Requirements specifications
WorkWise Connect

Boolean Hooligans

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Introduction

This document outlines all the requirements for the WorkWise Central project. In this document all functional and quality requirements as well as architectural and technology requirements for this project will be specified in detail. The document also provided the user stories, use case diagrams and class diagrams for the project.

Project overview

WorkWise Central is a management tool for service delivery businesses. The main objective of this project it to create a tool that any service-delivery business can use to manage their employees, jobs and inventory as seamlessly as possible.

Function requirements

Authorization and Authentication Subsystem

R1. The system must allow an new user to sign up

- R1.1 The system must allow the user to sign up using their email address.
- R1.2 The system must allow the user to sign up using Google.
- R1.3 The system must allow the user input their personal details when signing up. This includes specifying their role.

R2. The system must allow a user to log in to an existing account.

- R2.1 The system must allow a user to log in using their email.
- R2.2 The system must allow the user to log in using Google.

Account Settings Subsystem

R1. The system must allow the user to view / edit their profile.

R2. The system must allow the user to log out of their account

R3. The system must allow the user to change their theme (light and dark mode)

R4. The system must allow the user to edit their account settings

Company Subsystem

R1. A manager must be able to register a company.

R2. The registration process needs to ask for information such as:

- R2.1 Company registration number
- R2.2 Company name.
- R2.3 Company type.
- R2.4 Company vat number.
- R2.5 Company logo.
- R2.6 Company contact details.

R3. The manager that created the company must automatically be part f that company.

R4. The manager must be able to add their employees to the company (discussed in the employee subsystem)

R5. All users must be ale to be a part of multiple companies.

R6. All users must be able to change the company for which they are viewing the system.

Navbar Subsystem

R1. The system must provide the user with a navbar to navigate between the different subsystems easily.

R2. The navbar for the manageer view must be contain the following links

R2.1 Link to the dashboard subsystem.

R2.2 Link to the job subsystem.

R2.3 Link to the client subsystem.

R2.4 Link to the inventory subsystem.

R2.5 Link to the employees subsystem.

R3. The navbar for the employee view must be contain the following links

R3.1 Link to the dashboard subsystem.

R3.2 Link to the job subsystem.

R3.3 Link to the client subsystem.

Dashboard Subsystem

R1. The dashboard subsystem needs to show the most relevant information for each type of user.

R2. The dashboard for employees needs to show the jobs they have in a calendar view

R3. The dashboard for managers need to show all the jobs the company has in a calander view.

Job Subsystem

R1. All jobs in the system will have the following information about the job:

R1.1 The client's name

R1.2 The client's contact details.

R1.3 The job address.

R1.4 The date the job is due.

R2. All jobs will have the following statuses:

R2.1 Todo - the job has not been started.

R2.2 In progress - the job in being completed at the moment.

R2.3 Review - the employee completed their part of the job. The job needs to be reviewed and an invoice needs to be sent.

R2.4 Awaiting payment - The invoice has been sent.

R2.5 Completed - the payment has been received

Job Subsystem - Manager

R1. This subsystem is only visible for managers.

R2. The system must show the manager all the jobs the company currently has.

   R2.1 The manager should be able to sort the jobs

   R2.2 The manager should be able filter the jobs

   R2.3 The manager should be able to search for a job by the job name, the employee name or the client name.

R3. The system must allow the manager to view a job.

   R3.1 While the job is not in the review stage the manager can only view the details of the job.

   R3.2 Once the job is in the review phase, the manager will be able to:

      R3.1.1 Edit the details of the job.

      R3.2.2 Leave comments on the job.

R4. The system must allow the manager to create a job

   R4.1 The system must allow the manager to enter the date the job was received.

   R4.2 The system must allow the manager to enter the date on which the job must be complete

   R4.3 The system must allow the manager to enter the client for who the job is

      R4.1.1 If the client does not exit the manger must be able to create a client and then add them to the job.

      R4.2.2 The client field is required.

   R4.3 The system must allow the manger to assign an employee or to leave the assignment for later.

R5. The system must allow the manager to assign any jobs that have not yet been assigned.

Job Subsystem - Employee

R1. This subsystem is only available to the employees.

