

## **Software Engineering - Coursework– Sprint 1**

### Team Members:

Evan Balson - BAL18466416  
Niwhar Amin - AMI23589889  
Hala Bakhtiar - BAK23592238  
Mahbouba Rezaei - REZ23579670

Roehampton University

Course Number: CMP020N204S

Lecturer: Dr Mamoona Humayun

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## Table of Contents

FitXchange: Project Documentation .....	3
Code of Conduct .....	7
Project Backlog: FitXchange .....	8
Epic 1: Usability & User Experience Enhancements .....	8
Epic 2: Security & Fraud Prevention .....	8
Epic 3: Ethical & Sustainable Fashion Practices .....	8
Epic 4: Community & Social Trust System .....	8
Epic 5: Advanced AI & Personalisation .....	9
Epic 6: Logistics & Hassle-Free Transactions.....	9
Epic 7: Gamification & Rewards.....	9
Epic 8: AI-Powered Shopping & Future Innovations.....	9
Personas .....	10
Persona 1 .....	10
Persona 2 .....	11
Ethical Considerations.....	12
Meeting Logs.....	14
References .....	16
Appendix .....	16
Links .....	16
Task board link: .....	16
Github link:.....	16

# FitXchange: Project Documentation

## Executive Summary

FitXchange is a dynamic, database-driven web application designed to provide an accessible, secure, and user-friendly platform for sharing and discovering outfits for special occasions, job interviews, and other events. Many people struggle with choosing outfits due to lack of fashion confidence, limited access to stylish clothing, or uncertainty about what to wear for specific occasions. This platform aims to resolve those issues while also addressing pressing social issues such as waste reduction and the cost-of-living crisis in a cooperative and efficient system. FitXchange prioritises usability, security, and ethics, ensuring a smooth experience while respecting user privacy and fair content usage.

## 2. What are the key objectives?

- Develop an intuitive, easy-to-navigate website with a clean user interface.
- Provide pre-saved outfit ideas, so users can quickly find options without searching endlessly.
- Boost user engagement and confidence by showcasing real outfit inspirations from diverse users.
- Ensure secure login and authentication to protect user data.
- Include fashion advice and trend updates to keep users informed.
- Success is measured by a positive user experience, ensuring users feel more confident in their outfit choices before, during, and after their events.

## 3. Who is the target audience or end-users?

- Young adults and late adults who may not have much experience with fashion.
- People who feel overwhelmed when choosing outfits and need quick, stylish recommendations.
- Those who prefer a community-driven approach, where they can see what others are wearing for similar events.

## 4. What is the scope of the project?

- A GUI-based website with a guest browsing mode so users can explore before signing up.
- Secure logins with authentication for user accounts.
- Features like trending fashion updates, outfit reviews, and fashion advice.
- User-generated outfit sharing, like Pinterest, where users can post and save looks.

## 5. What is the timeline?

- The goal is to build a fully functional, publishable platform within 1-10 weeks.
- Major milestones include:

### **Estimated Timeline**

- **Week 1-3:** UI/UX design and website framework development.
- **Week 4-6:** Core feature implementation (outfit sharing, user authentication, fashion advice).
- **Week 7-9:** Testing, security checks, and refining user experience.
- **Week 10:** Final launch and feedback collection.

## 6. What are the risks and challenges?

- **User engagement:** If users don't find the idea useful, the platform may struggle.
  - **Solution:** Make it highly interactive, with engaging content and outfit recommendations.
- **Security concerns:** Protecting user data and images is crucial.
  - **Solution:** Implement strong authentication and encryption measures.
- **Scalability:** Handling large amounts of user-generated content efficiently.
  - **Solution:** Optimise backend infrastructure and content moderation.

