Requirements specifications

WorkWise Connect

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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 input the following details:
  - R1.1.1 Email address.
  - R1.2.2 Their new password.
  - R1.3.3 Username.
  - R1.4.4 Display image.
  - R1.5.5 Their role in the company.
  - R1.6.6 Date of birth.
  - R1.7.7 Gender.
  - R1.8.8 Preferred language.
  - R1.9.9 Emergency contact.
- R1.10 The system must then allow the user to either join an existing company or to create a company.
  - R1.1.1 The user must be able to search for a company to join by name.
  - R1.2.2 The user must be able to join a company using their company ID.
- R1.3 When creating a company the following must be entered:
  - R1.1.1 Company registration number
  - R1.2.2 Company name.
  - R1.3.3 Company type.
  - R1.4.4 Company vat number.
  - R1.5.5 Company logo.
  - R1.6.6 Company contact details.

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 and password.

Roles and permissions

R1. Roles are commonly used groupings of permissions that can be assigned to a user.

R2. The system must provide the following permissions:

- R2.1 Employee:
  - R2.1.1.1 View
  - R2.2.2.2 Edit
  - R2.3.3.3 Add new employees.
- R2.4 Jobs
  - R2.1.1.1 View all.
  - R2.2.2.2 View all under me.
  - R2.3.3.3 View mine. (default for all employees)
  - R2.4.4.4 Edit all.
  - R2.5.5.5 Edit all under me.
  - R2.6.6.6 Add new job.
- R2.7 Clients
  - R2.1.1.1 View all
  - R2.2.2.2 View client for all the jobs under me.
  - R2.3.3.3 View clients for all my jobs.
  - R2.4.4.4 Edit all.
  - R2.5.5.5 Edit all clients for jobs under me.
  - R2.6.6.6 Add new clients.

- R2.7 Inventory
    - R2.1.1.1 View all inventory.
    - R2.2.2.2 Edit all inventory.
    - R2.3.3.3 Add new inventory items.
    - R2.4.4.4 All employees that have been allocated a job may record the inventory they used.

R3. The system must provide a set of default roles:

- R3.1 Owner - full permission
- R3.2 Admin - full permission
- R3.3 Supervisor. Must have the following permissions:
    - R3.1.1.1 View all jobs under me.
    - R3.2.2.2 Edit all jobs under me.
    - R3.3.3.3 View all employees under me.
    - R3.4.4.4 Edit all employees under me.
    - R3.5.5.5 View client for all the jobs under me.
    - R3.6.6.6 Edit all clients for jobs under me.
- R3.7 Team leader. Must have the following permissions:
    - R3.1.1.1 View all jobs under me.
    - R3.2.2.2 Edit all jobs under me.
    - R3.3.3.3 View all employees under me.
    - R3.4.4.4 Edit all employees under me.
    - R3.5.5.5 View client for all the jobs under me.
    - R3.6.6.6 Edit all clients for jobs under me.
- R3.7 Worker. Must have the following permissions:
    - R3.1.1.1 View my jobs.
    - R3.2.2.2 View client for all my jobs.

R4. The roles of a given company must be able to change (refer to the company setting subsystem above)

Employee Subsystem

R1. Users are employees of companies.

R2. Each employee has information associated with them

- R2.1.1 Email address.
- R2.2.2 Their new password.
- R2.3.3 Username.
- R2.4.4 Display image.
- R2.5.5 Their role in the company.
- R2.6.6 Date of birth.
- R2.7.7 Gender.
- R2.8.8 Preferred language.
- R2.9.9 Emergency contact.

R3. Each user has to be an employee of one or more companies.

R4. Employees must be given a role or permissions for a given company.

R5. For employees with view permissions the following must be shown:

- R1. The system must display all the current employees of the company.
- R2. The user must be able to search for a specific employee.
- R3. The user must be able to sort the list of employees.
- R4. The user must be able to filter the list of employees.

R5. For employees with view and edit permissions the following must be shown:

  R1. The system must display everything that one with view permission can see.
  R2. The system has to show the number jobs the employee has assigned to them.
  R3. The system must show each of the jobs assigned to a specific employee.
  R4. The system must allow the user to assign jobs to a particular employee.

Settings Subsystem

Account and Profile Settings Subsystem

R1. The system must allow the user to view their personal information.

R2. The system must allow the user to edit their personal information.

R3. The system must allow the user to log out of their account.

R4. The system must allow the user to delete their account.

R5. The system must allow the user to leave a company.

R6. The system must allow the user to join a company.

