Goals of the project

* What you are planning to achieve in the project?
* Who are the key users?
* What is the main functionality?

Feasibility of project

* How feasible is the project within the given timeframe?
* Identify any risks,
* discuss contingency plans, etc.

Analyse requirements

• Create a use case model and provide the relevant use case descriptions

• Prioritise requirements

• Set iteration goals for each iteration of the prototype

Class diagram

• Create a class diagram for the proposed system

• Include attributes and operations

Project Plan and User Requirements

Goals of the project

What are you planning to achieve in this project?

As part of our second year group project, we collectively decided an ecommerce website would be the ultimate way to showcase our coding techniques. This is something we are all familiar with and will allow us to further grow the skills we learned at the beginning of our second year in University. The overall aim for our project is to design a site that works as a fully functional clothing website. We want to reach a standard that can compete with top retailers. This means an interactive site with a lot of different ways for customers to browse. This includes filtering products by category, size, colour, price etc. The usability of the site will be our main priority. We want to accomplish a very simple yet elegant design with our project that is user friendly and will accommodate any difficulties users may face on other clothing websites. According to some research we have done. As part of our goals for the project it is not only important to have a finished project by the end of our given timeframe, it is also important to stay on top of the work so as to have the best possible project we can create within the given time. Also it is fair to say we also want to achieve some experience in working on a larger project as part of a group considering the working environments we will be going into when we graduate will most likely contain similar atmosphere potentially on an even bigger scale. This project will give us a sense of what its like to work on something for a long duration of time as we have not yet had a project of this scale throughout our studies. It would also be a good for us individually to take away some new skills and be better at something that we may have struggled with before. It also must be said that as we progress though this project we may come up with fresh and challenging goals and ideas that we may want to implement as we develop our ecommerce website. In summary what we want to achieve is a carefully crafted plan that will allow us to create the most polished website possible within the current timeframe. A project like this is something that will reflect our work to date and showcase the skills we have learned. Our final iteration will be something companies will want to see when seeking interns so it important that we make all functionality perfect.

Assessing Functionality

The functionality of our e-commerce site has been broken down into three segments: primary, secondary and tertiary. These allow us to prioritise what is needed for our website to be functional before we begin adding additional functionality. The primary segment is concerned with the essentials needed to be considered an e-commerce website. The functions within the secondary segment are deemed important however not critical to our initial design, we will aim to get these implemented by the second iteration. Finally, the last segment is the tertiary elements, these are features we would like to add in our final iteration however they are not deemed as essential and will only be added once the core functionality is in place.

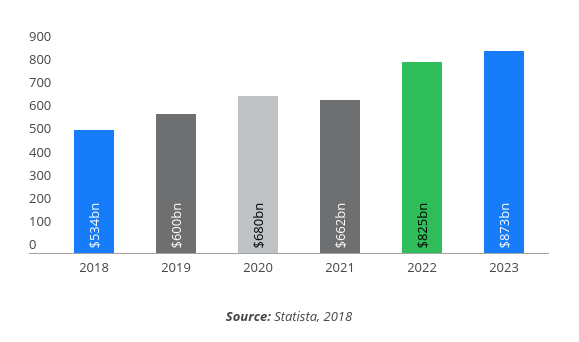
Primarily we will focus on the user’s basic ability to use their account. They will be able to login or out if they have a pre-existing account, if they do not, they will be able to register for one by adding in their information. Furthermore, we are also aiming to have multiple users able to sign in including a Customer, Administrator and Manager. The different users will all require different privileges to ensure functionality and security. For us to have an effective e-commerce website we will need a basket and were products can be saved including a payment system to allow Customers and Guests to pay for our products, we will use Stripe’s Payment API to achieve this. The website will also save each user’s orders so that a privileged user can view all orders on the system and a signed in customer can review orders they have previously made. For our users to be able to purchase the products on the website we will require a way of searching and filtering for products, as well as being able to see if they are still in stock. These stock levels should also be able to be edited by certain privileged users as well as the ability to add and remove products.

For our secondary features we will aim to implement additional costs to purchases including VAT and delivery costs. For the delivery we would like to have a calculator that we produce the cost and estimated time of delivery based on the distance from the user’s location to their nearest depot and the delivery type they select. Furthermore, we would want the implementation of multiple currencies to be more inclusive to worldwide users. Additionally, we will add discount codes to reduce prices and a paid subscription-based service that could reduce delivery costs and increase estimated delivery times. To continue we will include additions of a flag that will appear on certain items that are low on stock when a user views them advising them to purchase before they disappear. Also, the addition of multiple sizes and colours within the same product will allow our website to fit better with the real-world examples we have researched. A feature where signed in Customers can place reviews will also need to be implemented so they can rank the product out of 5 starts and write a short comment if desired.

