in
WebApp
First-Aid skills
has
has
has
GPS Tracker
Database/API
search
Ambulance
Price
Type
Aname
search
Hospitals
Hname
Hcity
has
Patient
Pname
Pid
Page
manme
fname
lname

Appendix C: To Be Determined List

<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>