

# Assessment 2

## Project Plan for “On the Spot”

### Group 102





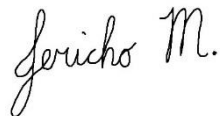
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## 1. Introduction

This project aims to deliver an IT-based solution to address the needs of the rapidly growing business of the courier company, “On the Spot”. The product to be delivered is in the form of a web application, with the purpose of improving the efficiency, productivity, and control of business operations. Features of the application are determined based on a set of requirements extracted from user stories provided by the client. The application features comprehensive back-end and front-end components that includes all essential support and management tools necessary to meet all requirements. The DSDM (Dynamic Systems Development Method) framework will be used to assess and manage the project.

This report details information about project members and stakeholders, business drivers, project objectives and benefits, comprehensive modelling of the solution, addresses possible risks faced by the client, stakeholder communication plan, project cost estimates, prioritized requirements, development approach, product delivery plan, and finally a burndown chart demonstrating delivery progress.

## 2. Pre-Project

The Pre-Project has two sections. Project Roles Summary aims to provide a summary of the project team based on the DSDM structure. Terms of Reference provides a high-level outline of the scope of the business and project.

### 2.1. Project Roles Summary

All roles for the project have been identified according to the DSDM structure (as seen in [Appendix A](#)). Each role has been assigned with a candidate by thoroughly examining each employee by their skills, experience, and availability for the project from both companies. However, as seen in Appendix A, each candidate has an associated risk in their respective role which can ultimately hinder and slow down the progress of the project. To summarise, most of the risks identified are time and experience related. Possible ways to minimise the impact of time in the project is having project members set the project as their top priority and having secured agreements about time commitment for the project. Training can be conducted for candidates that require additional skills and experience for their assigned role.

### 2.2. Terms of Reference

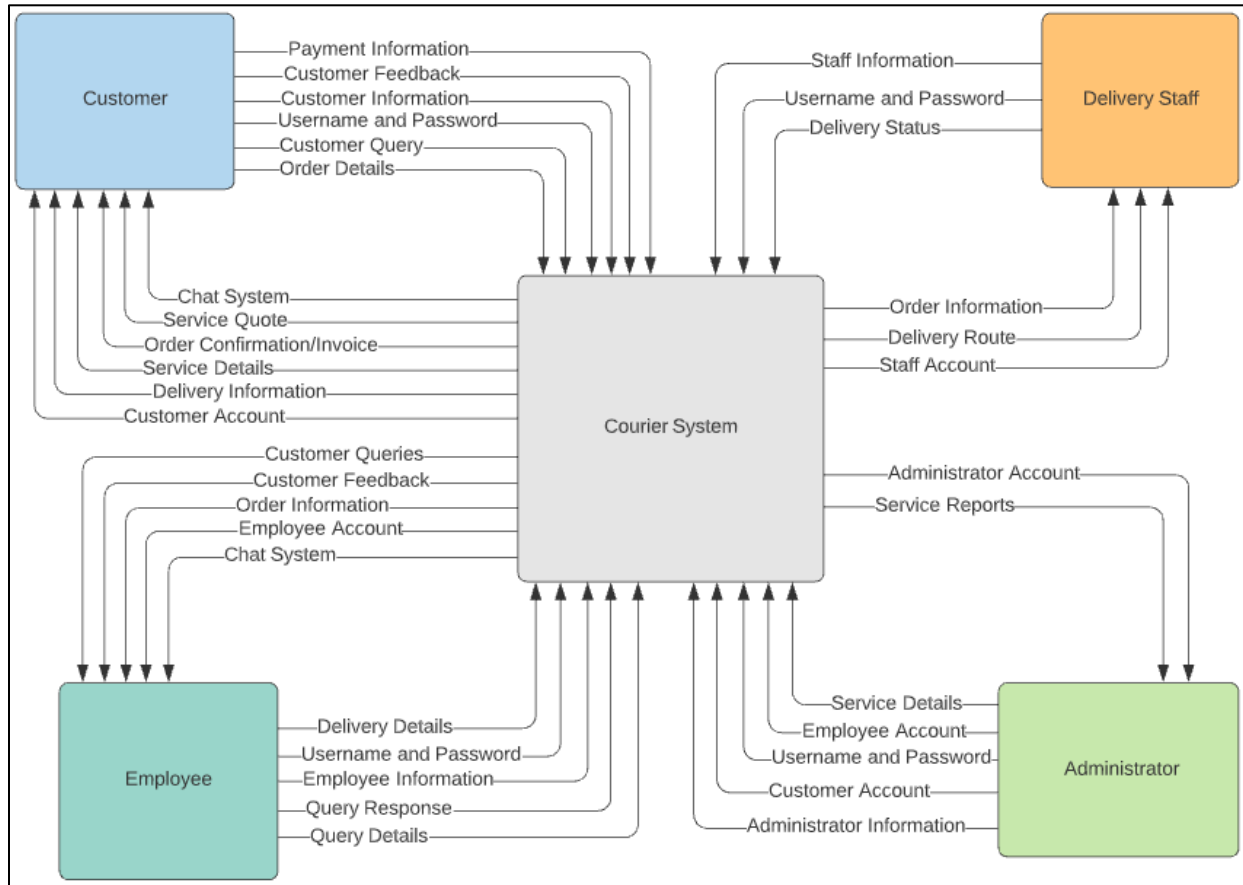
“On the Spot” is a courier business which has recently experienced a surge in growth which has led to the opportunity and now realisation in expanding the business through online means; simultaneously improving and enhancing the business processes and operations. The project is to develop and implement an IT-based web application to address problems such as high manual tasks, paper-based data, and to conform to customer demand. The total overall cost estimate for the project is \$264,475 which will be further discussed in section [4.2 Business Case](#) of the report.

## 3. Feasibility

The Feasibility section outlines the key components of the project solution, risk assessment and an Agile Project Approach assessment.

### 3.1. Outline Solution

#### Context Diagram:



The context diagram depicts the flow of information between the courier system and its external users: customers, employees, administrators, and delivery staff. Data passed into the courier system from one user can be retrieved by another (e.g., order made by customer can be viewed by an employee).

All users of the system enter their username and password when registering and logging in; all users can view their own account information.

Customers can enter order details such as address and payment details when submitting an order; submit feedback and queries; request quotes; receive order confirmation; view various service details (e.g., area availability); view delivery information (e.g., delivery status); interact with company employees through the chat system.

Employees can update delivery details (e.g., status); respond to customer queries; update query details (e.g., query resolved); view all orders and their individual details; view customer feedback and queries; interact with customers through the chat system.

Administrators can create and configure employee accounts (e.g., permissions); configure customer accounts; set service details (e.g., prices); generate various types of service reports for viewing.

Delivery Staff can update the delivery status of orders; view order information (e.g., pick-up time); view most efficient driving route generated by the system.

### 3.2. Risk Assessment

The purpose of the risk assessment in [Appendix D: Risk Register](#) is to describe, analyse and provide mitigation for the risks to the project. Overall, the project is low risk and the project plan's artefacts if followed should combat most risks. The most likely risks which will affect the company are people leaving the company, not being available or not engaging with the development team in communication for requirements. To manage this, the communication plan should be followed with frequent meetings and appropriate workshops, the business sponsor consulted and contracts for staff recommended to reduce those leaving the company and having contractor information ready if they do. Additionally, miscommunication of requirements could result in the lack of development of features desired by the business. Upon the missed requirements discovery via further communication, they should be added to the requirements list. There are a range of technology-based risks including weather, theft and malicious attacks which can be remedied by implementing requirements in order, having redundant and spread-out servers as well as backups. Organisation and law related risks are mostly outside of Agile Solutions control but are all very low risk and will need to be communicated to the appropriate team members and have requirements or staff moved to have interruptions mitigated.

### 3.3. Project Approach Questionnaire (PAQ)

The purpose of the PAQ is to provide an assessment and evaluation of the business and project team's understanding of DSDM principles and philosophies.