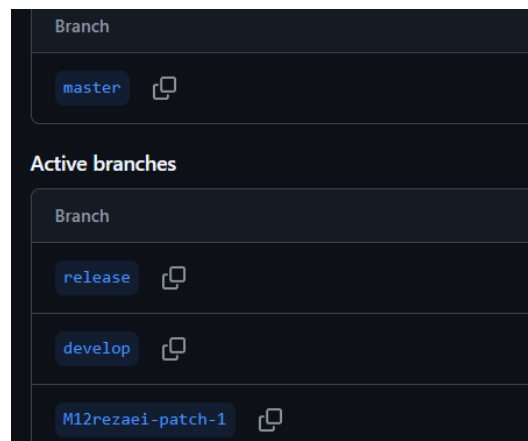
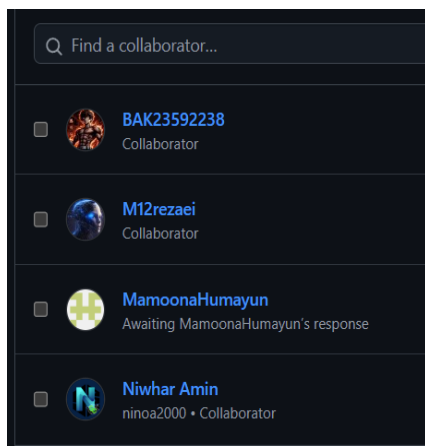
## 7. What will be the final outcome or deliverable?

- Users will get outfit inspiration and personalised recommendations based on trends and user preferences.
- A fully functional website where users can explore, save, and share outfits securely.
- A platform that builds confidence in outfit selection, making fashion accessible and enjoyable for all users.

## 1. GitHub Repository Configuration

The GitHub repository for FitXchange is structured to support a collaborative and efficient development process using the GitFlow workflow. This includes:

- **Branch Structure:** Implementation of master, develop, and release branches to manage the production, development, and release processes respectively.
- **Commit History:** Each team member has actively participated, with at least one commit logged to demonstrate involvement and contribution.



## 2. Project Management Implementation

Project management is facilitated through GitHub Projects with a Kanban board that reflects the current project status, tasks, and milestones:

- **Product Backlog:** Detailed and prioritized list of features and tasks necessary for the development of FitXchange.
- **Kanban Board:** Utilized to monitor progress, assign tasks, and manage workflows, ensuring that all project phases are completed timely and efficiently.

The screenshot displays the GitHub Projects interface for a project named "Software Engineering Project". The top navigation bar shows "1 Open" and "0 Closed" items. The project is marked as "Private" and was last updated 5 hours ago. The main view is the "Kanban Board", which is organized into five columns: "Backlog", "Ready", "In progress", "In review", and "Done".

The "Backlog" column contains four items: "SE-Spring-Project #6: Project Documentation", "SE-Spring-Project #9: Refine Project Description", "SE-Spring-Project #11: Sprint Review and Adjustments", and "SE-Spring-Project #13: Project Backlog". The "Ready" column is currently empty. The "In progress" column has two items: "SE-Spring-Project #5: Docker Development Environment Setup" and "SE-Spring-Project #17: Meeting Minutes". The "In review" column has one item: "SE-Spring-Project #4: Scaffolding Files and README Customisation". The "Done" column lists ten completed items, including "Create Kanban Board For Sprint 1", "Create GitHub Repository - Set Up", "Implement GitFlow Workflow", "Weekly Meeting Records", "All Team Members' Initial Commit", "Create Code of Conduct", and "Decide Meeting Day & Time".

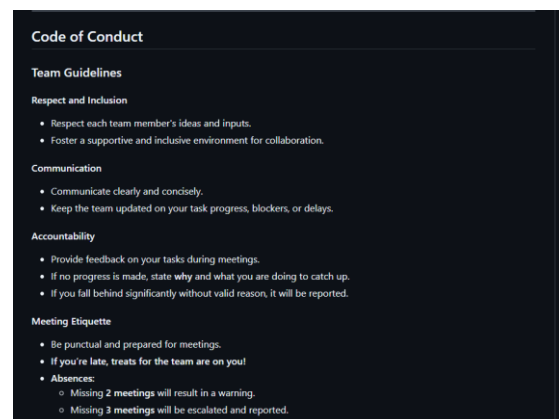
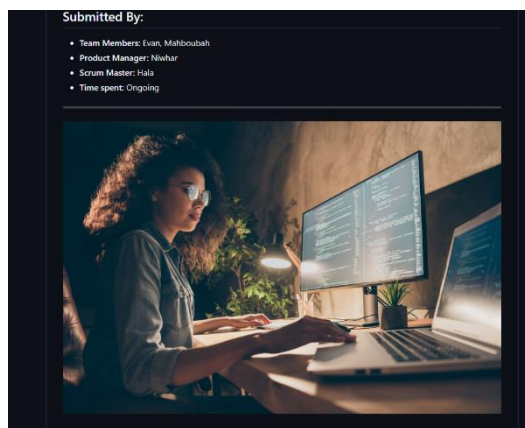
Below the Kanban board, a timeline view shows the project's progress from January 17 to February 11, 2025. Tasks are plotted as horizontal bars indicating their duration. For example, "Docker Development Environment Setup #5" spans from January 25 to February 4, while "Create Kanban Board For Sprint 1 #1" is completed by January 31. The timeline also includes a legend for task status (e.g., green for "Not started", orange for "In progress", purple for "In review", and red for "Done") and options for filtering, sorting, and marking tasks.

