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**SOEN 6481 Systems Requirements Specification**

Delivery #1

***Vision Document***

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**Vision Document**ETR (electronic tool rental)

# **Introduction**

The document depicts the overall goals of the project, the project’s main stakeholders, the target users, demographic features, and the high-level needs of the ETR (electronic tool rental) tool. It focuses on the functionality needed by the stakeholders, and the end-users, as well as why these needs exist. The document is structured as a standard Vision document, containing within it the user description, stakeholder needs, alternatives, and the product features.

This document is composed by a Requirement Engineer, intended to converge the understanding of the software to be, between the stakeholders and the development team.

## References

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# **Positioning**

## Problem Statement

|  |  |
| --- | --- |
| The problem of | Creating an E-commerce online platform for the consumers to provide home improvement tools for rent. |
| Affects | Plumbing technicians, Pipe fitters, Steam fitters, Gas service technician, Business owners and general consumers. |
| The impact of which is | Unaffordability of expensive home improvement tools by the small-scale home renovators, interior decorators, self-funded technicians / plumbers, and the individual who needs the equipment to fix a minor issue in their houses. |
| A successful solution would be | Developing an E-commerce online rental platform of home improvement tools. |

## Product Position Statement

|  |  |
| --- | --- |
| For | Plumbing technicians, Pipe fitters, Steam fitters, Gas service technician, Business owners and general consumers. |
| Who | Wants to rent the expensive home improvement tools for services, repairs, and short business needs. |
| The ETR (electronic tool rental) | is an E-commerce online rental platform. |
| That | Provides rental services of various home improvement tools like carpet cleaner rentals, woodchipper rentals, lawn rollers, saws for the wide range of vendors (plumbing technicians, Pipe fitters, Steam fitters, Gas service technician, Business owners and general consumers). |
| Unlike | Possessing and maintaining the expensive equipment for short needs by investing huge capital. |
| Our product | Provides rental services of tools with wide range of rental plans by eliminating the huge capital investment and maintenance efforts.  Provides rental services of home improvement tools across the country which benefits the technicians/small scale business owners by eradicating the need of transporting the tools to different locations where they do repairs/services. |

# **Stakeholder Descriptions**

## Stakeholder Summary

Below are the key stake holders of the ETR system,

|  |  |  |
| --- | --- | --- |
| Name | Description | Responsibilities |
| Consumers/  Customers | End users who rent the tools from ETR (electronic tool rental) | Utilizes the ETR tool to rent the home improvement tools and return the tools as  per rental duration/plan. |
| Business Partners | Investors, Shareholders, Creditors, and the organization itself, who involved in the economic activities and development of the E-commerce  online platform. | Managing employees, implementing marketing strategies, tracking financial objectives, Executing other strategic management activities. |
| Employees | Representatives, who support the Rental platform system and serve directly to consumers such as, System administrators and the branch employees. | Responsible to add new branches to the system, creating branch employees in the ETR system, responsible for adding/removing tools for rental in their respective locations, to hand out the tools to the customers in store, ensuring the returns of rental equipment, update the system with the status of the tool (available, rented, out of order, not available), supervise the rental warehouse, administration of property rentals, collecting rent, and complying with rental laws. |
| Suppliers | Organization who provides/sell home improvement tools in bulk to the rental warehouses to support ETR. | Sell/supply quality tools to the ETR warehouses ensuring long lasting life of the equipment. |
| Technology Support Team | IT vendors or Development team who improve and support the ETR and bridging the technology needs to run ETR seamlessly. | Responsible to provide technology support, system upgrade and various IT enhancements in the ETL system. |

## User Summary

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Description | Responsibilities | Stakeholder |
| Consumers/  Customers | End users who rent the tools from ETR (electronic tool rental) | Utilizes the ETR tool to rent the home improvement tools and return the tools as per rental duration/plan. | End users/ Consumers |
| System administrators | Who support and maintain the Rental platform system. | Responsible to add new branches to the system, creating branch employees in the ETR system. | Employee |
| Branch employees | Representatives, who support the Rental platform system and serve directly to consumers. | Responsible for adding/removing tools for rental in their respective locations, to hand out the tools to the customers in store, ensuring the returns of rental equipment, update the system with the status of the tool (available, rented, out of order, not available) | Employee |

## User Environment

* ***Consumers/End users*** are expected to have a digital device like, Smart phone, Laptop or Tablet to access ETR application provided with the stable Internet connection.
* ***System administrators*** should possess the access to the system available in the warehouses with the valid credentials to access the ETR system.
* ***Branch employees*** should have a pre-requisite of account creation validated by System admins. with the approved credentials, branch employees can access the ETR system in the warehouse machines/workstations.

