# A. Introduction

# B. Content

## I. Lizzie’s Leather Belt

### 1. Some information about Lizzie’s Leather Belt and True Concepts

***Overview information about Lizzie’s Leather Belt:***

Lizzie is the name of an average muscle company. This company has been in operation for 10 years. Lizzie Company offers more than 50 different types of leather belts. Thanks to active marketing into the way retail stores in nearby localities, the company's growth rate has remained stable last year. Aiming to continue growing the company, the company's next goal is to complete the provision of a Lizzie-branded leather belt website for the next 3 months.

Leather belt company Lizzie doesn't have its own software development department, so they have to sign a development contract with a second party to carry out this website project. However, the "waterfall" project development model did not meet the requirements of the company. So, after learning about other project development models, Lizzie chose Scrum and Agile project development model to implement its own website.

***Lizzie company employees:***

**Managing Director:** The person who drives the project and its budget. She spent a lot of time researching all information related to this project.

**Finance director**:

**Operations Director**: Has been in the company for 2 years. He has been a senior team member in an Agile software development project in his previous job. Therefore, he has experience in implementing projects with the Agile model.

**Chief Accountant**: usually representative and has the right to make decisions on behalf of the Chief Financial Officer. Did all the other parts of the company over the years. Passed the accounting.

**Warehouse Managers**: Can provide at least one Warehouse Operative available and empower them to make decision-making decisions instead of warehouse management.

**Marketing Director**: As a project project manager and agile project manager

\*\*Order handling system

***True Concepts Company***

True Concepts is a company that assists in advising clients on the information needed during project implementation using project development models. True Concepts is located near the supplier of Lizzie leather belts. True Concepts can provide all the conditions for an Agile model application project. These are separate rooms for Scrum / Agile meetings and workshops; They have dedicated teams for different projects, and those teams can flexibly do it (either directly or via the web).

***True Concepts Personnel:***

**Julie** - is a good programmer with good knowledge of Web development and she is a good communicator. Currently, she has not received any project and can do it in this project

**Jeff** - In this project Jeff can participate. He has extensive experience in web development. However, Jeff is the one who has many different arguments with customers. In order to achieve a perfect website, Jeff is the right person, but if the project only achieves "perfection" of products, Jeff may not be suitable.

**Sophie** - Sophie is also one of the people willing to participate in the project. Overall, she is rated as someone with good web development skills. In her spare time, she often works for the Samaritans.

**Jonathan** - Jonathan may be involved in this project. With the participation of Jonathan, the completion of the project may end sooner because he has experience in projects applying the Agile development model. In particular, he has experience as a Team Leader in the Agile model, and has a very good knowledge of website development.

**Ken** - Ken is a person with a good understanding of web development and web testing. However, he can only spend 2 days per 1 week to participate in the project.

### 2. Some software development model

#### a. Waterfall model

According to (Marian STOICA, et al, 2013), The waterfall model is one of the first software development models. The waterfall model is implemented and applied with the general rule of sequential development (The implementation of the waterfall model is described like a waterfall. Phase 1 ends and moves on to phase 2 for implementation. After going to stage 2, you cannot go back to stage 1).

According to (Marian STOICA, et al, 2013), there are five main stages in a basic waterfall model:

* Defining requirement and analysis
* Design
* Implementation
* Testing
* Maintenance

According to (Marian STOICA, et al, 2013), there are many advantages and drawbacks that you can easy to define:

**Advantages**:

* The stages are defined right from the start of the project.
* Easily track the progress of the project.
* Easy to use. Beginners involved in the project can participate in the ongoing phase.
* The results of each phase are determined from the planning step. So, after each phase, we can use them to compare whether the project is on track or not.
* The stages are carried out clearly, in sequence
* Suitable for small projects, when the requirements are made clearly and accurately

