elinext

Project:	**Inventory Manager**
Document:	Vision and Scope

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Business Requirements

Business Background

'Elinext' is a full-service software development company that continually grows and evolves. As part of its business operations, Elinext provides its employees with a wide variety of hardware and software. To effectively manage these assets, the company requires an efficient tool.

Business Problems and Opportunities

'Elinext' currently operates a software system for managing equipment, but it encounters various issues, some of them are connected with outdated solutions:
- low overall performance;
- low speed,
- difficulties with access to the database.

Furthermore, the current software also integrates with a separate accounts application, which requires ongoing administration and support, leading to additional expenditures.

Business Objectives and Success Metrics

Considering the current business state and future prospects, 'Elinext' has outlined the following objectives:

BO-1: Acquire a proprietary, secure, and up-to-date tool for hardware and software management with high performance.
BO-2: Streamline workflows by integrating with the company's 'Identity Server,' enabling the new application to utilize a unified base of the company's accounts and corresponding roles.
BO-3: Enhance business workflows and management procedures.
BO-4: Implement a modern user interface consistent with the company's design system.

SM-1: Ensure all employees can access the new application through the company's 'Single Sign-On.'
SM-2: Establish 'Inventory Manager' as the primary source of information for the company's hardware and software assets.
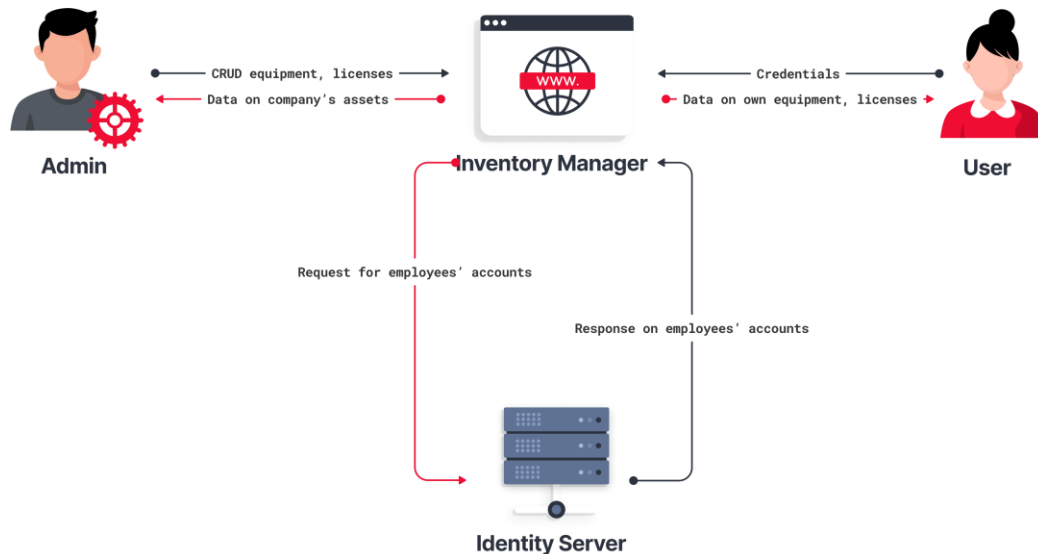
Vision Statement

'Elinext' plans to implement a new proprietary 'Inventory Manager' as a web application to oversee the comprehensive management of the company's hardware and software. This application will empower employees to directly exchange equipment items with each other when necessary.