The final features we would like to see on the website would be the addition of receipts that could be generated on a text document for each individual order made including a breakdown of fees and products that were purchased. The expansion of the delivery system would be ideal including the ability to automatically send emails when the delivery is on its way and when it has arrived. Furthermore, we would like the ability for the administrator to generate reports based on best and worst selling products and which countries receive the most orders. This would allow us to send discount codes to users in specific countries to try and increase sales in their region. Additionally, emails could be sent to users who have opted in on our paid subscription service to give the exclusive access to deals or to be notified when new products are being released. Finally, we aim to improve the images on our website this would include the ability to have a carousel on the images as well as zooming in by hovering over sections of the image.

# Who Are The Key Users?

As we are designing our own clothing website, one of the most important things we need to establish is who our target audience is and for what age bracket our products are designed for. We collectively decided Our target audience would be aimed more towards the 18-30 age bracket, which is the age bracket that is most associated with the lifestyle/Fashion industry. We also decided to create 2 different types of customers, a registered user who has created an account, and a guest user who does not have a registered account. The key differences between these 2 different types of users is the registered user can view previous orders and they have the option to save their personal details, credit card details, and to receive promotional content via email or text. It is more beneficial for registers users because this type of customer can be recommended many different projects based of their previous orders and can also sign up for a yearly subscription service that gives the customer the option of free next day shipping.



The graph shown is predicted to be the growth of the online shopping industry over the next 3 years. This is extremely significant to our project as we will have to make our website very easy to access and maneuverer for our users, due to the extreme growth of the online shopping industry. We will accomplish this by designing our website to attract our target audience, which are the 18-30-year-old age bracket. Looking at Websites like ASOS and JD Sports will be hugely beneficial to us as they have very similar target audience to our project and will also help guide us in the design process of our project.

Feasibility of the project

Risk Assessment

A vital step that is needed to be taken to avoid failing to complete this project within the given timeframe is the identification of risks. By identifying risks that could potentially harm our ability to progress we can also suggest ways of overcoming these and be more prepared to combat these issues when they arise.

One key risk we have identified that could cause issues with our progress is that of trying to implement too many features. The issue that arises from this is that we could lose focus on the overall project and may end up prioritising non-essential features over critical ones. Another major risk that may arise is underestimating the amount of time we have to complete each iteration. Ultimately this could result in us missing deadlines and therefore being unable to fully complete the website in the time frame we have been given. The reliance our project has on third-party applications could also contribute to another potential risk. While third-party applications allow us to use pre-written code therefore making us able to focus on other areas of the website it does, however, make us reliant on factors outside of our control. Due to our inability to completely control the applications we could end up with integration issues that may affect the project. It is also important to make sure that as a team we can rely on each other to complete our given tasks so as not to hinder the development of our project but also the overall functionality of the website. In the rare event that a member of the group is unable to complete any specific task whether it be to personal circumstance or in the event they are struggling with a task, it is important that the other members of the group can step in an assist when necessary. As a group we must also recognize how important backing up our work is. It would be disastrous to our project

If we were to somehow not save a rendition of our website or in the rare case that a machine would fail on us.

Contingency Plan

It is crucial that we develop a contingency plan so that in the case of any of the above risks hindering our progress, we have a safety net in which to help us. It important that we really follow our initial plan of laying down a primary, secondary and finally a tertiary structure to our project. This will ensure that in the even of the time frame being very restrictive we at least have primary functionality within our website. In the rare event that something does go wrong we need to establish priorities and make sure the basic functionality of our site has been implemented. This will mean referring to our primary goals and making sure that each implementation is working perfectly. In the event that someone is sick or unavailable and they miss a group meeting it is vital that the rest of the group informs them on what has been done, what they missed out on and what has to be done next. This will ensure that everything stays on track and nobody is left swamped by a heavy workload.