**Drawbacks**:

* The requirements must be clearly defined in the first place. If these requirements are not clearly and accurately identified, the project will incur costs, time, and manpower. and especially customers will not be satisfied with these risks.
* Issues are identified ahead of time, while the stage is in progress and after the stage is completed. These are the three major types of problems addressed in the Waterfall software development model. Issues that are identified before the implementation phase will be fully addressed. While the stage is being implemented, there are a number of issues that will be identified. and most of these problems cannot be completely solved at this stage. And certainly, the whole problem related to this stage after it ends will not be solved in that stage. And like the rule of the Waterfall model, after that stage is over, we have to go to the next stage, not go back to do the single phase.
* It is difficult to determine the specific time and budget for a period. And that leads to uncertainty about the time and budget to provide for a project that applies the Waterfall software development model.
* When the life cycle ends, there is a prototype for customers
* High risk
* There is no certainty for customers and implementers
* Not recommended for complex projects or customer requirements is still unclear.

**Recommended:**

* Short projects
* Clear projects
* Clear requirements and it is not changed
* Product definition clearly
* The related resources must be available

#### b. Agile model

According to (McCormick, 2012), Agile model is a software development method whose main rule is to repeat and increase. This is considered an optimal software development model, fast and used by many people since its development to date. The purpose of the Agile software development model is to put customers / users as the main users. The operation phase is repetitive and continuous. Customers' requirements are broken down into many different sections. And because of such a subdivision of requirements, there is no risk of a request's ambiguity or a change in the customer's request.

## II. Section A

### 1. Using Scrum and Agile concept in this project

In this project, I will choose Scrum and Agile concept to apply. And I felt both two company agreed with this decision so I planned to apply this solution right away. In my opinion, I have some reasons to using that models. There are:

In Lizzie’s Leather Belt, they just have only 3 months to implement this project. And the Waterfall model is not meet the requirement from Lizzie’s Leather Belt as changing requirements. So, the waterfall model has been denied that software development model ever since they mentioned their problems. So, in this situation I have to choose another model that can meet the changing requirement from Lizzie company. Based on the scenario of True Concept company, they just can meet some model requirement such as Agile model, DSDM models. In the last, I chose Scrum and Agile concept. Because Scrum has a similar development pattern to Agile. Scrum focuses on developing the important stages, ignoring the unnecessary or unnecessary. Those stages and functions will continue to be developed in later versions rather than prototypes for customers. Due to the division of requirements into smaller and clearer requirements, the developer to determine what needs to be done in advance. As a result, the product will soon be delivered to customers, the software development time will be shortened compared to the older models. In this situation, Lizzie’s Leather Belt company just provide only 3 months to complete the web project. Firstly, I will not mention Lizzie's denial in the first part. As you know, Waterfall model is one of the first popular software development model. Having such results and favors from users is also due to the advantages of this type of model brought to users. And for this project, waterfall model can also be applied. However, there will be many risks for this project. Firstly, in terms of time, the waterfall model due to the need to perform stages in turn, not to be missed, cannot be returned. And this makes the project implementation period of this model unpredictable. Assume that with the waterfall model and every stage of the project is done fully, quickly, without errors and completed on time. That is only an assumption and only a small part of the other probabilities in the entire result. The rest of the results include time, cost, failure, etc. Therefore, in terms of time, waterfall model cannot meet. Second, the Scrum model and Agile concept save project development time. Even with risks, with Scrum model, most risks will be solved before bringing products to users.