### 3. Development Setup and Environment

The development environment for FitXchange is containerized using Docker, enabling consistent setup across all team members' machines. Key components include:

- **Scaffolding:** Initial project files and directories necessary for the application setup have been committed to the GitHub repository.
- **README File:** Customized to include setup instructions, usage guidelines, and project information specific to FitXchange.

```
① readme.md X
① readme.md > # Software_Engineering_Project_Team
1 | **Software_Engineering_Project_Team**
2 | This repository is the collaborative hub for our **Software Engineering Project**, where we apply principles of agile development,
3 | collaboration, and design to deliver a successful solution. The repository includes our **Code of Conduct**, project deliverables, and other
4 | key resources to ensure teamwork and progress.
5 | ---
6 | ## **Submitted By:**
7 | - **Team Members:** Evan, Mahboubah
8 | - **Product Manager:** Niwhar
9 | - **Scrum Master:** Hala
10 | - **Time spent:** Ongoing
11 |
```



## Code of Conduct

The Code of Conduct for the FitXchange project outlines the standards and expectations for team behavior to ensure a productive and respectful environment. Adherence to these guidelines is essential for maintaining a collaborative atmosphere and ensuring project success.

### 1. Respect and Inclusion

- **Respect Ideas:** All team member's ideas and inputs are valuable and must be treated with respect.
- **Inclusive Environment:** The team strives to create an environment that is supportive and inclusive, fostering collaboration among all members.

### 2. Communication

- **Clarity and Conciseness:** Communication should be clear and concise to avoid misunderstandings and ensure efficient teamwork.
- **Updates and Blockers:** Team members are expected to keep the team informed about their progress on tasks, any blockers they encounter, and delays in their work.

### 3. Accountability

- **Feedback in Meetings:** Members should regularly provide feedback on their tasks during meetings, detailing their progress and any challenges faced.
- **Addressing Delays:** If there is no progress on a task, the member must explain the reasons and outline the steps they are taking to catch up.
- **Reporting Delays:** Significant delays without a valid reason will be reported and addressed according to project protocols.

### 4. Meeting Etiquette

- **Punctuality:** Members are expected to be punctual and prepared for all meetings.
- **Consequences for Lateness:** If a member is late, they are responsible for bringing treats to the team as a light-hearted penalty.
- **Absence Policy:**
  - Two unexcused absences will result in a formal warning.
  - Three unexcused absences will be escalated for further action and reported.

**5. Disputes: Reasoning and Discussion:** Members dissatisfied with any decision, such as design features, must provide well-researched reasoning. Disputes should be presented to the team for discussion and resolution.

### 6. Feedback and Conflict Resolution

- **Constructive Feedback:** Feedback should be actionable and constructive, aiming to improve project outcomes and team performance.
- **Conflict Escalation:** Unresolved conflicts should be escalated to the Scrum Master, Hala, or the Product Manager, Niwhar, for mediation and resolution.

## Project Backlog: FitXchange

### Epic 1: Usability & User Experience Enhancements

**Objective:** Ensure an intuitive, accessible, and user-friendly platform for all users.

- **Accessible UI/UX Design** – Implement high-contrast modes, screen reader compatibility, and text-to-speech for visually impaired users.
- **One-Tap Outfit Listing** – Reduce listing time with auto-fill features based on past outfits and AI-generated descriptions.
- **Seamless Navigation & Smart Filters** – Advanced search with natural language processing
- **AI-Driven Personal Stylist** – Offer real-time styling suggestions based on event type, weather, and personal preferences.
- **Multi-Language Support** – Expand accessibility with translations for a global user base.
- **Guest Browsing Mode** – Allow non-registered users to explore listings before signing up.
- **Gamified Tutorials** – Step-by-step interactive onboarding for inexperienced users, making the experience fun and engaging.