Stakeholder Profiles

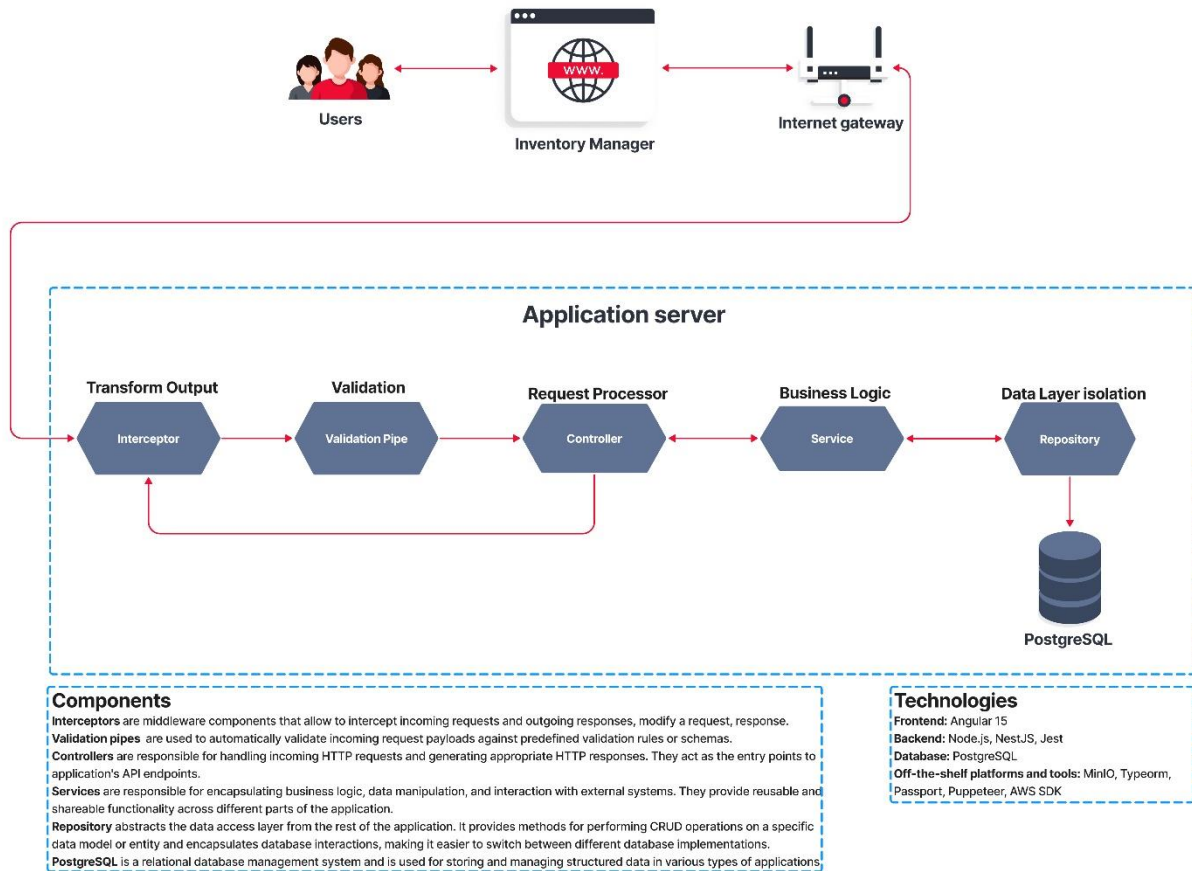| #	Stakeholder	Role	Main Interests	Expectations	Influence	Constraints
1	Liza Miller	Project Owner	Innovations and cutting-edge features	Increase of business performance, streamlining processes	High	Limited budget for development, strict project deadlines
2	John Wilson	Product Owner and main decision maker	Effective software solutions	Smooth transition to a new application, effective tool for asset management	High	Compliance with regulatory marketing guidelines

Project Context

Context Diagram

'Identity Server' is the core part of 'Elinext' identity and access control infrastructure. It is the central database that stores all the company's user accounts and their credentials.

Architecture Diagram

Components
Interceptors are middleware components that allow to intercept incoming requests and outgoing responses, modify a request, response.
Validation pipes are used to automatically validate incoming request payloads against predefined validation rules or schemas.
Controllers are responsible for handling incoming HTTP requests and generating appropriate HTTP responses. They act as the entry points to application's API endpoints.
Services are responsible for encapsulating business logic, data manipulation, and interaction with external systems. They provide reusable and shareable functionality across different parts of the application.
Repository abstracts the data access layer from the rest of the application. It provides methods for performing CRUD operations on a specific data model or entity and encapsulates database interactions, making it easier to switch between different database implementations.
PostgreSQL is a relational database management system and is used for storing and managing structured data in various types of applications.