The next reason that I want to mention is about requirement. As you know, Waterfall model is a model that each part in it have to be completed sequentially. So, the requirements have to defined exactly and clearly. If the customer makes an unclear request or the customer has not determined the purpose of the product to be achieved, it is a big problem for the Waterfall model. When the request is wrong and corrected, or make more requests while the model has been implemented to the coding stage. If you encounter one of the same problems, to complete the project, it is necessary to perform one more round of the waterfall model at least once. Therefore, the time and cost of implementing a waterfall model are the first two things that cannot be determined accurately. Meanwhile, breaking up the initial requirements into different parts of the Agile model has helped change the requirements from the customers no longer greatly affect the project. Indeed, the way Scrum's model works is to break down customer requirements into smaller user stories than the customer initially requires. Perhaps a user story will correspond to a customer request if it belongs to a small, responsive requirement. However, a customer requirement may correspond to multiple user stories. The more the number of user stories, the more clearly the analysis will be, and the closer the product will be to the customer's wishes. And splitting the request into smaller sections also brings another benefit to the project. It is about changing customer requirements. During project implementation, it is inevitable to change requirements from customers. For example: Customers after a while, want to frontend need to arrange in positions according to other designations. It was a baby-changing request. Or customers can also add requests. For example, the customer initially suggests that the user can log in with the registered or registered account. After a period of time, customers want users to be able to use other social accounts to log in to the system. These are 2 typical examples for 2 types of add and edit requests. Certainly, this advantage of the Agile model will meet the requirements of customers.

Thirdly, I want to mention about the human in this project. On the Lizzie company, there are some employees who have experience in applying Agile model or some people who are suitable in developing and exploiting in Agile software development model. The Managing Director of Lizzie's Leather Belt is the project's budget owner. She spent a lot of time with her diary to prepare everything needed for the project. Therefore, the requirements of the project will be given the right purpose and details. If the requirements are clearly defined, specifically for Agile and Waterfall models can be done. Next, I will mention the Chief Financial Officer. In this project, the Finance Director wants to get involved. He is the person who performs the job perfectly. However, he could not spend too much time on long meetings. In the case of the Finance Director, he can only apply the Agile model instead of the Waterfall model. In the Waterfall model, the implementing party needs to create long meetings to identify and analyze customer requirements. In contrast, Agile model has divided the requirements into several small user stories, and in each Sprint, Agile only organizes short meetings or short daily meetings. Because it does not take up too much time, the Finance Director can attend these meetings. The Operations Director at Lizzie was a senior team member on an Agile project. Because the Operations Director has experience working with the Agile model, in this project he will appreciate the option to use the Agile model instead of the Waterfall model. On the side of True Concepts, Jonathan has experience in many agile development projects. And in those projects, Jonathan has held the position of team leader. So you can join this project by applying the Agile model to software development. In this project, Julie can also participate. Julie is a person with good web development skills and can communicate well with others. And this makes it easy for her to implement the Agile model. Aside from Julie and Jonathan, the other employees at True Concepts company generally have good web development skills. In general, in this project, Lizzie Company and True Concept Company are willing to apply Agile model. Because almost all employees in both companies are experienced in using Agile model. Many also hold important positions in the Agile model. If the Waterfall model is applied, there will be risks of lack of people, lack of knowledge and experience in using this model.

Next, I will mention about the implemented process of two kind of model. Outstanding advantages of waterfall model are simple, easy to understand and easy to use. Because the implementation phases are clear and do not overlap, users can track the progress of the project. However, the risk of the product will be high. The process of implementing the testing phase will be long. And test products will be delivered to customers after every stage end. So, if you have any problems that make users unhappy, an additional round of waterfall model is needed. One of the outstanding advantages of the Agile model is that it is easy to see all stages of the project implementation process. In addition, breaking down the requirements and users being able to participate in each sprint of the entire software development process has resulted in quick results, a short but achieved software development process. high efficiency. In addition, the process of conducting a short test period but achieving a quality product, with high productivity. Transparency is one of the characteristics always in the Scrum or Agile model, so users can track the entire project implementation process and work progress. For this project, the time taken by Lizzie Company is short and after developing the software, the product must meet the majority of the necessary requirements of customers. Requests considered "Could have" will not be developed immediately in the beta.

The fifth reason is Lizzie’s Leather Belt is a medium company. Because Lizzie’s Leather Belt has been in operation for 10 years and Lizzie offers more than 50 products. So, the website project of Lizzie’s Leather Belt also is a medium project. Waterfall model is recommended using in a small project and clear project that is defined clearly and have a short process. That problem is solved by using Agile model. In addition, there are some rooms that can meet the Scrum and Agile requirement about the meeting.