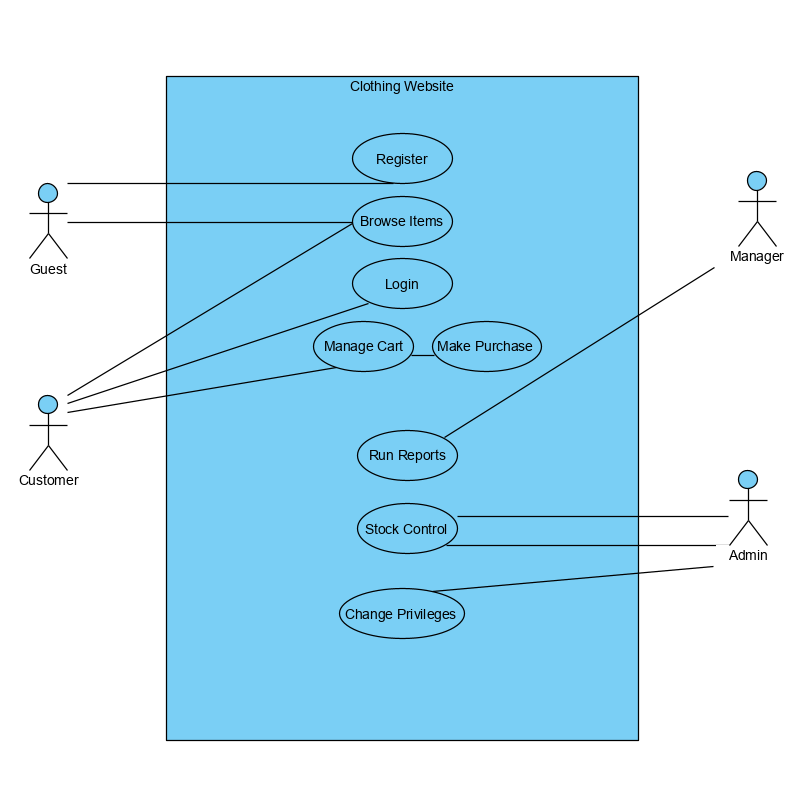
How feasible is the project within the given timeframe?

The amount of time we have been allocated for this project is roughly about 2 months. To ensure the feasibility of completing our project in this timeframe, we allocated the sufficient amount of time for each part of the project, we decided to split the project into 3 different iterations. Before we start on the project, we must identify the goals of our project, the feasibility of project, analyse the requirements and have a copy of a class diagram. Once all these points are identified, we can begin working on our clothing website.

Firstly, we begin iteration 1. The Iteration 1 Report is due on Sunday the 8th of March. The first iterations main focus will be the primary/main functionality of our website. This will include having a home page, a sign in/signup page, a products list page, an orders page and a checkout page. Our plan is to prioritise having the basic foundations of a website before the iteration 1 deadline to ensure we don’t overdue the workload early on and also to ensure we keep the development process as organised as possible, rather than having unnecessary functionality that could potentially cause errors and confusion for our group. Once we complete the first iteration, we can move on to the next one.

For Iteration 2, the report is due on Sunday the 29th of March. Our hope is that this iteration won't be as time consuming as the previous one. we will essentially be building on the last iteration, adding secondary functionality that will contain extra detail. we will aim to implement additional costs to purchases including VAT and delivery costs. we will also add discount codes to reduce prices and also to add a paid yearly subscription service that could reduce delivery costs and increase estimated delivery times This will also be where we decide to focus more on the design and layout of our website. It is crucial for our website to be easy to access and easy to use. Having a clear and concise layout will be key in terms of having an aesthetically pleasing website.

Finally Iteration 3. This iteration (The Final Prototype) is due on Monday the 27th of April. Like the previous iteration, we hope to make this iteration deadline as quick as possible. This final iteration will mostly consist of adding minor details to make our website stand out. We hope to include the use of receipts that are emailed to the to customer, along with a breakdown of fees are the product they purchased. We also hope to include promotional emails for customers who have opted in our paid description service that contains exclusive deals/ discounts. We also hope to go into more detail in terms of designing our web page.



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| **ID:** | **01** |
| **Title:** | Register |
| **Description:** | To allow the Guest to register to upgrade their account to a Customer. |
| **Actors:** | Guest |
| **Preconditions:** | No users are currently logged in. User on the site is a currently an unregistered customer. |
| **Postconditions:** | The guest has upgraded their account via registration to customer. |
| **Main  Success Scenario:** | The guest will click a register button. They will then be redirected to a signup page where they will be prompted to enter in personal information to create an account. Once the account is created, they will have to verify their account. The user will then be logged in as a customer. |
| **Extensions:** | The guest may not enter all the information that is needed which will return an error. They might also not type their password correctly in the confirm password field also returning an error. It is also likely that the user may already be registered, and the email cannot be used to make another account. |

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| --- | --- |
| **ID:** | **02** |
| **Title:** | Browse Items |
| **Description:** | Allows both Customers and Guests to browse items that are for sale. |
| **Actors:** | Customer, Guest |
| **Preconditions:** | The system does not need to be in any specific state. The user can be both a logged in registered customer or they can be a guest. |
| **Postconditions:** | The user has successfully been able to navigate through the products available on the site. |
| **Main  Success Scenario:** | The user can click a search bar and search for a specific product. Or they are also capable of using search filters to navigate the catalogue by filtering the likes of price, colour, size, gender etc. |
| **Extensions:** | The user may set the search parameters too narrow and return no results. If the keyword search via the search bar is to precise it may miss out any potential matches. |