R2. The system must show the employee the jobs they are currently assigned to.

R3. The system must allow the employee to access each job individually

R4. On each individual job the employee will have two different views / actions available based on the stage the job is in

R5. When the job status is Todo, the following must be showed / allowed:

  R5.1 All the information pertaining to the job. (refer to list above)
  R5.2 The employee must be able to change the status to in progress

R6. When the job status is In progress, the following must be showed / allowed:

  R6.1 The employee must be able to upload images of the job
  R6.2 The employee must be able to record details of the job.
  R6.3 The employee must be able to record all the inventory they used
  R6.4 The employee must be able to change the status of the job to review (i.e. indicate that they are done)

R7. When the job status is review, the following must be showed / allowed:

  R7.1 The employee must be able to see all the information they added during the job.
  R7.2 The employee must be able to edit any of the information.
  R7.3 The employee must be able to see the comments.
  R7.4 The employee must be able to leave comments.

Client Subsystem

R1. All clients in the system will have relevant personal information stored:

  R1.1 Client name.
  R1.2 Client contact details.
  R1.3 Client company (optional).
  R1.4 Client address.
  R1.5 Notes on any preferences the client has, such as the time of day they would like jobs to happen or any special instructions such has how to get into the property where the job will happen etc.

Client Subsystem - Manager

R1. This subsystem must only be available to managers

R2. The system must provide a view of all the clients of the company.

R3. The manager must be able to search for a particular client.

R4. The system must allow the user to sort the clients.

R5. The system must allow the user to filter the clients.

R6. The system must allow the user to create clients.

R6.1 The user must be able to enter the information of the client.

R6.2 The user must be able to make multiple clients in succession.

R7. The user must be able to edit ny of the information pertaining to a client.

R8. The user must be able to view all the information of the client.

R9. The system must all display all the jobs associated with this client.

Client Subsystem - Employee

R1. This subsystem must only be available to employees.

R2. The system must display all the clients the employee is currently assigned to.

R3. The system must display all the jobs of a particular client that the employee has been assigned to.

R4. The employee must be able to sort the list of clients.

R5. The employee must be able to filter the list of clients.

R6. The employee must be able to search for a particular client.

Employee Management Subsystem

R1. This subsystem is only available to the managers

R2. The system must display all the current employees of the company.

R3. The manager must be able to search for a specific employee.

R4. The manager must be able to sort the list of employees.

R5. The manager must be able to filter the list of employees.

R6. The system has to show the number jobs the employee has assigned to them.

R7. The system must show each of the jobs assigned to a specific employee.

R8. The system must allow the manager to assign jobs to a particular employee.

Inventory Subsystem

R1. Each item in inventory has the following information:

- R1.1 The name of the item.
- R1.2 An image or icon of the item.
- R1.3 The cost price of the item.
- R1.4 The current stock level of the item.
- R1.5 Low stock threshold for the item.
- R1.6 Supplier information fo the item.

Inventory Subsystem - Manager

R1. This subsystem is only available to a manager.

R2. The system should display all the items in the inventory.

R3. The manager should be allowed to sort the list.

R4. The manager should be allowed to filter the list.

R5. The manager should be allowed to search for a particular item in the list.

R6. The manager should be add new items to the inventory:

- R6.1 The manager should be able to specify all the information retaining to stock.

R7. Updating Inventory Information: Managers should have the ability to update existing inventory records, modifying details like quantity on hand, location, and associated costs.

R8. Deleting Inventory Items: In cases where certain inventory items are no longer relevant or available, managers should be able to securely delete them from the system.

R9. Viewing Detailed Reports: The system should provide managers with insightful reports regarding inventory usage and status. These reports should encompass vital metrics such as inventory turnover rates, stock-out occurrences, and trends over time, aiding in informed decision-making.

Inventory Subsystem - Employee

- The Employee Inventory Management functionality empowers frontline employees with the necessary tools to efficiently interact with the inventory system. Key features include:
- Viewing Inventory Items: Employees should have access to a comprehensive list of inventory items, categorized and easily searchable, along with pertinent details such as item descriptions and current availability.