Project: On The Spot		Name: Luca Smith					
Date: 31 May 2021		Position: Project Manager					
Ref	Statement	Indicate the closest collective opinion					Where appropriate, comment on issues or risks related to a more negative response to this aspect of the DSDM approach
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
1	All members of the project understand and accept the DSDM approach (Philosophy, Principles and Practices)					X	A lot of employees do not have knowledge of the DSDM approach to understand and accept it
2	The Business Sponsor and the Business Visionary demonstrate clear and proactive ownership of the project.	X					Bill Wiley shows clear ownership of the project through his ownership of the company
3	The business vision driving the project is clearly stated and understood by all members of the project team	X					Bill is clear and aware of what he wants which is demonstrated through the problems he's outlined, and how a web presence will aid his business
4	All project participants understand and accept that on-time delivery of an acceptable solution is the primary measure of success for the project		X				A few of the employees understand agile and thus the importance of delivering an acceptable solution within a deadline. A few also have a strong understanding of deadlines through their line of work
5	The requirements can be prioritised and there is confidence that cost and time commitments can be met by flexing the scope of what's delivered.		X				The costs can be met as seen through the estimated price versus their current revenues, and with strong suggestion of growth in revenue from project. The solution development team may not have a strong understanding of time constraints, and relying on Jonathan to lead the project with his Agile understanding
6	All members of the project team accept that requirements should only be defined at a high level in the early phases of the project and that detail will emerge as development progresses.	X					High level refers to an overview of the project, and this is evident when Bill Wiley is expressing his concerns that want to be fixed, as opposed to how he wants them fixed. This shows evidence that Bill is not defining too many details on how the solution should evolve
7	All members of the project team accept that change in requirements is inevitable and that it is only by embracing change that the right solution will be delivered.	X					The employees are expressing strong interests in developing and utilising new systems.
8	The Business Sponsor and Business Visionary understand that active business involvement is essential and have the willingness and authority to commit appropriate business resources to the project.	X					Bill owns the business and is the one who is the driving force and founder of the project
9	It is possible for the business and solution development members of the Solution Development Team to work collaboratively throughout the project.		X				Nothing is stated that the business would not work collaboratively together. Also, the two companies are located in close proximity of each other which allows for easier in-person collaboration.
10	Empowerment of all members of the Solution Development Team is appropriate and sufficient to support the day-to-day decision-making needed to rapidly evolve the solution in short, focussed Timeboxes		X				All members have sufficient or have some IT knowledge and experience in order to make day-to-day decisions. There may be instances that referral to "higher authorities" is needed for some members that have less experience but majority will be able to cope.
11	The DSDM roles and responsibilities are appropriately allocated and all role holders understand and accept the responsibilities associated with their role.		X				Majority of the roles and responsibilities have been appropriately allocated. However, some people have multiple allocated roles and responsibilities. It is not strongly agree as some workers are having the opportunity to step into a higher level of work
12	The Solution Development team has the appropriate collective knowledge and skills (soft skills and technical skills) to collaboratively evolve an optimal business solution.	X					The solution development team consists of employees with multiple IT skills varying between each employee, allowing for support between each other
13	Solution Development Team members are allocated to the project at an appropriate and consistent level sufficient to fully support the DSDM timeboxing practice		X				All members are available and prepared to take the IT project. However, multiple members are working part-time. But overall, all members are committed to take on the project.
14	Tools and collaborative working practices within the Solution Development Team are sufficient to allow effective Iterative Development of the solution.	X					Multiple members of the team also certified workshop facilitators. Additionally, "Agile Innovation" company has purpose-built rooms for facilitated workshops which can be easily accessed by "On the Spot" employees since the two companies are located within the same suburb.
15	All necessary review and testing activity is fully integrated within the Iterative Development practice.			X			Only two people have been allocated for testing activity, with both workers having part time schedules. Thus, we feel there is just enough testers, however more would be beneficial but they must have the skill to do appropriate testing, limiting the choices
16	Project progress is measured primarily through the incremental, demonstrable delivery of business value.	X					Each output of the completion of the timebox brings forward new and relevant features that brings value to the business. Workshops are conducted after a completion of timebox to demonstrate the solutions for user stories
17	There are no mandatory standards or other constraints in place that will prevent the application of the DSDM Philosophy and Practices on this project.		X				The only constraint that might prevent the application of DSDM philosophy and practices is the time constraints. Some employees have multiple roles and/or are part time. However, due to all the employees agreeing with the change, we believe this is not a major constraint as they will work towards completion. The leaders and managers also have knowledge of Agile principles, aiding in minimising constraints that may occur.

## 4. Foundations & Deployment

The Foundation and Deployment section discusses the business in relation to its drivers and objectives, and the plan Agile Innovations have created to ensure increased benefits and profitability for “On the Spot.”

### 4.1. Communications Plan/Stakeholder Engagement Plan

The communication plan shown in [Appendix B](#) ensures that both parties from both companies will be kept up to date on the project. The pre-project events ensures that both “On the Spot” and Agile Innovation are aware of the upcoming project. The project status meeting was essential for “On the Spot”, as it validates that the project aligns with the strategic goals. It was considered effective to conduct this meeting weekly, to keep the business visionary updated.

During the feasibility stage of the project, various events are planned, to provide “On the Spot” with high level information of the project, including requirements, design framework, tools and techniques, and the schedule of project increments through timeboxes. This aids the feasibility assessment, ensuring that the project will suit the needs of “On the Spot.”

The foundations stage of the project further solidifies the findings in the feasibility stage, where the business case is updated, and the scope of the project is outlined. This assists in determining the required rate of return expected from the business in relation to the project, ensuring profitability.

During the evolutionary development stage, various fortnightly meetings are planned, to ensure that both the solution development team are on track, as well as training of the solution for the solution participant users. Every fortnight, the timeboxes are to be re-planned to accommodate the backlog, reviewed, and the solution is delivered and demonstrated to the solution participant users through workshops. The solution workshops are deemed beneficial as it allows for the solution participant users to have a hands-on experience before utilising the solution in their roles.

Lastly, the post-project stage allows for a benefits assessment to be conducted, to define and outline the benefits that accrue following the deployment of the solution. This allows for both parties to realise their benefits, as it demonstrates the growth in “On the Spot,” and the skills in Agile Innovation.

### 4.2. Business Case

“On the Spot” is a courier business founded by Bill Wiley and currently employs eight people. The business has recently started experiencing an increase in popularity which has resulted in the need of improving current business processes and operations. Simultaneously, customers begun to question the business’s online presence. Hence, it was decided to develop a new IT-based web application for the business.

Customer demand has been the main business driver. The rapid growth of the business was caused by print and social media advertising. The business grew from one client to multiple clients in various suburbs which subsequently resulted in the need of website due to customer demand. Another business driver is the increase in quantity and difficulty of manual tasks due to the increase in popularity and poor business processes and operations.



Concerning business expansion, upon successful implementation of the new IT system website, the business would likely become a nationwide courier company soon. Bill Wiley would be the driving force to achieve this, he also has the responsibility for the overall growth and performance of the business. Furthermore, as he used to work for another international courier and shipping company, Bill Wiley may use it as further motivation to increase the business's exposure to a wider or even international level.

Moving on, the implementation of a new IT system and website will both present tangible and intangible benefits to the company.

The identified tangible benefits are (i) increased revenue from new, existing customers, and new markets because of the presence of a website (ii) greater efficiency due to the reduction in time taken with certain business processes due to automation (iii) and improved data organisation and accessibility as the new system will allow for unified file formats and the elimination of paper-based information which will be all stored digitally for easier access into one system.

The identified intangible benefits are (i) improved customer satisfaction as customers and employees will have better collaboration because of the built-in customer service functionalities of the website (ii) improved staff morale and productivity because of the new system in place (iii) and achieving greater service visibility.