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| **ID:** | **03** |
| **Title:** | Login |
| **Description:** | To allow the Customer to login to their account so their details and orders can be saved. |
| **Actors:** | Customer |
| **Preconditions:** | The Customer must have a valid account. |
| **Postconditions:** | The Customer is logged in and able to access their account. |
| **Main  Success Scenario:** | The Customer clicks login, they enter their username and password. If the username and password both match their valid account, the user will be permitted to login. |
| **Extensions:** | If the username and/or password is incorrect then both fields are cleared, the Customer is not allowed to login and the Customer is informed they entered the incorrect details. |

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| **ID:** | **04** |
| **Title:** | Manage Cart |
| **Description:** | To allow the Customer to change what they have saved in their Cart. |
| **Actors:** | Customer |
| **Preconditions:** | The Customers cart is unchanged. |
| **Postconditions:** | The Customer has been able to edit their cart to their specifications. |
| **Main  Success Scenario:** | The Customer is displayed each item of stock that is currently saved to their cart as well as the individual unit price, the stock amount of each item they have saved and the total price. The Customer can increase/reduce stock of each individual item within their cart, the overall price will adjust accordingly. Also, the Customer can delete an entire item of stock, the overall price will adjust accordingly. |
| **Extensions:** | The Customer attempts to reduce stock below 1, the Customer is prompted that they can delete each item and that stock has a minimum quantity of 1. The Customer attempts to increase stock above the quantity available, the Customer is prompted that they have reached the limit of stock currently available. |

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| **ID:** | **05** |
| **Title:** | Make Purchases |
| **Description:** | To allow the Customer to make purchases based on what’s contained within their Cart. |
| **Actors:** | Customer |
| **Preconditions:** | The Customer must have at least 1 item within their cart and they must be logged in to a valid account. |
| **Postconditions:** | The Customer has purchased their order. |
| **Main  Success Scenario:** | The Customer enters their email address, credit card number and expiry date, this information is then sent to Stripe, if a valid token is returned then the user is informed their payment was successful. |
| **Extensions:** | If a valid token is not received, then the user is informed that their payment was unsuccessful and therefore are either directed to retry their payment or to clear their cart. |

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| **ID:** | **06** |
| **Title:** | Run Reports |
| **Description:** | To allow the Manager to run reports based on which products are best sellers. |
| **Actors:** | Manager. |
| **Preconditions:** | No reports have been run; no reports have been made on best-selling products |
| **Postconditions:** | Report has been made, can now makes changes to product price or stock quantity based on contents of report |
| **Main  Success Scenario:** | Manager files a report, this report includes details about a products popularity and price. Now that the report has been made, The Manager can now make changes to product price or stock quantity based on contents of report |
| **Extensions:** | A false report can be made, which contain details about a product that don’t reflect the reality of a product, which can lead to making wrong changes to the price or stock of a product |

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| **ID:** | **07** |
| **Title:** | Stock Control |
| **Description:** | To allow the Administrator to have access to the system that automatically orders stock that is below a certain level. |
| **Actors:** | Administrator |
| **Preconditions:** | Administrator hasn’t made any changes to current stock of products; no updates have been made. |
| **Postconditions:** | Administrator has accessed stock control and has made changes to current products; updates have been made. |
| **Main  Success Scenario:** | Administrator accesses stock control and finds product that needs more stock to be ordered, Administrator makes changes to stock of a product, confirms changes made and stock is updated. System then automatically orders new stock that was updated by the Administrator. |
| **Extensions:** | Administrator accesses stock control and updates a products stock that doesn’t need to be updated. Administrator confirms update and system automatically orders stock for a product that the shop already has too much of. |

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| **ID:** | **08** |
| **Title:** | Change Privileges |
| **Description:** | Allows the administrator to change the privileges of other users of the System. |
| **Actors:** | Administrator |
| **Preconditions:** | Administrator hasn’t given or taken away any privileges from any users on the system, no changes have been made |
| **Postconditions:** | Administrator has given certain privileges to some users and has also taken away privileges from other users. |
| **Main  Success Scenario:** | Administrator accesses the system and looks for user privileges. Administrator then picks different users to give privileges to and to also take away privileges. Administrator makes changes by giving said privileges to different users and taking away privileges from other users. Administrator then confirms the changes that have been made. |
| **Extensions:** | Administrator gives full user privileges to the wrong user. Administrator accesses the system and gives privileges the user. Administrator confirms changes made and the user can now access and make changes to the system that shouldn’t be possible for the user |