- Updating Inventory Status: Employees should be able to update the status of inventory items in real-time, marking them as in use, available, in need of replacement, or any other relevant status. This ensures accurate tracking of inventory utilization and facilitates timely replenishment.
- Requesting Additional Inventory Items: Employees should have the capability to submit requests for additional inventory items as per operational requirements. These requests should be seamlessly integrated into the inventory management workflow, triggering appropriate actions by managers.

Communication and Notification subsystem

- The Real-time Communication and Notification subsystem serve as a vital conduit for facilitating seamless communication among managers, employees, and clients, ensuring timely updates and fostering transparency in operations.
- Push Notifications and SMS Alerts: The system should support the delivery of push notifications and SMS alerts to relevant stakeholders, including managers, employees, and clients. These notifications should encompass critical updates such as job assignments, inventory changes, and urgent announcements, ensuring prompt attention and action.
- Location Tracking: Real-time location tracking capabilities should be integrated into the system, enabling stakeholders to track the progress of jobs and deliveries in real-time. This feature enhances operational visibility and enables proactive decision-making based on the current status of activities.
- Chat and Messaging: The system should provide chat and messaging functionality for seamless communication among team members, enabling quick exchanges of information, updates, and clarifications. This feature fosters collaboration and teamwork, enhancing operational efficiency and service quality.

Reporting subsystem

- The Reporting subsystem empowers managers with actionable insights derived from comprehensive reports, facilitating data-driven decision-making and performance optimization across various facets of business operations.
- Customizable Reports: Managers should have the flexibility to generate customized reports tailored to specific parameters and time periods. These reports should cover diverse aspects such as job progress, inventory status, employee performance, and client satisfaction, providing a holistic view of business performance.

- Insightful Analytics: In addition to standard reports, the system should offer advanced analytical capabilities, including trend analysis, forecasting, and performance benchmarks. These analytics empower managers to identify patterns, anticipate future needs, and proactively address challenges, driving continuous improvement.
- Automated Report Generation: The system should support automated report generation and distribution, streamlining the reporting process and ensuring timely access to critical information. Managers should be able to schedule report generation at regular intervals and receive reports via email or other channels, reducing manual effort and enhancing efficiency.

Feedback subsystem

- The Feedback subsystem serves as a valuable mechanism for soliciting and acting upon feedback from clients, fostering a culture of continuous improvement and enhancing overall service quality.
- Client Feedback Mechanism: The system should provide clients with intuitive channels for submitting feedback, including options for rating the service received, providing detailed comments, and suggesting improvements. This feedback mechanism should be seamlessly integrated into the client interaction process, ensuring convenience and accessibility.
- Manager Review and Action: Feedback submitted by clients should be promptly accessible to managers for review and action. Managers should have the capability to analyze feedback trends, identify recurring issues or areas for improvement, and take proactive measures to address them, thereby enhancing client satisfaction and loyalty.
- Performance Metrics: The system should capture and analyze key performance metrics derived from client feedback, such as satisfaction scores, response times, and service ratings. These metrics serve as valuable indicators of service quality and can be used to drive targeted improvements and training initiatives.

Job Scheduling subsystem

- The Job Scheduling subsystem plays a pivotal role in optimizing resource allocation, streamlining operations, and ensuring timely delivery of services to clients.
- Automated Job Assignment: The system should support automated job assignment based on predefined criteria such as employee availability, skill set, and proximity to the job location. This feature minimizes manual intervention, reduces errors, and ensures efficient utilization of resources.

- Real-time Job Updates: Managers and employees should receive real-time updates regarding job assignments, schedule changes, and client requests. These updates should be delivered through push notifications, SMS alerts, or other communication channels, enabling stakeholders to stay informed and responsive.
- Optimization Algorithms: The system should leverage optimization algorithms to intelligently schedule jobs, considering factors such as travel time, resource availability, and client preferences. These algorithms help in maximizing operational efficiency, minimizing delays, and enhancing overall service quality.

Appointment Scheduling and Tracking subsystem

- The Appointment Scheduling and Tracking subsystem provides employees/managers with a user-friendly platform for booking services, managing appointments, and tracking service providers in real-time.

Service contract

Class diagram

Architectural requirements

Quality requirements

Architectural Patterns

Design Patterns

Constraints

Technology Requirements