Finally, the overall estimated project cost is \$264,475. This is a realistic expense for the project as the company has four sources of revenue and therefore should have enough funds to proceed with the project. Most of the expenses will be allocated for labour costs as the project spans for 25 weeks. In summary, *Table 4.2.1* below illustrates the estimated labour expenditure during the whole project. While *Table 4.2.2* below shows the other major expense of the project which is web design and development and other one-time expenses.

Table 4.2.1 Estimated Labour Costs (excluding wages for "On the Spot" Project Members)

Project Members (Full Time)	Hours (Per day)	Workdays	Project Length (Weeks)	\$Pay/hour <a href="#">Appendix E.1</a>	Total Cost (Multiply previous columns)
4	8	5	25	37	\$148,000
<b>Ken Nguyen (Casual - allocated 8 hours as no time specified and to maximise manpower for project)</b>					
1	8	2	25	37 + 10 (Casual Loading)	\$18,800
				<b>TOTAL LABOUR COST</b>	\$166,800

Table 4.2.2 Other Project Expenses

Other Project Expenses	Unit Amount	Total Cost
Web Design and Development <a href="#">Appendix E.2</a>	-	\$78,000
Website Maintenance <a href="#">Appendix E.3</a>	-	\$725
Training and Documentation <a href="#">Appendix E.4</a>	-	\$950
New Computer Systems for "On the Spot" <a href="#">Appendix E.5</a>	5	\$15,000
Business-related expenses <a href="#">Appendix E.6</a>	-	\$3,000
<b>TOTAL OF OTHER EXPENSES</b>		\$97,675

### 4.3. Prioritized Requirements List (PRL)

The purpose of the prioritized requirements list in [Appendix C: Prioritized Requirements List](#) is to describe what needs to be developed in the project, and what order it needs to be developed in. BABOK criteria ([Appendix H](#)) was used on-top of the existing INVEST criteria.

The system accounts requirements, 6 story points, were revealed to be a must due to the 5<sup>th</sup> criteria (5), since nearly all the project's features need to be divided between customer, employee and administrator, and accounts are required for that. Online ordering requirements, 11 story points, were revealed as a must due to 1<sup>st</sup> criteria (1) where the business needs to reduce unnecessary queries and wants growth through an IT solution as well as (5) since digitizing orders is needed for other requirements. Integrating payment requirements, 12 story points. were revealed as must and should have since (5) guaranteeing that orders had been paid for is required for orders to be processed and the 2<sup>nd</sup> criteria (2) and a lack leads to reduced income. However, it is slightly affected by the 4<sup>th</sup> criteria (4) since Bill states that he is fine with manually inputting payment information.

Delivering orders requirements, 10 story points, were revealed as mostly a must have since (1) transferring fully from paper to online with a database will significantly decrease package processing times, for both delivery drivers and warehouse employees (2) and without it there will be large confusion having both paper and the database handling processing information. However (7) the feature will have to change to handle different priority levels and warehouses. Consignment tracking requirements, 11 story points, were revealed as mostly a should have as (1) printed labels can be made using templates instead of being filled automatically but generating them increases processing efficiency. (2) Customers who cannot see their packages status will be upset with a lack of progress. The status is also a requirement for generating performance reports (5).

Query communication requirements, 6 story points, were seen as a mix of must and should since (1) it is heavily requested by members of the business team and greatly improves customer interaction. (2) Without it, those who do not understand the ordering system have limited ability to retrieve help. Complaint communication requirements, 10 story points, were revealed as a should have since (4) there is a risk that complains do not generate any value and instead are simply an avenue for slander (1) but they may provide valued information regarding bugs and problems in processing.

Customer Information requirements, 7 story points, were a should have as they are (5) very important for customer communication and user experience, but (8) have a range of regulatory compliance requirements since it is storing sensitive information like credit card details. Advanced communication, 17 story points, was discovered as a could have since the (4) resources required to implement live chat and FAQs are incredibly large, but it does (1) improve customer experience sevenfold thus will be included.

Delivery routes, 16 story pints, was revealed as could and again need (4) a large time and resource investment to implement as well as being risky to implement (4) due to the reliance on Google to provide maps. Generating reports, 20 story points, was revealed to be of least importance as (1) it benefits the business, but the information can be gathered by other queries and summarized by hand (6) and there is significant chance that the report structures will become outdated as (7) business requirements change.

The solution will not have a query classification tool or van location as the cost (3) of creating them outweighs the benefits (1) that they provide.

#### 4.4. Development Approach Definition (DAD)

This project will adopt an agile approach, following the principles of the Dynamic Systems Development Method (DSDM) agile delivery framework in developing software. Project management will follow the ISO Project Management Standards (ISO 21500:2021). Development of the IT solution will follow the ISO Information Security Management Standard (ISO/IEC 27001) to ensure proper security management of customer, employee, and third-party information.

When developing the interactive web application, developers will utilise an advanced IDE such as Visual Studio Code, and GitHub for version control. Coding will predominantly be in JavaScript; developers are expected to adopt SOLID Design Principles ([Appendix G](#)) when writing code to maintain code robustness. To ensure a positive user experience, the website design will follow Nielsen and Molich's Ten User Interface Design Guidelines ([Appendix F](#)) which focusses on improving usability, utility, and desirability of website design.

Development of software will be test-driven; unit tests are written continuously as features are added. The series of tests to be conducted include functional tests to verify expected functionality against a set of requirements, usability tests for website navigation and content, compatibility tests to ensure application has cross-browser compatibility, performance testing to test for application responsiveness and resilience to stress, and security tests to ensure application is protected against malicious activity. Developers will utilise the JEST JavaScript Testing Framework as a tool to aid them in automating unit tests and code coverage.

All the above-mentioned standards, tools and testing procedures are put in place to achieve quality assurance over the final product.

### 4.5. Delivery Plan (Including Deployment and Timebox)

Increment 1				Increment 2				Increment 3				Increment 4				Increment 5								
Enable Online Orders				Update Delivery Processing				Customer Interaction				Full Customer Support				Process Optimisation								
Timebox 1 (6)		Timebox 2 (11)		Timebox 3 (12)		Timebox 4 (10)		Timebox 5 (11)		Timebox 6 (9)		Timebox 7 (10)		Timebox 8 (24)				Timebox 9 (16)			Timebox 10 (20)			
System Accounts		Online Ordering		Payment		Delivering Orders		Consignment Tracking		Query Communication and Advanced		Complaint Communication		Customer Information and Advanced Communication				Delivery Routes			Generating Reports			
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25
REQ.1	REQ.5	REQ.10	REQ.12	REQ.15	REQ.18	REQ.33	REQ.36	REQ.20	REQ.22	REQ.47	REQ.50	REQ.58	REQ.57	REQ.41	REQ.46	REQ.53	REQ.54	REQ.39			REQ.28	REQ.29	REQ.30	REQ.31
REQ.2	REQ.3	REQ.9	REQ.14	REQ.17	REQ.16	REQ.34	REQ.37	REQ.25	REQ.23	REQ.48	REQ.51		REQ.59	REQ.43	REQ.42				REQ.32					
	REQ.4	REQ.11				REQ.35	REQ.38	REQ.19	REQ.24	REQ.49	REQ.6			REQ.44	REQ.55									
		REQ.13						REQ.21	REQ.26	REQ.52	REQ.7			REQ.45										
Initial Deployment							Deployment			Deployment			Deployment				Final Deployment							

#### Increment 1: Enable Online Orders

The objective is to provide an online ordering service enabling customers’ orders to be digitized. The deployment product will be a website which contains customer, employee, and administrator accounts, with customers able to retrieve location and date availability, pricing and create delivery orders. Building on the ordering system, new online payment and existing in-person payment will be integrated.

#### Increment 2: Update Delivery Processing

The objective is to update the current processes for driver, warehouse, and other employees. The deployment product will consist of the existing website, with additional employee features allowing access to viewing as well as setting delivery information and status via barcodes, order numbers and printed labels. Customers will also be able to view the status of their packages.