Technologies
Frontend: Angular 15
Backend: Node.js, NestJS, Jest
Database: PostgreSQL
Off-the-shelf platforms and tools: MinIO, Typeorm, Passport, Puppeteer, AWS SDK

User Classes and Characteristics

#	User Class	Characteristics
1	Administrator	Runs the overall application management, including creating inventories and equipment types. In the course of the everyday routine Administrator creates and updates equipment items and licenses, assigns them to employees, maintain the company's asset database in the up-to-date state. Administrator has all rights of User by default.
2	User	Company's employee that has an ordinary access to the application in order to view a personal list of equipment and licenses, exchange permitted items with other employees directly.

Operating Environment

OE-1: The software will be used globally with 24/7 access needs by the company's employees
OE-2: Data is shared across regional offices, requiring fast response times (within 2 seconds) and robust data protection.
OE-2: Host the software on the company's server to maintain control and security.

Devices and Browsers

#	Device	Supported Browser/OS	Version
1	Desktop Laptop	Google Chrome	Windows, macOS: The latest stable versions that cover minimum 80% of active users.
		Safari	macOS: The latest stable versions that cover minimum 80% of active users.
		Firefox	Windows, macOS: The latest stable versions that cover minimum 80% of active users.

Design and Implementation Constraints

CO-1: The system must use the current corporate 'Single sign-on' authentication.
CO-2: The application must be developed using Node.JS, Angular.
CO-3: The application design must align with the company's design system and implemented in one corporate style.

Limitations and Exclusions

LI-1: Focus solely on web-based functionality, excluding the development of a mobile app version.
LI-2: Exclude the development of a responsive web application as part of the project scope.
LI-3: Provide the user interface exclusively in English.
LI-4: Omit the creation of user manuals or extensive end-user training as part of the project scope.

Assumptions and Dependencies

AS-1: The current company's database with relevant assets (equipment/licenses) is successfully migrated into a newly developed application.

DE-1: The application has a stable developed integration with the company's 'Identity Server' to receive data on user accounts for seamless functionality.
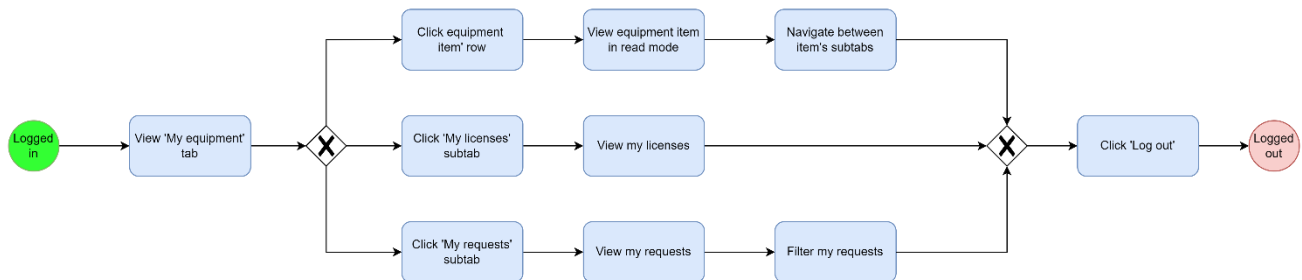
Backlog of User Stories