### Epic 2: Security & Fraud Prevention

**Objective:** Build a secure, trustworthy platform that protects users and their transactions.

- **Biometric Login & Multi-Factor Authentication** – Ensure secure account access with facial recognition and OTP verification.
- **Verified User Badges** – Identity verification through government ID checks to prevent fake accounts.
- **Secure Payment Protection** – Escrow payment system to hold funds until both parties confirm a successful transaction.
- **Smart Rental Agreements** – Digital contracts that automatically track rental terms, security deposits, and return conditions.

### Epic 3: Ethical & Sustainable Fashion Practices

**Objective:** Promote responsible fashion consumption and environmental consciousness.

- **Carbon Footprint Tracker** – Show users the eco-impact of renting vs. buying new outfits.
- **Ethical Lending & Borrowing Guidelines** – Transparent policies to ensure fair rental pricing, quality standards, and ethical sourcing.
- **Community-Driven Sustainability Pledge** – Users can pledge to follow sustainable fashion principles and receive a green badge.
- **Charitable Giving Options** – Donate unused outfits to ethical fashion charities directly through the app.
- **Eco-Friendly Shipping & Pickup** – Promote local rentals and offer carbon-neutral delivery options.
- **AI-Powered Fair Pricing Model** – Prevents price gouging by analysing market trends and outfit conditions.

### Epic 4: Community & Social Trust System

**Objective:** Foster a trustworthy, engaged fashion-sharing community.

- **Outfit Karma & Reputation Scores** – Users earn points for timely returns, well-maintained outfits, and positive interactions.
- **Video Reviews Instead of Text** – Renters upload short videos showing how an outfit looked and fit in real life.
- **Fashion Circles & Style Tribes** – Exclusive groups for users with shared fashion interests (e.g., streetwear lovers, bridal couture enthusiasts).



- **AI Moderation for Listings & Comments** – Prevents inappropriate content, fake listings, and toxic behaviour.
- **Rental & Exchange Stories** – Users can document their outfit journey and share it with the community.
- **Live Fashion Advice** – Users can host live Q&A sessions about styling tips and outfit care.

## Epic 5: Advanced AI & Personalisation

**Objective:** Enhance personalisation through machine learning and AI-powered recommendations.

- **AI-Powered Smart Wardrobe** – Suggests rental options based on users' previous outfits, events, and personal style trends.
- **AI-Generated Outfit Descriptions** – Saves users time by automatically writing engaging descriptions for listings.

## Epic 6: Logistics & Hassle-Free Transactions

**Objective:** Ensure smooth, trackable, and efficient transactions.

- **On-Demand Dry Cleaning Partners** – Users can schedule professional cleaning before or after renting.
- **Instant Swap Feature** – Users can instantly exchange outfits with other verified users nearby.
- **Smart Delivery Scheduling** – AI recommends optimal pickup/drop-off times based on availability.
- **Rental Extensions with One Click** – Easy rental extensions if users need extra days with an outfit.
- **Eco-Friendly Packaging Initiative** – Incentivize users to use recyclable or reusable packaging.

## Epic 7: Gamification & Rewards

**Objective:** Make renting engaging, fun, and rewarding.

- **Spin-the-Wheel Discounts** – Users earn rental discounts, free outfit days, or priority listings.
- **Outfit Levelling System** – Outfits gain levels based on rental frequency, boosting their visibility.

## Epic 8: AI-Powered Shopping & Future Innovations

**Objective:** Expand FitXchange's influence beyond rentals.

- **TikTok & Instagram Outfit Sharing** – Seamless social media integration for cross-platform promotion.
- **"Shop the Look" Extension** – If users love a rented outfit, they receive recommendations on where to buy related items.
- **AI Fashion Blogger Mode** – Auto-generates fashion blog posts based on user outfit listings.