#### Increment 3: Customer Interaction

The objective is to enable online interaction between employees and customers. The deployment product will consist of the existing website, with customers able to send queries and complaints, and employees able to send responses and give refunds. Accounts will also be able to have their passwords reset.

#### Increment 4: Full Customer Support

The objective is to further improve customer experience. The deployment will have with the website allowing the storage of personal information which will be able to be reused. A chat like FAQ and real live chat will also be available.

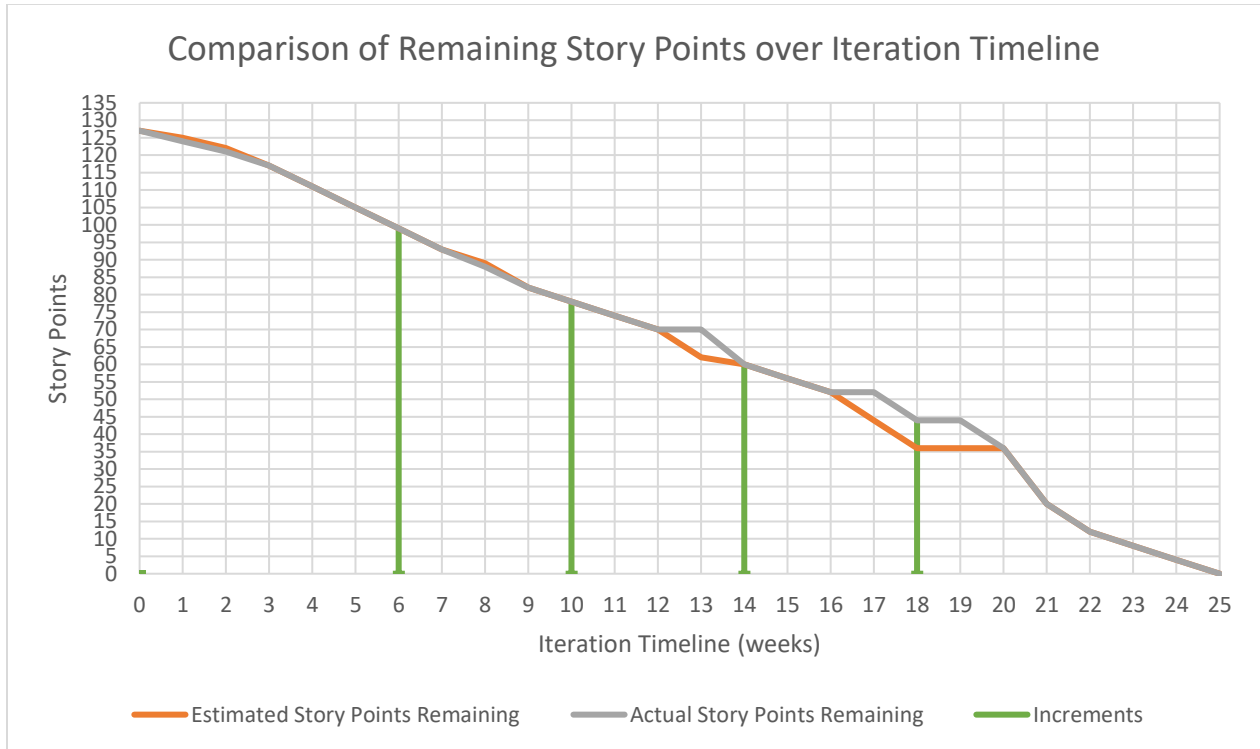
#### Increment 5: Process Optimization

The objective is further improved optimization of the consignment process. The final deployment will contain an integrated route generator for delivery drivers and the ability for administrators to gather a multitude of important reports, allowing tracking of the business and this solutions performance.

\*First timebox is deliberately shorter to account for a slow delivery start

#### 4.6. Project Burndown Chart

In the project burndown chart, it is apparent that all story points are completed within the timeframe. It is visible that within the project's first half, the solution development team is either on or ahead of schedule, with the second half demonstrating the project being either on or behind schedule.



## 4.7. Benefits Realization Plan

The Benefits Realization Plan gives the business insight into the true value of the project that will match the organization's strategic goals and objectives. To have a better understanding of the intrinsic value of the project, the Benefits Realization Plan outlines the specific benefits being provided, how and when the benefits will be assessed, and who will measure the benefits. Furthermore, this plan will show the expected value gained from the benefits listed after the completion of the project.

Benefits Realisation Plan					
Benefit Description	Type	How will this be measured	Expected Value Gained	Expected Target Date	Person Responsible monitoring and reporting
1. Increased revenue by enabling a higher intake of customers	Tangible	Compare past sales records to present sales records	20% increase in sales	6 months after project completion	Hannah Taylor (Accounts Manager)
2. Increased customer satisfaction by enhancing customer services	Intangible	Analyse customer feedback and compare overall customer sentiment (past vs present)	90% increase in customer satisfaction	1 month after project completion	Jessica Allwood (Sales, Marketing, Communications Manager)
3. Improve efficiency when processing sales invoices by eliminating manual labor	Tangible	Compare time taken to process orders (past vs present)	90% of manual processes eliminated	1 month after project completion	Luca Smith (Operations Manager)
4. Improved staff morale and thus productivity	Intangible	Conduct monthly staff satisfaction survey and compare staff retention rates (past vs present)	85% job satisfaction, 10% increase in staff retention rate	6 months after project completion	Jessica Allwood (Sales, Marketing, Communications Manager)
5. Achieve greater service visibility	Intangible	Conduct tests to search for information silos. Randomly pick out pieces of data and record how easily that data can be accessed.	75% service visibility	1 month after project completion.	Luca Smith (Operations Manager)
6. Resource cost savings in terms of reduced paper-based documentations	Tangible	Compare the cost spending in documentations past and present	70% reduction in documentation cost	1 month after project completion.	Hannah Taylor (Accounts Manager)
7. Effective employee and service management	Intangible	Conduct manager satisfaction survey	95% increase in manager satisfaction	6 months after project completion	Luca Smith (Operations Manager)
8. Improve on-time delivery of high priority orders	Tangible	Compare the percentage of on-time delivery achievement of high-priority orders	80% increase in delivering on-time high priority orders	2 months after project completion	Jessica Allwood (Sales, Marketing, Communications Manager)
9. Delivery time improvement	Tangible	Compare time taken to deliver an order (past and present)	50% reduction in delivery time	2 months after project completion	Jessica Allwood (Sales, Marketing, Communications Manager)
10. Enhance misdelivery prevention	Tangible	Compare the percentage of misdelivery orders in the past and present	90% reduction of misdelivery orders	2 month after project completion.	Jessica Allwood (Sales, Marketing, Communications Manager)
11. Save time in searching order information and tracking status	Tangible	Compare the time taken in searching and tracking (past and present)	90% reduction in searching and tracking	1 month after project completion.	Luca Smith (Operations Manager)
12. Secure sensitive data from unauthorised individuals	Tangible	Compare the accessivity of data in the past and present	95% of sensitive data are protected from unauthorised individuals	1 month after project completion.	Hannah Taylor (Accounts Manager)
13. Service improvement from customer feedback	Tangible	Compare the service issues solved in the past and present	30% issues are reported and solved	6 months after project completion	Jessica Allwood (Sales, Marketing, Communications Manager)
14. Effective communication with customers	Intangible	Conduct customers satisfaction survey about the communication	90% increase in customer satisfaction	6 months after project completion	Jessica Allwood (Sales, Marketing, Communications Manager)