The backlog has been prioritized to align with the company's urgent requirement for a new application focusing on critical functionality to administer inventories, manage equipment items and licenses promptly.
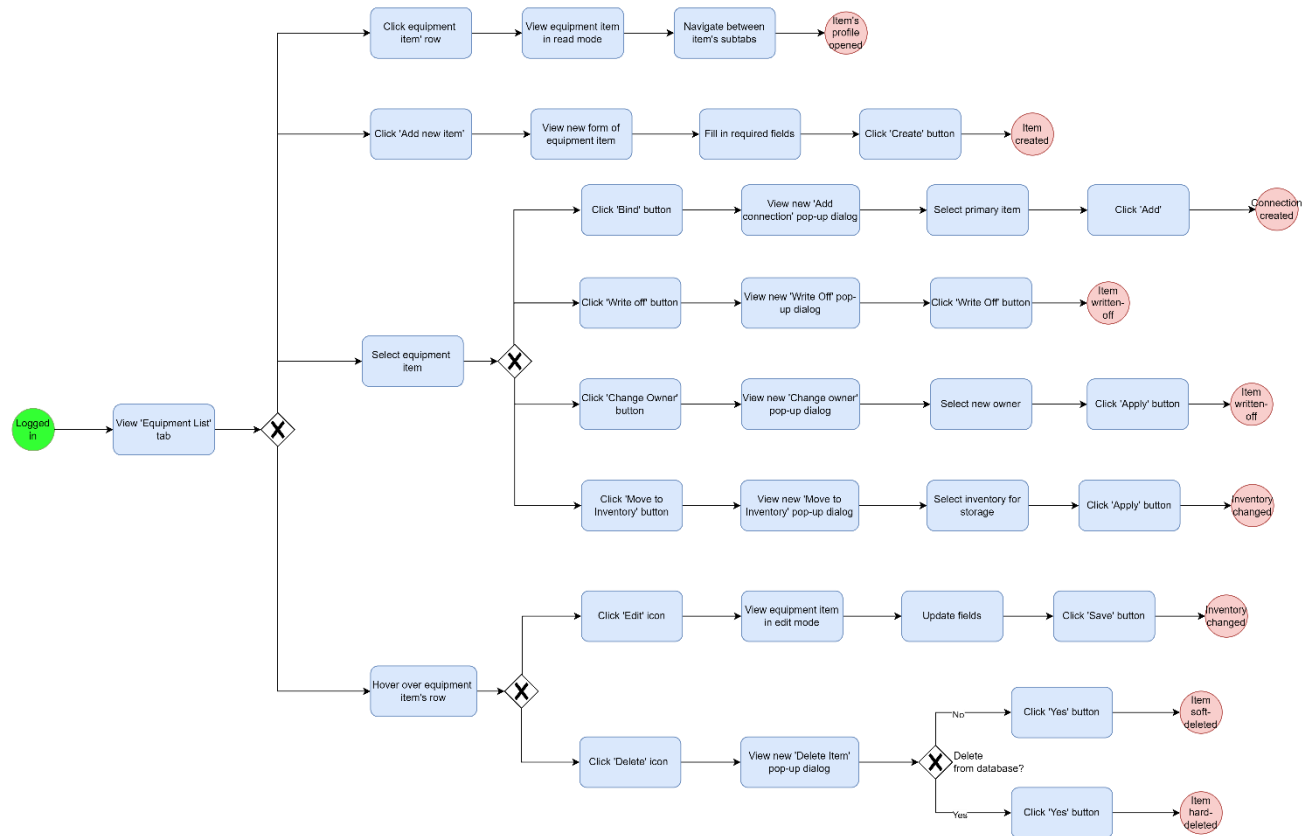
The planned functionality for the initial development phase is labeled as the Minimum Viable Product (MVP). Backlog is accessible in the attached Excel file (click here).

Main User Flows

User checks own profile

Admin manages equipment item

Click here to view the diagram in a separate window.