# Personas

## Persona 1

**Name:** Gerald Thompson

“When I set a goal, I give 100% to achieve it. Not immediately, but definitely”.



### Demographics:

Age: 21-23

Gender: Male

Occupation: Final-year university student

Location: London, UK

Relationship Status: Single

Title: Mr

Education: Bachelor's degree in progress

### Goals and Challenges:

- Secure his first professional job
- Feel confident and well prepared for interviews
- Make a lasting positive impression on employers

### Motivation

- Wants to make a great first impression in job interviews
- Aspires to kickstart his career with confidence
- Values professionalism and knows attire plays a role in success
- Seeks an accessible solution without financial strain

### Frustrations:

- Cannot afford to buy a formal suit on a student budget
- Limited knowledge of where to borrow or rent a suit
- Worried about finding the right fit and looking presentable
- Concerned about comparing with well-dressed candidates who may have more resources.

### User Story:

As a final-year student preparing to enter the job market, I want access to a practical and affordable suit borrowing service, so that I can dress professionally for interviews without the financial burden of buying a suit.

### User Scenario:

Gerald, a final year student at Roehampton University, is actively applying for jobs in his field. He knows that making a strong first impression at interview is crucial, but buying a new suit is too expensive.

Living in student accommodation with limited storage, he prefers to borrow a well-maintained suit for a short time rather than owning one. He looks for an easy-to-use website that offers a variety of sizes and styles, with clear size guides to ensure the right fit. Affordable or free options with flexible returns, ideally near campus or with online booking, would be ideal.

This service would help Gerald present himself smartly and professionally without financial strain.

## Persona 2

**Name:** Ruby Bennet

"A great outfit can boost confidence. If I can help someone feel their best, why not?"



### Demographics:

Age: 27-32

Gender: Female

Occupation: Software Engineer

Location: London, UK

Relationship Status: Single

Title: Miss

Education: Bachelor's degree in software engineering

### Goals and Challenges:

- Share her well-maintained outfits with those in need
- Use a secure and structured platform to list her clothes
- Make the lending process simple and hassle-free
- Ensure her outfits are returned in good condition
- Support a sustainable fashion approach

### Motivation:

- Helping others feel confident for important events
- Reducing clothing waste by promoting reuse
- Making good use of outfits that would otherwise sit unused

### Frustrations:

- Lack of a secure platform that simplifies lending
- Unclear communication with borrowers
- Risk of outfits not being returned or getting damaged
- Websites that are cluttered or difficult to navigate

### Environment:

- Lives in a busy city (London), likely in a modern apartment
- Works in an office or hybrid setting at a tech company

### User Story:

Ruby is a software engineer working at a tech company. She owns many well-maintained suits and outfits that she no longer needs but would like to lend to others for their special occasions. Ruby is looking for a website where she can list her outfits, allowing people in need to borrow them easily.

### User Scenario:

Ruby is a software engineer working at a tech company and a professional in her field. Over the years, she has accumulated many well-maintained outfits. She wants to lend her clothes to those who need them for special occasions. To do this, Ruby is looking for a reliable website where she can securely share her contact information and provide detailed descriptions of her outfits. She needs a well-structured platform that allows her to add the necessary details so other users can easily find and borrow the perfect outfit without confusion.

# Ethical Considerations

Ethical practices in project management are pivotal for ensuring project success, fostering stakeholder confidence, and maintaining integrity.

As project managers navigate complex ethical dilemmas, they must balance conflicting interests while upholding ethical standards to achieve successful outcomes and nurture strong relationships. [1]

This section outlines the ethical issues identified in the FitXchange project, along with proposed solutions to manage these challenges effectively.

## 1. Misrepresentation of Project Status

**Issue:** There is a risk of users uploading misleading images or inaccurate descriptions of outfits, which can lead to user dissatisfaction or disputes.

**Solution:** Promote a culture of honesty and integrity. Empower project managers to provide transparent updates and conduct regular audits to ensure accuracy and address issues promptly. Establish a safe space for reporting concerns to foster trust and informed decision-making. [1]

## 2. Lack of Diversity

**Issue:** The website may fail to adequately cater to the diverse cultural, social, or demographic needs of users, potentially limiting user engagement and representation.