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# Appendices

## Appendix A: Roles and Responsibilities

ROLES	RESPONSIBILITIES	CANDIDATES	REASONS	RISKS
Business Sponsor	<ul style="list-style-type: none"> <li>Owns the business case</li> <li>Ensures on-going project viability</li> <li>Makes sure that funds and other resources are made available as needed</li> <li>Guarantees a fast and effective decision-making process</li> <li>Responds rapidly to escalated issues</li> <li>Takes ultimate responsibility resolving conflicts</li> </ul>	Bill Wiley	Owns the business case for the project since he is head of the company and has hired Agile Solutions himself to create the business solution, which is going to be paid out of the money he sponsored the company with. He is able to escalate project issues since he is at the top of the business hierarchy. He already can empower different business roles since he decides what position in the company each person is in.	Schedule is not flexible.
Business Visionary	<ul style="list-style-type: none"> <li>Owns wider implication of any business change</li> <li>Defines Business Vision</li> <li>Communicates &amp; promotes Business Vision to all interested parties</li> <li>Monitors progress in line with Business Vision</li> <li>Contributes to vision-critical requirements, design, review sessions</li> <li>Approves changes to high level req. in the product backlog</li> <li>Ensures collaboration across stakeholder business areas and avail of resources</li> <li>Promotes translation of Business Vision into working practice</li> </ul>	Bill Wiley	Bill has the vision. He is keen on developing business online and knows what requirements the company needs to achieve this. Bill is well positioned to promote his vision to all interested and impacted parties and owns the implications of business change, since it is his business. He has the authority required to ensure collaboration across stakeholders and empower business roles.	Schedule is not flexible.
Technical Coordinator	<ul style="list-style-type: none"> <li>Agrees and controls the technical architecture</li> <li>Determines technical environments</li> <li>Advises on and co-ordinates cross-team technical activities</li> <li>Identifies and manages technical risk</li> <li>Makes sure that non-functional requirements are achievable and subsequently met</li> <li>Ensures adherence to standards of technical best practice</li> <li>Controls technical configuration of the solution</li> <li>Manages technical aspects of the solution's transition into live use</li> </ul>	Jonathan Powell	Possesses technical skills along with team-leading skills in an agile environment which will be very suited for advising and co-ordinating cross-team technical activities.	Has not been in this role previously.
Project Manager	<ul style="list-style-type: none"> <li>Liaises with senior management and governance authorities</li> <li>Plans and schedules at the high level, but not detailed task planning</li> <li>Monitors progress against baselined high level plans</li> <li>Manages overall project configuration</li> <li>Motivates teams to meet their objectives</li> <li>Monitors business involvement within the Scrum Teams</li> <li>Resources specialist roles as required</li> <li>Manages risk and handles escalated problems</li> <li>Encourages Scrum Teams to handle difficult situations where sensible (rather than simply stepping in and taking ownership of issues that the team should be able to resolve for themselves)</li> </ul>	Luca Smith	Luca worked previously as a Project Manager for agile and thus has the previous experience to fulfill the responsibilities this role holds. The project manager does not require solution development skills since it is high level project planning and scheduling instead of detailed task planning which would require more technical knowledge than Luca has.	Luca is involved in a few other roles (time less flexible).
Business Analyst	<ul style="list-style-type: none"> <li>Supports unambiguous and timely communication between Business and Technical participants</li> <li>Manages information related to business requirements</li> <li>Supports the Product Owner in thinking through the detail of stories in the Product Backlog</li> <li>Ensures that business implications of day-to-day decisions are properly thought through</li> </ul>	Jack Li	Jack has knowledge of Agile development	Working part time.
Team Leader	<ul style="list-style-type: none"> <li>Helps the team focus on on-time delivery of the agreed product increment within the Sprint</li> <li>Encourages full participation of team members in Scrum events and product development work</li> <li>Helps ensure that the iterative development process is properly focused and controlled</li> <li>Encourages discipline in scheduling and execution of required testing and review activities</li> <li>Manages risk and removal of impediments at Sprint level, escalating as required</li> <li>Facilitates learning within the team and encourages continuous improvement of the team and development processes</li> </ul>	Jonathan Powell	Has previous experience as a Team Leader.	Jonathan is involved in a few other roles (time less flexible).
Solution Developer	<ul style="list-style-type: none"> <li>Works with Business roles and Solution Testers</li> <li>Undertakes iterative developments of the deployable solution</li> <li>Records and interprets the detail of changes to requirements and their consequences</li> <li>Adheres to technical constraints laid out in the Solution Foundations</li> <li>Participates in quality assurance to ensure products are fit for purpose</li> <li>Tests own output prior to independent testing</li> </ul>	Julie Lansdown/ Jeff Blumer/ Sophie Lee/ Ken Nguyen/ Daisy Muir/ Jack Li	All of these people have knowledge of software development.	<ul style="list-style-type: none"> <li>Daisy &amp; Jack are working part time.</li> <li>Team members may lack coordination due to differing skills.</li> </ul>
Solution Tester	<ul style="list-style-type: none"> <li>Works with Business roles to define test scenarios for the evolving solution</li> <li>Carries out technical testing</li> <li>Reports test results to the Technical Co-ordinator informed of depth / coverage of testing (for Quality Assurance purposes)</li> <li>Assists Product Owner and Business Advisor roles to carry out important business related testing</li> </ul>	Ken Nguyen, Daisy Muir	Ken has testing experience	<ul style="list-style-type: none"> <li>Working part time.</li> <li>Daisy does not have testing experience.</li> </ul>



Product Owner / Business Ambassador	<p>Ensures that the product delivered by the team has optimal business value:</p> <ul style="list-style-type: none"> <li>&gt; Shapes the Product Backlog, in line with the Business Vision, to ensure the most valuable aspects of the solution are developed and delivered as soon as is practical</li> <li>&gt; Contributes to ALL requirements, design and review sessions</li> <li>&gt; Provides a business perspective for day-to-day decisions</li> <li>&gt; Describes business scenarios to help define and test the solution</li> <li>&gt; Provides day to day assurance that the solution is evolving correctly</li> </ul> <p>Ensures that the transition to live use of the solution is safe and effective</p> <ul style="list-style-type: none"> <li>&gt; Communicates with business users outside the project.</li> <li>&gt; Organises business acceptance testing as required</li> <li>&gt; Develops business user documentation as required</li> <li>&gt; Ensures adequate user training is carried out</li> </ul>	Bill Wiley	Bill owns the product and is already the de-facto ambassador for his company and its requirements due to him being at the top of the hierarchy	Already business visionary and sponsor, thus opportunities could be missed from a lack of diversity of thought.
Technical Advisor	<p>Requirements, design and review sessions</p> <p>The operational perspective for day-to-day decisions</p> <p>Identification of operational or support scenarios to help define and test the solution</p> <p>Assurance that the solution is evolving correctly</p> <p>Operational acceptance testing</p> <p>Development of support documentation</p> <p>Training of operations and support staff</p>	Julie Lansdown	Has a range of knowledge that will be valuable in advising the team in day to day operations	Has not been in this role previously.
Business Advisor	<p>Requirements, design and review sessions</p> <p>Business perspective for day-to-day decisions</p> <p>Business scenarios to help define and test the solution</p> <p>Assurance that the solution is evolving correctly</p> <p>Business acceptance testing</p> <p>Development of business user documentation</p> <p>User training</p>	Luca Smith	Is a peer of Bill and will be directly involved in handling coordination of the solution once completed.	Has not been in this role previously.
Workshop Facilitator	<p>Agrees scope with the workshop owner and plans the workshop</p> <p>Becomes familiar with the subject area</p> <p>Engages with participants to understand any major areas of interest or concern</p> <p>Helps the workshop meet its objectives</p>	Luca Smith/Sophie Lee	Both people are certified workshop facilitators.	<p>Luca is involved in a few other roles (time less flexible).</p> <p>Possibility of conflict since both parties are from different companies.</p>
DSDM Coach	<p>Helps teams with limited experience</p> <p>Needs to be an expert with real practical experience</p> <ul style="list-style-type: none"> <li>o Preferably certified</li> </ul>	Luca Smith/Jonathan Powell	Both people have experience in Agile development	Luca is involved in a few other roles (time less flexible).