R7. The system must allow the user to edit their preferences:

  R1. They must be able to change their themes
  R2. They must be able to change their preferred language.
  R3. They must be able to change their notification settings.
  R4. They must be able to change their default home page.

Company Settings Subsystem

R1. The system must allow the user to view all the settings for the company if they have permission.

R2. The system must allow the roles in the company to be changed.

  R1. The number of roles can be increased or decreased.
  R2. The labels for each role can be altered.
  R3. The permissions associated with that role can be changed.

R4. The system must allow the statuses available for the jobs to change

  R1. The labels for each status can be altered.

R2. The system must display all the information of to the company.

R3. The user (if given permission) must be able to edit the information pertaining to the company.

Company Subsystem

R1. A user must be able to register a company on the system.

R2. The registration process needs get the following information form the user:

  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 user that registered the company should automatically be a part of the company.

R4. The person who registered the company should have full permissions by default (refer to the permissions and roles subsystem)

R5. A user must be able to join a company

  R5.1 Using the company name.

  R5.2 Using the company ID.

  R5.3 Following a link for joining that company.

R6. All users must be ale to be a part of multiple companies.

R7. All users must be able to change for which company they are viewing the system.

Job Subsystem

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

  R1.1 The client fo who this job is, with all their associated details

  R1.2 The job address, if it is different from the address of the client.

  R1.3 The date the job is due.

  R1.4 A description of the job.

R2. All jobs must have a status.

R3. The system must provide default statuses:

  R3.1 Todo - the job has not been started.

  R3.2 In progress - the job in being completed at the moment.

  R3.3 Paused - The job has been paused (for cases where jobs run over multiple days)

  R3.4 Awaiting sign off - the employee completed their part of the job. The job needs to be reviewed by a superior.

  R3.5 Awaiting invoice - an invoice needs to be sent (refer to the automatic invoicing system)

  R3.6 Awaiting payment - The invoice has been sent.

  R3.7 Completed - the payment has been received

R4. The system must also allow the user to edit the statuses available on the system. (refer to company settings subsystem)

View Job Subsystem

R1. The system must show the user all the jobs they have access to.

  R1.1 The user should be able to sort the jobs

  R1.2 The user should be able filter the jobs

  R1.3 The user should be able to search for a job by the job name, the employee name or the client name.

R2. The system must allow the user to access each job individually.

R3. On each individual job there will be a different view based on the status of the job

R4. When the job status is Todo, the following must be showed / allowed:

  R4.1 All the information pertaining to the job. (refer to list above)

  R4.2 The user must be able to change the status to in progress

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

  R5.1 The user must be able to upload images of the job

  R5.2 The user must be able to record details of the job.

  R5.3 The user must be able to record all the inventory they used.

  R5.4 The user must be able to change the status of the job to review (i.e. indicate that they are done)

R6. When the job status is Paused, the user must be able to resume the the job.

R7. When the job status is Awaiting sign off, the following must be showed / allowed:

- R7.1 The user must be able to see all the information they added during the job.
- R7.2 The user must be able to leave comments.
- R7.3 The user must be able to see the comments.
- R7.4 The user must be able to edit the comments if they have permission (i.e. they worked on the job or they are a superior)
- R7.5 The user must be able to change the status of the job to Awaiting invoice (i.e. indicate the job has been signed off)

R8. When the job status is Awaiting invoice, the following must be showed / allowed:

- R8.1 The system must provide the user with a preview of the generated invoice.
- R8.2 The user must be able to edit the generated invoice.
- R8.3 The user must be able to download the invoice.
- R8.4 The user must be able to send the invoice to the client.
- R8.5 The user must be able to change the status of the job to Awaiting payment (i.e. indicate the invoice has been sent)

R9. When the job status is Awaiting payment, the system must show an overview of the job:

- R9.1 The system must display all the information pertaining to the job. This includes the details provided by the client, the details about the work added by the employees and the invoice sent.
- R9.2 The system must show the date the invoice was sent.
- R9.3 The system must show how much the client owes.
- R9.4 The system must show the clients contact details.
- R9.5 The user must be able to change the status of the job to complete (i.e. indicate the payment has been received)

R10. When the job status is complete, the system must show an overview of the job (as discussed above)

R11. At any point the system must allow the user to access an overview of the job.

Edit Job Subsystem

R1. Everything available for the View Job Subsystem must also be available to this subsystem.

R2. The system must allow the user to create a job

- R2.1 The system must allow the user to enter the date the job was received.
- R2.2 The system must allow the user to enter the date on which the job must be complete
- R2.3 The system must allow the user to enter the client for who the job is
  - R2.1.1 If the client does not exit the user must be able to create a client and then be create the job for that client.
  - R2.2.2 The client field is required.
- R2.3 The system must allow the user to assign an employee or to leave the assignment for later.