**Solution:** Sensitivity and inclusivity in managing teams and stakeholders from diverse backgrounds are crucial to ensure effective collaboration and project success. [1]

## 3. Data Privacy and Security

**Issue:** Users will provide personal data, including contact and payment information, which could be compromised if not properly secured.

**Solution:** Implement robust data protection measures to prevent unauthorized access and misuse of personal information. [2]

## 4. Conflict of Interest

**Issue:** Team members may show favoritism in allocating resources, leading to unfair access to shared outfits.

**Solution:** Uphold strict ethical project management practices to ensure trust, accountability, and integrity. Avoiding conflicts of interest is essential for project credibility and success. [1][3]

## 5. Health and Safety Concerns

**Issue:** There is a potential risk of spreading infections or skin conditions through unclean or untreated garments.

**Solution:** Implement standards for hygiene and ensure proper treatment of garments. Raise user awareness to mitigate health and safety risks associated with shared clothing. [4]

## 6. Environmental Concerns

**Issue:** Renting clothes increases deliveries, travel, and the use of cleaning services, which can significantly impact the environment. [5]

**Solution:** Adopt eco-friendly practices such as using carbon-neutral delivery services or bike couriers and promote sustainable cleaning technologies like wet-washing or ozone treatments. [5]

## 7. Intellectual Property

**Issue:** Some clothing brands may object to their items being shared without explicit permission. [6]

**Solution:** Ensure that all clothing shared on the platform is authentic and complies with each brand's guidelines. Engage with brands to secure permissions where necessary. [7]

## Meeting Logs

<b>Date and Time</b>	2/02/2025 7pm-10pm
<b>Project Name</b>	FitXchange
<b>Meeting Goal</b>	<ul style="list-style-type: none"><li>• Agree code of conduct</li><li>• Agree group name</li><li>• Choose project</li><li>• Setup together</li></ul>
<b>Facilitator</b>	Evan Balson
<b>Note taker</b>	Niwhar Amin Mahbouba Rezaei Hala Bakhtiar
<b>Attendees</b>	Niwhar Amin Mahbouba Rezaei Hala Bakhtiar Evan Balson
<b>Roundtable Updates (each group member to contribute)</b>	
<b>Discussion points</b>	<ul style="list-style-type: none"><li>- How to get Docker running</li><li>- Project name</li><li>- How much work has been completed</li></ul>

	<ul style="list-style-type: none"> <li>- Setup docker</li> <li>- Troubleshoot with error codes</li> <li>- Assign left tasks to team members</li> </ul>
<b>Actions (list tasks and assign a group member)</b>	<ul style="list-style-type: none"> <li>• Niwhar Amin – Project Backlog</li> <li>• Niwhar Amin – Meeting Minutes</li> <li>• Mahbouba Rezaei, Hala Bakhtiar – Ethical Issues</li> <li>• Mahbouba Rezaei, Hala Bakhtiar - Persona</li> <li>• Hala Bakhtiar - Kanban Board</li> <li>• Hala Bakhtiar - Meeting records completed</li> <li>• Evan Balson, Niwhar Amin, Mahbouba Rezaei, Hala Bakhtiar - Setting up Docker</li> <li>• Evan Balson - Github repository</li> <li>• Hala Bakhtiar - Project description refined</li> </ul>

## References

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- [2] R. L. Kliem, *Ethics and Project Management*, Taylor & Francis Group, 2012. doi: 10.1201/b11213.
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- [6] M. Reid, M. McDonald, M. Dakha, J. Lee, and S. Arbor, "Intellectual Property Rights in Fashion," DLA Piper, Mar. 28, 2023. [Online]. Available: <https://www.dlapiper.com/en/insights/publications/2023/03/intellectual-property-rights-in-fashion/>. [Accessed: Feb. 4, 2025].
- [7] J. Mann, "How Does Intellectual Property Affect the Fashion Industry?" Lawdit Solicitors, Dec. 12, 2023. [Online]. Available: <https://lawdit.co.uk/readingroom/how-does-intellectual-property-affect-the-fashion-industry/>. [Accessed: Jan. 29, 2025].

## Appendix

### Links

Task board link:

[Tasks · Software Engineering Project](#)

Github link:

<https://github.com/Evan-Balson/SE-Spring-Project.git>