## Appendix B: Communication Plan

ID	EVENT	OBJECTIVE	TARGET AUDIENCE	CHANNEL	TIMING	RESPONSIBILITY
1	Project Launch	To inform all employees of the company and other relevant stakeholders about the upcoming project	All participants and stakeholders	Document, Email	Pre-Project	Business Visionary
2	Terms of Reference	To provide a high level definition of business driver to justify the Feasibility phase, and to ensure strategic goals and priorities align with portfolio	Business Visionary, Business Analyst, Technical Coordinator	Document	Pre-Project	Technical Advisor
3	Project Status	To provide a brief overview of the current status and stage of the project, to ensure the project is progressing according to plan	Business Sponsor	Conferencing	Weekly, Throughout Project	Project Manager
4	Business Case	To describe how the business will change incrementally, and at the end of the product, as expected by the business. This is used to appraise the investment,	Project Team, Business Visionary	Face to Face, Document	Feasibility	Business Analyst
5	Prioritised Requirements List	Describes the requirements the project needs to address in high level, and indicates their priority with respect to the objectives and needs of the project and business	Project Team	Face to Face, Document	Feasibility	Business Analyst
6	Solution Architecture Definition	Provides high level design framework for the solution. Covers both business and technical aspects of the solution to ensure clarity of solution without constraint on evolutionary development	Solution Development Team	Document	Feasibility	Business Analyst, Technical Coordinator
7	Development Approach Definition	Provides definitions of the tools, techniques, customs, practices, and standards at a high level. Describes how quality of solution is assured, through a strategy for testing and reviews	Solution Development Team	Document	Feasibility	Technical Coordinator
8	Delivery Plan	Provides schedule of project increments at high level, including timeboxes that make up the increment.	All participants and stakeholders	Document	Feasibility	Project Manager
9	Management Approach Definition	Demonstrates how the project will be organised and planned from a manager perspective, how stakeholders will be engaged, how progress is demonstrated	All participants and stakeholders	Document	Feasibility	Project Manager
10	Feasibility Assessment	To provide a summary of the project to determine whether the project is feasible - if the project suits their needs	Business Sponsor	Face to Face, Document	Feasibility	Project Manager
11	Business Case	Updating the business case document, and used as a basis for approval for development.	Project Team, Business Visionary	Face to Face, Document	Foundations	Business Analyst
12	Prioritised Requirements List	Sets the limits of the scope of the project in relation to the requirements of the business, and is updated in the document	Project Team	Face to Face, Document	Foundations	Business Analyst
13	Foundation Summary	To provide a summary of the project to determine whether the project will deliver the required rate of return expected from the business	Business Sponsor	Face to Face, Document	Foundations	Project Manager
14	Evolving Solution	Made up of all appropriate components of the final solution, with any intermediate deliverables necessary to explore detail of requirements and solution under construction. These include models, prototypes, supporting materials, testing and review artefacts	Business Sponsor, Solution Participant Users	Face to Face, Document, Collaborative Workshops?	Evolutionary Development	Solution Development Team
15	Timebox Plan	Provides detailed information for each timebox identified in delivery plan. Elaborates on objectives and details of deliverables within the timebox. Often represented as work to do, work in progress, and work completed.	Solution Development Team	Team Board, Daily Stand-ups	Daily during Evolutionary Development	Solution Development Team
16	Timebox Review Record 1, 2, 3	To discuss what has been achieved in the timeboxes, whilst providing any feedback that may influence future plans.	Project Manager, Business Visionary	Face to Face	During each timebox in Evolutionary Development	Team Leader
17	Solution Workshop 1	To demonstrate the delivered solution to the users, to understand any major interests or concerns	Solution Participant Users	Collaborative Workshop	At end of first Project Increment, Deployment	Workshop Facilitator
18	Project Review Report 1	To capture feedback from reviews of the delivered solution, and to confirm what has been delivered.	All participants and stakeholders	Document	At end of first Project Increment, Deployment	Project Manager
19	Timebox Planning and Reviewing 1	To plan for the next timeboxes, taking into account the current backlog	Solution Development Team	Face to Face	Prior to commencing second increment, Evolutionary Deployment	Solution Development Team
20	Timebox Review Record 4, 5	To discuss what has been achieved in the timeboxes, whilst providing any feedback that may influence future plans.	Project Manager, Business Visionary	Face to Face	During each timebox in Evolutionary Development	Team Leader
21	Solution Workshop 2	To demonstrate the delivered solution to the users, to understand any major interests or concerns	Solution Participant Users	Collaborative Workshop	At end of second Project Increment, Deployment	Workshop Facilitator
22	Project Review Report 2	To capture feedback from reviews of the delivered solution, and to confirm what has been delivered.	All participants and stakeholders	Document	At end of second Project Increment, Deployment	Project Manager
23	Timebox Planning and Reviewing 2	To plan for the next timeboxes, taking into account the current backlog	Solution Development Team	Face to Face	Prior to commencing third increment, Evolutionary Deployment	Solution Development Team
24	Timebox Review Record 6, 7	To discuss what has been achieved in the timeboxes, whilst providing any feedback that may influence future plans.	Project Manager, Business Visionary	Face to Face	During each timebox in Evolutionary Development	Team Leader
25	Solution Workshop 3	To demonstrate the delivered solution to the users, to understand any major interests or concerns	Solution Participant Users	Collaborative Workshop	At end of third Project Increment, Deployment	Workshop Facilitator

26	Project Review Report 3	To capture feedback from reviews of the delivered solution, and to confirm what has been delivered.	All participants and stakeholders	Document	At end of third Project Increment, Deployment	Project Manager
27	Timebox Planning and Reviewing 3	To plan for the next timeboxes, taking into account the current backlog	Solution Development Team	Face to Face	Prior to commencing fourth increment, Evolutionary Deployment	Solution Development Team
28	Timebox Review Record 8	To discuss what has been achieved in the timeboxes, whilst providing any feedback that may influence future plans.	Project Manager, Business Visionary	Face to Face	During each timebox in Evolutionary Development	Team Leader
29	Solution Workshop 4	To demonstrate the delivered solution to the users, to understand any major interests or concerns	Solution Participant Users	Collaborative Workshop	At end of fourth and final Project Increment, Deployment	Workshop Facilitator
30	Project Review Report 4	To capture feedback from reviews of the delivered solution, and to confirm what has been delivered.	All participants and stakeholders	Document	At end of fourth Project Increment, Deployment	Project Manager
31	Timebox Planning and Reviewing 4	To plan for the next timeboxes, taking into account the current backlog	Solution Development Team	Face to Face	Prior to commencing fifth increment, Evolutionary Deployment	Solution Development Team
32	Timebox Review Record 9, 10	To discuss what has been achieved in the timeboxes, whilst providing any feedback that may influence future plans.	Project Manager, Business Visionary	Face to Face	During each timebox in Evolutionary Development	Team Leader
33	Solution Workshop 5	To demonstrate the delivered solution to the users, to understand any major interests or concerns	Solution Participant Users	Collaborative Workshop	At end of fifth Project Increment, Deployment	Workshop Facilitator
34	Project Review Report 5	To capture feedback from reviews of the delivered solution, and to confirm what has been delivered. Ensuring the whole project is carried out through the records for each increment	All participants and stakeholders	Document	At end of fifth Project Increment, Deployment	Project Manager
35	Benefits Assessment	To describe the benefits that have accrued following live operation of solution.	All participants and stakeholders	Conferencing, Document	Post-Project	Project Manager