Integrations

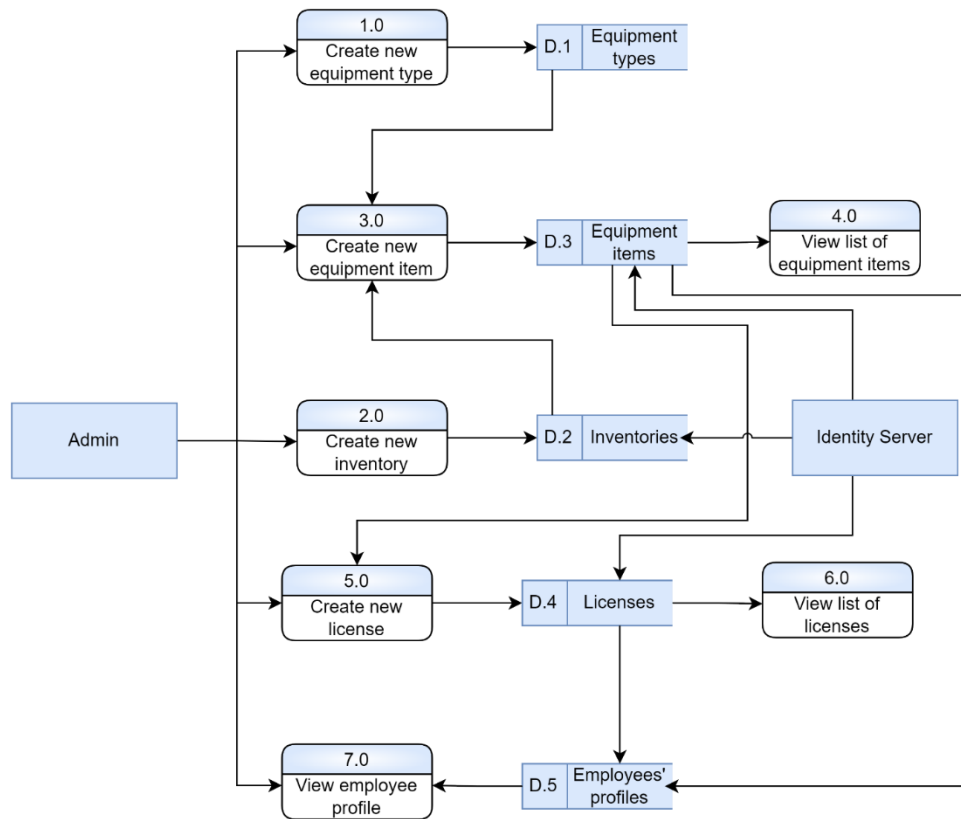| #	Integration	Description	Data Exchange
1	Identity Server	The core part of 'Elinext' identity and access control infrastructure. It is the central database that stores all the company's user accounts and their credentials.	Data on active user accounts, their details.

Data Requirements

Depending on a role (Administrator, User) an employee is able to submit corresponding data into the application and view it.

Logical Data Model

The diagram represents the data flow within the application in the course of the main Administrator's workflows.

Moreover, initially the current data on the company's assets should be imported into the application.

Reports

#	Report Type	Format	Frequency
1	Employee record of equipment and licenses	PDF	On demand

Non-functional Requirements

#	Requirement	Description
1	Reliability	The system must perform without failure in 95 percent of use cases during a month.
2	Maintainability	The mean time to restore the system (MTTRS) following a system failure must not be greater than 30 minutes. MTTRS includes all corrective maintenance time and delay time.
3	Availability	The application must be available 99.95 percent of the time every.
4	Performance	Webpages must fully load in an average of 2 seconds or less. The application must support simultaneous access to it of more than 700 users.
5	Localization	The system must support English only.
6	Usability	The application must provide a user-friendly design to achieve tasks efficiently in the system.
7	Scalability	The system must be able to handle increased number of users up to 2 000 without user-perceptible performance degradation.
8	Security	The application must meet the necessary data protection requirements, comply with modern security standards to protect personal user data.

Glossary

#	Name	Description
1	Equipment item	Certain device, which an administrator has added to the application.
2	Primary device	Equipment item, that has other dependent (binded) items. During adding/updating item's connections (relations) an administrator assign a certain item as primary.
3	Binded device	Equipment item, that is dependent from another (primary) item. A binded item can have only a single primary item at a time. During adding/updating item's connections (relations) an administrator assign a certain item as binded.