“Assetln" is expected to result in a user-friendly asset management tool that simplifies the complex processes involved in tracking and managing organizational assets. By providing intuitive interfaces and functionalities, the tool will make it easier for users to perform essential tasks such as tracking asset locations, scheduling maintenance, and generating reports. The integration of cloud storage will ensure that all media content associated with assets is securely stored and easily retrievable, enhancing the tool's overall functionality.

The system will be scalable, capable of growing with the organization, and flexible enough to adapt to different industry needs. Through collaboration with ZAPTA Technologies, the project aims to deliver a beta version that will be tested in real-world scenarios, ensuring that the final product meets the practical requirements of its users.

**Functional Requirements:**

* **User-friendly interface** for organization owners and asset managers to easily access dashboards, manage asset categories, and view essential statistics.
* **User Panel** and **User Request** **Panel** integrated into a single interface to allow users to request asset purchases, repairs, or transfers.
* **Organization Owner Panel** for overseeing all asset management tasks, including control over asset categories, user management, and approvals for user requests. Owners can also manage vendor registrations and interactions for asset sales, maintenance, and purchase.
* **Asset Manager Panel** for managing fixed and variable assets, performing status updates, and handling assigned tasks with an easy-to-use dashboard.
* **Vendor Dashboard** exclusive to the organization owner, allowing vendors to register for asset-related transactions such as asset sales, maintenance, and purchase offers.
* **Asset tracking** **features** to manage asset locations and monitor the status (assigned, in stock, damaged) of fixed and variable assets.
* **Maintenance** **scheduling** to ensure timely servicing of assets and prevent downtime.
* **Cloud-based storage** **integration** for secure and easy retrieval of media associated with assets.
* **Advanced search and filter options** for efficient asset tracking and report generation.
* **Configurable Email Alerts** to notify users and managers of important events or actions needed, such as upcoming maintenance, asset transfers, or status changes.
* **Barcode Scanning** functionality to streamline asset tracking and management by allowing users to quickly and accurately scan barcodes associated with assets.
* **Cloning Entity** feature to duplicate asset records or configurations, saving time when adding new assets in bulk or setting up similar asset categories.
* **API Authentication and Authorization** by utilizing JWT (JSON Web Token) for secure authentication and authorization, ensuring robust security for API interactions and protecting sensitive data in the cloud storage environment.
* **Support for Scalability and Adaptation as** the system will be built to support scalability and adaptability to various industries, accommodating future extensions such as a Super Admin dashboard without compromising performance or security.

### Use Cases for "Assetln"

#### 1. Access Dashboards and Manage Asset Categories

| **Use Case** | **Access Dashboards and Manage Assets and Categories** |
| --- | --- |
| **Actors** | Organization Owners, Asset Managers |
| **Description** | Users log into the system to access dashboards, manage asset categories, and view essential statistics. |
| **Preconditions** | User is authenticated and authorized. |
| **Basic Flow** | 1. User logs into the system.  2. User accesses the dashboard.  3. User selects the assets or asset category management section.  4. User adds, updates, or deletes assets or asset categories.  5. System updates the dashboard and reflects changes in assets or asset categories. |

#### 2. Request Asset requirement post, Repairs, or Transfers

| **Use Case** | **Request Asset Purchases, Repairs, or Transfers** |
| --- | --- |
| **Actors** | End Users, Asset Managers |
| **Description** | Users request asset, asset repairs, or transfers via the integrated User Panel and User Request Panel. |
| **Preconditions** | User is logged in and authorized to make requests. |
| **Basic Flow** | 1. User accesses the User Panel  2. User selects the type of request (purchase, repair, transfer).  3. User fills out the necessary details.  4. User submits the request.  5. System confirms receipt of the request and routes it to the appropriate Asset Manager for review. |

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#### 3. Oversee Asset Management Tasks

| **Use Case** | **Oversee Asset Management Tasks** |
| --- | --- |
| **Actors** | Organization Owners |
| **Description** | Organization Owners use their panel to oversee all asset management tasks, including user management, asset category control, and request approvals. |
| **Preconditions** | User is logged in as an Organization Owner. |
| **Basic Flow** | 1. User accesses the Organization Owner Panel.  2. User reviews asset management tasks.  3. User manages asset categories and user permissions.  4. User reviews and approves/rejects user requests.  5. System updates the asset management status accordingly. |

#### 4. Manage Fixed and Variable Assets

| **Use Case** | **Manage Fixed and Variable Assets** |
| --- | --- |
| **Actors** | Asset Managers |
| **Description** | Asset Managers use their panel to manage both fixed and variable assets, update statuses, and handle tasks. |
| **Preconditions** | User is logged in as an Asset Manager. |
| **Basic Flow** | 1. User accesses the Asset Manager Panel.  2. User reviews the list of assets.  3. User updates asset statuses or performs assigned tasks.  4. System reflects updates in real-time. |