R3. The system must allow the user to assign any jobs that have not been assigned when they were created.

Client Subsystem

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

- R1.1 Client name.
- R1.2 Client email address.
- R1.3 Client contact number.
- R1.4 Client address.
- R1.5 Client company (optional).
- R1.6 Company address (optional).
- R1.7 Preferred language spoken.

View Client Subsystem

R1. The system must display all the clients the user has permission to view.

- R1.1 The user must be able to sort the list of clients.
- R1.2 The user must be able to filter the list of clients.
- R1.3 The employee must be able to search for a particular client.

R2. The system must display all the jobs of a particular client that the user has permission to view.

Edit Client Subsystem

R1. This subsystem includes everything available in the View Client Subsystem.

R2. The system must allow the user to create new clients.

- R2.1 The user must be able to enter the information of the client.
- R2.2 The user must be able to make multiple clients in succession.

R3. The user must be able to edit any of the information pertaining to a client that they have permission to edit.

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 for the item.

On The Job Inventory Subsystem

R1. This is how anyone on site will be able to track the inventory they used.

R2. The system should allow any on site employee to add a item to the list of items used for a job.

R3. The user should be able to add multiple at once

R4. The user should be able to remove any item they added (in case they make a mistake)

R5. Any inventory used must be updated on the companies inventory.

R6. The employee must also be able to log any job specific orders.

View Inventory Subsystem

R1. The system must allow the user to view all the inventory items the company has, if the user has the relevant permission.

- R1.1 The user must be able to search for a particular item.
- R1.2 The user must be able to sort the items.
- R1.3 The user must be able to filter the items.

R2. The system must highlight the items that are low in stock.

Edit Inventory Subsystem

R1 Everything that is available to the View Inventory Subsystem must also be available for this subsystem.

R2 The user should be add new items to the inventory:

R2.1 The manager should be able to specify all the information pertaining to the item (as mentioned above).

R3 The user should be able to update an existing item. They must be able to edit any of the information for that item

R4 The user should be able to delete an item from the inventory.

R5 The user should be able to do a stock take at the end of the day.

R5.1 The system should then generate a report based on the day

R5.2 The report should specify if there were any discrepancies in the amount of stock used and the stock take.

Communication and Notification subsystem

Push notifications

R1 All users of the system should get push notifications regarding any important changes in the system that involves them.

R2 Users should get notifications when they are added to a job.

R3 Users should get notifications when the status of a job they have access to changes

R4 Users with appropriate permissions should get notifications about any inventory that needs to be ordered.

R5 The system should also allow each user to change their notification settings (refer to the settings subsystem)

R6 Users with permission should get notified about any client feedback after the job has been complete.

SMS notifications

R1. Clients of the company must receive an SMS when an employee is on their way to complete a job.

Emails

R1. The system should send an email to clients when an employee is on their way to complete a job.

R2. The system should have the option to automatically email an invoice to a client.

R3. The system should send an email to clients with a link to be able to fill in a feedback form.

R4. The settings for emails must be changeable (refer to company settings subsystem)

Reporting subsystem

R1. The system should be able to generate analytics on the following aspects of the system:

R1.1 The inventory system

R1.2 The clients. The system should include any client feedback.

R1.3 On employees

R1.1.1 The these reports should be level based.

R1.2.2 If there is no-one under a particular employee they should only be able to see a report og their own performance.

R1.3.3 A team leader for instance can see the individual performance of his team as well as an overall team performance.

R2. The system must be able to automatically generate a report based on those analytics.

Feedback subsystem

R1. This system is intended to gather feedback form clients.

R2. The system must gather provide a feedback form for each client, for each job that has been complete.

R3. The feedback form should include

- R3.1.1 An overall star rating
- R3.2.2 A star rating for the quality of work
- R3.3.3 A star rating for customer service
- R3.4.4 An input box for them to leave any comments.

Automated Job Assignment subsystem

This is added as a potential wow factor

R1. This subsystem should automatically suggest a employee to which the job should be assigned when the job is being create.

R2. The system should make these recommendations based on the following

- R2.1.1 The availability of the employees.
- R2.2.2 The spread of jobs amongst all employees.
- R2.3.3 The skill level of an employee.
- R2.4.4 The location of the job
- R2.5.5 The date of the job

Service contract

Class diagram

Architectural requirements

Quality requirements

Architectural Patterns

Design Patterns

Constraints

Technology Requirements