## Appendix C: Prioritized Requirements List

Req ID	Feature	User Story			Acceptance Criteria			Story Points	Priority (MoSCoW)	Story Points Justification	Priority Justification (BABOK 3.0 8 Requirements)
		Requirement Name	As a	I want	So that	Given	When				
REQ 1	System Accounts	Create Account	User	a create an account function	I can create an account with new login information	I am on the 'Create Account' page with a new username and password entered	I click 'Create Account'	an account will be created	1 M	Customer fills out information and submit to create an account. Hashes password and stores hashed password and nonce. Includes UI	5) Is needed for the creation of a large range of requirements that are specific to employee, customer and administrator. 2) No accounts result in incredibly poor security
REQ 2	System Accounts	Login to Account	User	a login to account function	I can login to an existing account with the authentication credentials	I am on the 'Login' page with username and password for a valid account entered	I click 'Login'	I am logged in to my account	1 M	Checks the entry of a database with submitted information and sends a session token to validate the user. Includes basic UI	5) Is needed for the creation of a large range of requirements that are specific to employee, customer and administrator. 2) No logging in results in incredibly poor security
REQ 3	System Accounts	Display Employee Options	Employee	a navbar that displays employee only features	I can select employee only features	I am logged in as an employee	I look at the navigation bar	I should be able to see a range of employee account features	1 M	Uses the token already in the browser to check and then display the correct tabs	1) Makes navigation of the page a lot easier 2) Having all options regardless of account type is a security risk 3) Easy to implement
REQ 4	System Accounts	Display Customer Options	Logged-In-Customer	a navbar that displays customer only features	I can select customer only features	I am logged in as a customer	I look at the navigation bar	I should be able to see a range of customer account features that	1 M	Uses the token already in the browser to check and then display the correct tabs	1) Makes navigation of the page a lot easier 2) Having all options regardless of account type is a security risk
REQ 5	System Accounts	Change Account Type	Administrator	a change account type function	I can change customers access to features they are allowed to use	I am on the "Manage Account" page with an account type set for an account	I click 'Confirm Account Type'	I get a modal confirmation that the account type has changed	2 M	Have to create roles and assign them different CRUD permissions as well as have this be included in the token sent to the browser. Includes medium UI	1) Adds security to the site 5) Having account types is required to have different functionalities between customer, employee and admin
REQ 6	Advanced Accounts	Reset Password	Administrator	a force account password reset function	I can force a user to change their password to something new	I am on the "Manage Accounts" page viewing a list of	I click "Force Password Reset" on an	the user must perform a password change	1 S	Updates the database with a Boolean and deletes session token field. Includes basic UI	1) Increases site security 2) Nothing depends on it 8) ISO 27001 requirement
REQ 7	Advanced Accounts	Change Password	Customer	a change my password function	I can change my password to a new one	I am on the "Reset Password" page with a username, old	I click "Reset Password"	The password for my account will change to the	1 S	Updates the database with a field and makes a comparison between two fields. Also includes hashing	1) Increases site security 2) Nothing depends on it 8) ISO 27001 requirement
REQ 8	Advanced Accounts	Create Employee Accounts	Administrator	a create employee account function	I can create accounts with the employee type	I am on the "Admin Create Account" page with details of a new user entered	I click "Create User"	An account will be created containing the specified details	1 S	Similar to account creation except with an added "type" field allowing setting customer, business, employee or administrator type. Relies on existing role implementation. Includes basic UI	1) Makes it easier for the administration team to manage incoming employees 2) Not required by any other requirements
REQ 9	Online Ordering	View Area Availability	Customer	a check area availability function	I can see if "On the Spot" is available in a certain location	I am on the "Available Locations" page with suburb or Postal Code entered	I click "Check Location"	I get information whether the location is available for service	1 M	Need to add current locations to the database, and gather if location exists in the database as available. Includes basic UI	1) Decrease the amount of queries sent to On The Spot regarding locations availability 6) The longer that this is not implemented, the more locations that will need to be added during the set-up 5) Required to limit
REQ 10	Online Ordering	Set Area Availability	Administrator	a set available areas function	I can set the areas that On The Spot is able to consign in	I am on the "Update Available Locations" page with edits to the existing available	I click "Set Locations"	I get a confirmation that the locations of availability have	1 M	Need to be able to update locations table. Includes basic UI	6) Longer this is not implemented, the more paper work is required to store the information 2) not implementing this results in orders coming from locations that cannot
REQ 11	Online Ordering	Checking Available Times	Customer	a view available times function	I can view the times where drivers are available to pick-up packages	I am on the "Request Quote" page with the pick-up and drop-off addresses entered	I click "Check Availability"	the system displays a table that has the available pick-up dates to select	2 M	Need to have access to all orders and their schedule in the database, as well as know estimated driver efficiency to calculate the amount of packages able to be delivered per day	1) Decrease the amount of queries sent to On The Spot regarding what times are available 2) Not including time handling makes planning deliveries near impossible 5) Required to limit pick-ups overlapping, and
REQ 12	Online Ordering	Requesting a Quote	Customer	a request a quote function	I can view how much a package consignment will cost	I am on the "Request Quote" page with all package and consignment details entered	I click "Request Quote"	the system displays a price estimation of the consignment	4 M	Requesting a quote needs to take into account a range of parameters from the prices concerning weight, quantity, dimensions, distance, type of delivery and extras to generate consistent and profitable price. Needs intermediate UI	1) Decreases the amount of queries sent to On The Spot regarding price calculation 5) Submitting an Order depends on the algorithm created for price generation 7) Will need to be constantly updated with correct pricing using Set Quote Prices
REQ 13	Online Ordering	Setting Quote Prices	Administrator	a set quote detail prices function	I can set the variables of price generation	I am on the "Set Quote Prices" and have edited the set of prices	I click "Confirm Changes"	The price changes I have made are used in	1 M	Changing a entries in a database and requires basic UI	5) Required for requesting a quote