#### 5. Vendor Registration and Management

| **Use Case** | **Vendor Registration and Management** |
| --- | --- |
| **Actors** | Organization Owners, Vendors |
| **Description** | Vendors register for asset-related transactions and interact with the system. Organization Owners manage vendor registrations. |
| **Preconditions** | Vendor is authenticated and authorized. Organization Owner is logged in. |
| **Basic Flow** | 1. Vendor accesses the Vendor Dashboard.  2. Vendor fills out registration details for asset transactions.  3. Organization Owner reviews and approves/rejects vendor registrations.  4. System updates the vendor list and transaction capabilities. |

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#### 6. Track Asset Locations and Status

| **Use Case** | **Track Asset Locations and Status** |
| --- | --- |
| **Actors** | Asset Managers, Organization Owners |
| **Description** | Users track the locations and status of assets (assigned, in stock, damaged and etc.) through asset tracking features. |
| **Preconditions** | User is logged in and authorized. |
| **Basic Flow** | 1. User accesses the asset tracking feature.  2. User views asset locations and statuses.  3. User updates asset information as needed.  4. System updates the asset records and reflects changes. |

#### 7. Schedule Maintenance for Assets

| **Use Case** | **Schedule Maintenance for Assets** |
| --- | --- |
| **Actors** | Asset Managers |
| **Description** | Asset Managers schedule maintenance to ensure timely servicing and prevent downtime. |
| **Preconditions** | User is logged in as an Asset Manager. |
| **Basic Flow** | 1. User accesses the maintenance scheduling feature.  2. User selects assets requiring maintenance.  3. User schedules maintenance dates and details.  4. System sends notifications for upcoming maintenance. |

#### 8. Retrieve Media from Cloud Storage

| **Use Case** | **Retrieve Media from Cloud Storage** |
| --- | --- |
| **Actors** | Asset Managers, Organization Owners |
| **Description** | Users retrieve media associated with assets from Cloudinary. |
| **Preconditions** | User is logged in and authorized. |
| **Basic Flow** | 1. User accesses media retrieval features.  2. User searches for the desired media.  3. User retrieves or views the media.  4. System provides secure access to the media files. |

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#### 9. Perform Advanced Search and Filtering

| **Use Case** | **Perform Advanced Search and Filtering** |
| --- | --- |
| **Actors** | Asset Managers, Organization Owners |
| **Description** | Users perform advanced searches and apply filters to efficiently track assets and generate reports. |
| **Preconditions** | User is logged in and authorized. |
| **Basic Flow** | 1. User accesses the search and filter functionality.  2. User applies search criteria and filters.  3. User views search results and generates reports.  4. System displays filtered results and reports. |

#### 10. Receive Configurable Email Alerts

| **Use Case** | **Receive Configurable Email Alerts** |
| --- | --- |
| **Actors** | All Users |
| **Description** | Users receive email alerts for important events such as maintenance schedules, asset transfers, or status changes. |
| **Preconditions** | User has configured email alert preferences. |
| **Basic Flow** | 1. System monitors for events triggering alerts.  2. System sends email notifications based on user preferences.  3. User receives and reviews email alerts. |

#### 11. Utilize Barcode Scanning

| **Use Case** | **Utilize Barcode Scanning** |
| --- | --- |
| **Actors** | Asset Managers, Organization Owners |
| **Description** | Users scan barcodes associated with assets to streamline tracking and management. |
| **Preconditions** | User has access to a barcode scanning device. |
| **Basic Flow** | 1. User selects the barcode scanning feature.  2. User scans the barcode associated with an asset.  3. System updates asset information based on the scanned data.  4. User reviews updated asset details. |

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#### 12. Clone Asset Records or Configurations

| **Use Case** | **Clone Asset Records or Configurations** |
| --- | --- |
| **Actors** | Asset Managers |
| **Description** | Users clone asset records or configurations to add new assets or set up similar asset categories efficiently in bulk. |
| **Preconditions** | User is logged in and authorized. |
| **Basic Flow** | 1. User selects the cloning feature.  2. User chooses the asset record or configuration to clone.  3. User makes necessary modifications.  4. System creates and saves the new asset records or configurations. |

#### 13. Authenticate and Authorize via JWT

| **Use Case** | **Authenticate and Authorize via JWT** |
| --- | --- |
| **Actors** | All Users |
| **Description** | Users are authenticated and authorized via JWT to ensure secure access to the system and protection of sensitive data. |
| **Preconditions** | User credentials are verified. |
| **Basic Flow** | 1. User submits login credentials.  2. System verifies credentials and generates a JWT.  3. User is granted access based on the JWT.  4. System enforces access controls based on the JWT. |

#### 14. Support Scalability and Adaptation

| **Use Case** | **Support Scalability and Adaptation** |
| --- | --- |
| **Actors** | System Administrators, Future Users |
| **Description** | The system supports scalability and adapts to different industry needs, including potential future extensions like a Super Admin dashboard. |
| **Preconditions** | System is operational and configured for scalability. |
| **Basic Flow** | 1. System manages increased data and user loads.  2. System integrates new features or industry-specific adaptations as required.  3. Future extensions, such as a Super Admin dashboard, are developed and integrated. |