A coat of arms with white birds and a book

Description automatically generated

**University Of Bradford**

**Department of Computer Science**

**Requirements Specification Document and Prototype Implementation**

*Workflow management system for non-crime*

*related activity for Yorkshire and Humber Regional Organised Crime Unit (YHROCU)*



**Team 1**

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**Project Brief**

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| **Project Name** | Workflow management system for non-crime related activity for Yorkshire and Humber Regional Organised Crime Unit (YHROCU) |
| **Project Overview** | YHROCU requires an enhanced workflow management system to streamline non-crime related activities within its department. The system aims to efficiently manage support tasks assigned to staff, facilitating both individual and collaborative work. |
| **Project Objectives** | * Develop a web-based system for task assignment and management. * Improve communication by sending email notifications to staff when tasks are assigned. * Enable staff to update task status, due dates, review dates, and input progress updates into a rolling log. * Prevent deletion of tasks or any previous updates. * Provide supervisory access to view all tasks, with options to restrict visibility as needed. * Allow supervisors to close or delete tasks. * Implement a dashboard for task categorization, summarization, and filtering based on status or due date. * Include export functionality (CSV or PDF) for data analysis and reporting. * Ensure flexibility by allowing addition of new data fields to tasks for future adjustments. * Incorporate a search function for efficient task retrieval. * Implement user authentication using OpenAuth or similar for compatibility with existing infrastructure. |
| **Timeline** | Depicted in the attached Gantt chart. |
| **Stakeholders** | * YHROCU Management Team * YHROCU Staff Members * External Development Team (if applicable) * University of Bradford * Team 1 |
| **Risks** | * Potential delays due to unexpected technical challenges. * User adoption challenges. * Compatibility issues with existing infrastructure. * Project not being completed to a good standard for 15th March * Insufficient security measures leading to GDPR violations |
| **Success criteria** | * Successful implementation and adoption of the workflow management system by YHROCU staff. * Improved efficiency in task management and communication within the department. * Positive feedback from users regarding system usability and effectiveness. * A good mark in the Enterprise pro module |

**Introduction of team expertise**

Sania Bibi 17003493 – Quick learner and is able to grasp programming concepts very quickly. Proficient in fundamentals of programming as demonstrated in first year results (90+ in internet technologies, fundamentals of programming, software design and development). Comfortable using JAVA, HTML, CSS, JavaScript and has developed an iOS app using Swift programming language.

**Rationale of topic choice**

The list below outlines some of the reasons why we chose to develop a workflow management system for YHROCU.

1. The project was a good fit in that aligned with our personal views. YHROCU is an organisation which aims to protect the public and make communities safer from the threat and harm of serious and organised crime. Our contribution to the organisation through this project allows us to serve the public.
2. The development of the management system was a good balance between application of our existing programming skills whilst also allowing us to learn new concepts. For example, some of our members are proficient in coding however completing tasks such as 2FA and allowing the user to export data are new concepts which would help the members build knowledge and skill base.
3. The chosen project would utilise *everyone’s* skills on team e.g., two members are proficient in coding whilst others are proficient in planning/organization and others at scoping out exact functional and non-functional requirements. This does not mean each member only works on areas they are good at but that they can contribute a baseline of work comfortably.
4. The chosen project seemed interesting as it required concepts, we had learned in first year therefore allowing us to put theory into practice.

**Work plan**

(gantt chart)

**Peer Review**

**Use Case Diagram**

**Actors / system function and descriptions**

**Functional Requirements**

Login page: Every user (admin or general users) would be able to log into their account with their staff number and a password. Once the information is validated, the access to their respective accounts would be granted, otherwise, access would not be granted, and the login info will have to be retyped. Each user has 3 attempts to connect, once these attempts are exhausted the account will be blocked and will have to be unlocked by an admin member.

Sign up: Every new user will have the ability to create they own account using their last and first name, their team and their staff number.

Create task: This page is used so users could create or add new tasks, but only the admin would be able to update the status and delete the task.

View Task: This page is created so every user could see all the tasks that are either accomplished either to do

**Non-Functional Requirements**

System Performance: The system must respond swiftly to user actions like logging in or creating tasks, ensuring a seamless experience. It should effortlessly manage 1000 concurrent users without noticeable slowdowns.

Security Measures: User passwords must be securely hashed and stored to safeguard against unauthorized access. Data transmissions must be encrypted with HTTPS, preventing any interception of sensitive information. Login pages should have defences against brute force attacks, like temporarily locking accounts after 3 unsuccessful attempts. Admin accounts should have additional security layers, such as two-factor authentication, for added protection.

Scalability Plans: The system's design should facilitate easy scaling to accommodate more users and tasks. The database architecture should allow for seamless scaling by adding resources or switching to larger database systems as needed.

Reliability Assurances: A robust backup and recovery strategy should be in place to prevent data loss. Regular system backups must be performed to ensure data integrity. Monitoring tools should promptly detect and handle system failures or crashes.

User-Friendly Interface: The user interface should be intuitive and easy to navigate for all users. Clear error messages should guide users when they make mistakes, such as entering incorrect login credentials. Implement accessibility features to cater to users with disabilities.

Compatibility Considerations: The system should work seamlessly across major web browsers like Chrome, Firefox, Safari, and Edge. It should also be responsive and adapt well to various devices including desktops, tablets, and smartphones.

Maintainability Focus: Code documentation and organization should facilitate easy maintenance by future developers. Deploying updates and patches should be smooth without causing system downtime. Utilize proper version control to track changes and revert if needed.

Legal and Compliance Guidelines: Compliance with data protection laws such as GDPR should be ensured. Clearly visible privacy policies must be accessible to users. User data should only be utilized for its intended purposes and not shared with third parties without explicit consent.

**Data Description:**

**Class diagram**

**User Interface**

**LSEPI**

**Meeting minutes**

**Nda**

**Requirements document signed by client**