### 2. Conclusion

In conclusion, because of the reasons mentioned above, this website development project of Lizzie company will be chosen to use Scrum model and Agile concepts.

## III. Section B

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| --- | --- | --- | --- |
| **ID** | **Requirements** | **Priority** | **Days** |
| **1** | As the Managing Director I want a monthly report showing the percentage of belts that have been sold via the Web site so that I can get a feel for the benefits, in terms of profit, that we are getting from the Web site. | **Should** | **3** |
| **2** | As a customer I want to be able to modify my shopping cart so that I can change my mind about what I want to buy. | **Must** | **5** |
| **3** | As a Customer I want to enter separate delivery and invoice addresses so that I can receive belts when staying at a friend’s house. | **Could** | **3** |
| **4** | As the Finance Director I want all online transactions to be secure so that our customers feel safe. | **Must** | **6** |
| **5** | As the Managing Director I want to be ensured that the site is Data Protection Act safe so that we do not get fined hundreds of thousands of pounds. | **Must** | **8** |
| **6** | As the Marketing Director I want an ‘About Page’ so that we can promote the finer details of the brand. | **Could** | **3** |
| **7** | As a Customer I want a choice of delivery slots so that I can arrange my diary appropriately. | **Must** | **5** |
| **8** | As the Warehouse Manager I want to place an ‘out of stock’ message on appropriate belts so that customers do not end up having to wait for ages due to belts being out of stock. | **Could** | **5** |
| **9** | As the Operations Director I want to accept all forms of payment so that we can capture the largest market possible. | **Must** | **5** |
| **10** | As a Customer I want to choose whether or not I am sent marketing information so that I do not get loads of junk mail. | **Should** | **2** |
| **11** | As a Warehouse Operative I want to check delivery addresses so that I can place orders with similar postcodes in the same delivery batch. | **Should** | **3** |
| **12** | As a Customer I want to be able to change my account details so that my most up to date details are recorded. | **Should** | **3** |
| **13** | As an Order Handling Clerk I want to use the Web site to process telephone purchases so that I can stop using the paper-based system. | **Could** | **2** |
| **14** | As a Customer I want to have belts gift wrapped and sent to an address other that than my own so that I don’t have to bother wrapping and delivering presents. | **Could** | **4** |
| **15** | As a Student I want discounts on belts so that I can look cool at parties for minimal cost. | **Could** | **3** |
| **16** | As a Customer I want to be sent an SMS message to remind me when my belts are going to be delivered so that I am in when they arrive. | **Should** | **3** |
| **17** | As a Customer I want daily emails to let me know the status of my order because I get nervous when I don’t know what is going on. | **Should** | **4** |
| **18** | As the Marketing Director I would like an offers or discount page so that we can inform our customers of the aforementioned. | **Should** | **3** |
| **19** | As the Chief Accountant I want to the Web site to adhere to legislation regarding VAT so we are not hit with a hefty fine. | **Must** | **2** |
| **20** | As a customer I want to be able to process returns via the Web site so that I do not have to phone up and answer all of those stupid questions before being put through to a human being. | **Must** | **4** |

### 1. B1

#### a. B1.1

List of non-function requirements:

- As the Finance Director I want all online transactions to be secure so that our customers feel safe.

- As the Managing Director I want to be ensured that the site is Data Protection Act safe so that we do not get fined hundreds of thousands of pounds.

- As the Marketing Director I want an ‘About Page’ so that we can promote the finer details of the brand.

- As the Operations Director I want to accept all forms of payment so that we can capture the largest market possible.

- As a Customer I want to have belts gift wrapped and sent to an address other that than my own so that I don’t have to bother wrapping and delivering presents.

- As a Student I want discounts on belts so that I can look cool at parties for minimal cost.

- As the Chief Accountant I want to the Web site to adhere to legislation regarding VAT so we are not hit with a hefty fine.

# C. Summary