## Key Stakeholder or User Needs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Target | Need | Priority | Concerns | Current Solution | Proposed Solution**s** |
| End users | Feature-Rich and intuitive | High | Non complicated and hassle-free road map in the application to rent an equipment. | None (No rental online platform available in the market yet) | Simple navigation menu options and sample demo rental booking guide for the first-time users of the ETR. |
| End users | Seamless Payment options | High | Non fraudulent payment options. | None (No rental online platform available in the market yet) | Embedding industry standard and government approved payment gateways to the ETR system. |
| System Admin | Consistency | High | Unique data maintained across the system integrated with several branches. | None | Centralised data maintenance of the system partnering with the high-quality cloud-based database solution providers. |
| Branch Employees | Reliability | High | Reliable inventory management and accuracy of rental activities. | None | Accurate information on the availability of equipment and rental details can be made available by implementing memory efficient and latest technology stack. |
| Branch Employees | Robustness | High | ETR must be available consistently and perform well irrespective of traffic in the network. | None | Deploying the ETR with the support of load balancing techniques aided by the cloud providers. |

# **Product Overview**

## Product Perspective

The architecture diagram of the ETR is mentioned below, it depicts the users, interactions, workflows, and the details about the external systems connected to ETR to provide seamless experience for all the users of ETR system.

Graphical user interface

Description automatically generated with medium confidence

Figure 1 : ETR Architecture Diagram

## Assumptions and Dependencies

|  |  |
| --- | --- |
| Assumptions | Dependencies |
| Stable internet connection to access the ETR system available in the web. | Network Provider |
| Scalability of the ETR web application over all the supported browsers | Scalability/Compatibility of the ETR Application. |
| Users (Consumers, System Administrators and Branch employees) have login details to access the system | Usability |
| Once Branch employee updates the inventory, the updated inventory details are reflected the same to the end users of the respective location in the ETR system. | System consistency (Technology Support Team must ensure these constraints during development with the procedural smoke testing). |
| Once System admin creates a Branch employee account in the ETR system in a respective location, no other system admins are allowed to create the same branch employee account in the system. | System consistency (Technology Support Team must ensure these constraints during development with the procedural smoke testing). |
| Consumers can reserve only one equipment per reservation. | System consistency (Technology Support Team must ensure these constraints during development with the procedural smoke testing). |

# **Product Features**

|  |  |  |
| --- | --- | --- |
| Feature\_Id | Feature | Description |
| ETR\_01 | Account Creation / Login Functionalities | End users, system admins and branch employees should create an account and maintain their login credentials to access the system. |
| ETR\_02 | Checking the availability of tools respective to location | Consumers can check the availability of home improvement tools based on their demands. |
| ETR\_03 | Renting the tools | Consumers are provided with minimum rental period of 4 hours, and can be rented for longer-term such as daily, weekly, monthly based on the availability and can request a reservation for as early as the next day and up to 30 days in advance. |
| ETR\_04 | Multiple Payment gateway support | Consumers are facilitated with the support of multiple payment systems like credit card, debit card, apple pay, and Samsung pay. |
| ETR\_05 | Adding branches to the system based on location | System admins can add / create branches of ETR stores in the locations which has considerable demand of home improvement tools for rent. |
| ETR\_06 | Adding branch employees to the system | System admins can add branch employees by creating accounts and adding their details in the system, where they will be tagged to a particular store/location. |
| ETR\_07 | Updating the inventory in the ETR tool | Branch employees can add/ update the inventory details of a particular location based on the availability of the tools. |
| ETR\_08 | Updating the rental information in the tool | Brach employees can add the rental details which comprises information like consumer’s name, address, rental period and rented equipment. |
| ETR\_09 | Notifying the rental time notice to the customer | System is capable of notifying the consumers when they reach closer to return date of the rented equipment. Therefore, that can return the equipment on time to avoid late return charges. |
| ETR\_10 | Payment dispute support | System can handle payment exceptions and manage refunds to the respective account in case of payment disputes. |

# **Other Product Requirements**

|  |  |
| --- | --- |
| Feature | Description |
| Performance | The system must be capable of handling multiple users irrespective of location without any latency of data retrieval. |
| Usability | The system should be easy to use with the non-complicated hassle-free road map in the application to rent an equipment. |
| Security | The system maintains integrity of the various identity of the users and the payment information |
| Fault Tolerance | The system must function properly and should continue to run despite failures or malfunctions of hardware/software. |
| Robustness | The system must be available consistently and perform well irrespective of traffic in the network. |

# **Logging / Gantt report**

|  |  |  |
| --- | --- | --- |
| Date | Activity | Hours Spent |
| May 14, 2022 | Introduction | 30 mins |
| May 15, 2022 | Positioning | 1 hour |
| May 16, 2022 | Stakeholder Descriptions | 2 hours |
| May 17, 2022 | Product Overview | 1 hour |
| May 18, 2022 | Product Features | 2 hour 30 mins |
| May 18, 2022 | Other Product Requirements | 30 mins |
| May 19, 2022 | Logging / Gantt report | 15 mins |
| May 19, 2022 | Acronyms | 5 mins |

# **Acronyms**

|  |  |
| --- | --- |
| ETR | Electronic tool rental |