REQ 14	Online Ordering	Submitting An Order	Customer	a submit an order function	an order with my consignment details will be sent to On The Spot	I am on the "Deliver Item" page with package and consignment details entered	I click "Submit Order"	the order is submitted to the system for further payment processing	2	M	Submitting the details of a packet requires the same parameters as quote generation and relies on the same algorithm thus is already handled. Requires creation of delivery orders and information. Requires Intermediate UI	1) Incredibly large benefit from incoming profits as well as reducing the need to have delivery drivers entering information at the door during delivery 2) Not having it severely limits the ability for the existing social media presents to translate into business for the
REQ 15	Payment	Online Card Payments	Customer	an online credit card payment function	I can pay for a submitted order online with a credit card	I am on the "Credit Card Payment" page after submitting an order with credit card details entered	I click "Pay"	The delivery order is paid for with the money transferred from the credit card	4	S	Involves collaboration with third party payment handlers such as banks and requires a business bank account which is assumed to already be in place. Requires Intermediate UI	1) Convenient for customers 2) Not implementing results in orders needing to be handled at the door which takes time or using PayPal 5) Not a dependency on other requirements 8) Need to follow ISO 27001 guidelines for implementing as it is incredibly sensitive information 3) Working with banks may incur cost and could delay
REQ 16	Payment	Online PayPal Payments	Customer	an online PayPal payment function	I can pay for my order online with PayPal	I am on the "PayPal Payment" page with PayPal details entered	I click "Pay"	The delivery order is paid for with the money transferred from PayPal	4	S	Involves collaboration with third party payment handler PayPal. Requires Intermediate UI	1) Convenient for customers 2) Not implementing results in orders needing to be handled at the door which takes time or using card 5) Not a dependency on other requirements 8) Need to follow ISO 27001 guidelines for implementing as it is incredibly sensitive information 3) Working
REQ 17	Payment	Handle At Door Card Payments	Customer	an in person credit card payment function	I can pay for my order in person with a credit card	I am at the pick-up address at the designated time with a credit card	I tap my Card	The delivery order is paid for with the money transferred from the credit card	2	M	Involves using existing payment processes but adding editing a delivery order database field. No UI	1) Allows payment to be received by the business and is already preferred by business visionary 5) Prevents conversion of existing systems to digital media if not implemented
REQ 18	Payment	Handle At Door Cash Payments	Customer	cash payments to be accepted	I can pay for my order in person with cash	I am at the pick-up address at the designated time and have cash	I hand over the specified quantity of cash	The delivery order is paid for with the cash	2	M	Involves using existing payment processes but adding editing a delivery order database field. No UI	1) Allows payment to be received by the business and is already preferred by business visionary 5) Prevents conversion of existing systems to digital media if not implemented 2) Only non-digital medium thus those who
REQ 19	Consignment Tracking	Set Warehouse Status	Employee	to scan packages in at the warehouse	the status of a package will be "arrived at warehouse"	I am entering package details in the warehouse after they have been picked up	I scan the shipping label barcode	The delivery orders status is set to "arrived at warehouse"	2	M	Need to have physical devices pre-set to trigger the database update. No UI required	1/5) Essential part of package tracking 2) Would have to manually input information which would take a long time
REQ 20	Consignment Tracking	Generate Shipping Label	Employee	a generate shipping label function	I can stick a shipping label onto a delivery order parcel's packaging	I have an integrated label maker device with the order ID of a package entered	I select "Generate Label"	A shipping label is printed with a barcode and consignment	2	M	Need to have physical device to print out the delivery order package label and integrate it, as well as having a query with many elements. Need basic UI	1/5) Extremely useful for basic package tracking 2) Would have to manually input information to label which would take a long time
REQ 21	Consignment Tracking	Set Status on Pickup	Driver	to scan a package upon pickup	the status of a package will be "picked-up" when I have picked it up	I have a picked-up a package with a shipping label	I scan the shipping label barcode	The delivery orders status is set to "picked-up"	2	M	Need to have physical devices pre-set to trigger the database update. No UI required	1/5) Essential part of package tracking 2) Would have to manually input information which would take a long time
REQ 22	Consignment Tracking	View All Delivery Orders	Customer	a list of all delivery orders	I can view a list of all my current delivery orders	I have a "Current Deliveries" link	I click on "Current Deliveries"	I can see a list of brief overviews of consignment details for the packages that I	1	S	Retrieve information from the database. Basic UI	2) Customers may be upset if they are unable to see the packages that they have ordered
REQ 23	Consignment Tracking	Customer View Delivery Status	Customer	a view of delivery status for a delivery order	I can see the current status of my delivery	I am on the "Current Deliveries" page with a list of delivery orders	I click on an delivery order in the list	I can see all of the consignment details associated with the order	1	S	Retrieve information from the database. Basic UI	2) Customers may be upset if they are unable to see the packages that they have ordered 7) Customers may want different information and more of it as time progresses
REQ 24	Consignment Tracking	View Consignment Status	Employee	a view of a delivery status of a delivery that I have the order number of	I can see the current status of a delivery that I have the order number of	I am on the "View Package Information" page with an order ID entered	I click "Submit"	I can see the package type and status of the order	1	M	Retrieve information from the database. Basic UI	1) Allows for warehouse processing to occur smoothly when handling cases where the package barcode is unable to be scanned
REQ 25	Consignment Tracking	Set Status on Delivery	Driver	an enter delivery completed function	I can set the status of a package as "closed" once I have delivered it	I have just dropped off a package at its delivery address and have the list of	I click "Confirm Delivery" on the package	The delivery order will be marked as "closed"	1	M	Update information on the database. Basic UI	1/5) Essential part of package tracking 2) Would have to manually input information at a later time which would take a long time

REQ 26	Consignment Tracking	View Delivery Confirmation	Employee	a view of delivery confirmation information	I can see the delivery confirmation details	I am on the "Current Packages" page	I click on a delivery order in the list	I can see the package delivery confirmation details such as	1 S	Retrieve information from the database. Basic UI	1) Is used by employees to make sure packages with queries or complaints did indeed reach their destination 2) No downsides to not implementing it
REQ 27	Consignment Tracking	View Van Location	Customer	a view of the delivery driver van location	I can see the location of the delivery driver on the way to my location	I am on the "Delivery Information" page with a map of the local area	I update the page	I can see the delivery driver assigned to pick-up the package's icon move	16 W	Need to have each truck use the digital device in it to send information back to the servers to constantly track the location of it and integrate this feature with Google Maps to provide an accurate map. Requires advanced UI	3) Takes a lot of effort to implement the requirement when the benefit is only 1) Customer gets piece of mind and saves a few minutes pre-empting a drop off or pick-up 7) Google Maps may change its API breaking the system, or start charging for its API
REQ 28	Generate Reports	View Order Analytics	Administrator	a generate an order information report function	I can see an abstracted report regarding order information	I am on the "Generate Reports" page	I select the "Order Analytics" report	I can view information regarding the quantity, locations and	4 C	Retrieve information from the database and abstract this information to be digestible by non-tech savvy business users. Advanced UI required	1) Benefits to overall business performance but is not desperately needed as there are other avenues to collect and summarise this information that may already be in place 7) Report format will want to be frequently
REQ 29	Generate Reports	View Warehouse Efficiency	Administrator	a generate warehouse parcel processing report function	I can see a van abstracted report regarding warehouse parcel processing information	I am on the "Generate Reports" page	I select the "Warehouse Efficiency" report	I can view information regarding the quantity, average time and accuracy	4 C	Retrieve information from the database and abstract this information to be digestible by non-tech savvy business users. Advanced UI required	See above
REQ 30	Generate Reports	View Delivery System Efficiency	Administrator	a generate delivery time efficiency report function	I can see an abstracted report regarding delivery time information	I am on the "Generate Reports" page	I select the "Delivery System Efficiency" report	I can view information regarding quantity and average time to	4 C	Retrieve information from the database and abstract this information to be digestible by non-tech savvy business users. Advanced UI required	See above
REQ 31	Generate Reports	View Customer Order Quantity	Administrator	a generate high quantity customer report function	I can see a report regarding customers with a high quantity of orders	I am on the "Generate Reports" page	I select the "Frequent Customers" report	I can view account information of the customers who have the highest quantity	4 C	Retrieve information from the database and abstract this information to be digestible by non-tech savvy business users. Advanced UI required	See above
REQ 32	Generate Reports	View Driver Efficiency	Administrator	a generate drivers delivery statistics report function	I can see a report on drivers delivery statistics	I am on the "Generate Reports" page	I select the "Driver Efficiency" report	I can view account information of the customers who have the highest quantity	4 C	Retrieve information from the database and abstract this information to be digestible by non-tech savvy business users. Advanced UI required	See above
REQ 33	Delivering Orders	Enter Picked-Up Order Information	Driver	an input delivery information function	I can input missing delivery order information on a parcel I picked-up	I have just picked-up a package that has missing delivery order information	I enter the missing information and submit it	The delivery order information is filled and can be properly processed at the warehouse	2 M	Need to both retrieve information from the database and then update the information. Intermediate UI	1) Essential for converting the old excel system into the new system as their will be plenty of customers who do not have an account and will be asking for orders via external systems such as phone calls and paper mail
REQ 34	Delivering Orders	View Package Priority	Employee	a view a package priority function	I can prioritise handling the package if it is required	I have a package with a shipping label	I scan the shipping label barcode	I can see the package priority with handling instructions	2 M	Retrieve information from the database. Require physical scanning device. Basic UI required	1) Essential for handling priority shipping 2) Customers paying for special shipping that do not have the package treated like they have requested will be extremely angry 7)
REQ 35	Delivering Orders	Enter Requested-Pick Up Order	Employee	an enter the requested order's consignment details function	the parcel can be picked up at a scheduled time	I am on the "Create Order" page after communicating with a customer	I enter their details and consignment information then press "Confirm"	A delivery order will be created for the customer	2 M	Submitting the details of a packet requires the same parameters as quote generation and relies on the same algorithm thus is already handled. Requires creation of delivery orders and information. Requires Intermediate UI	1) Essential for converting from the old system as their will be a lot of phone based pick-up requests that will need to be completed by staff
REQ 36	Delivering Orders	View Open Pick-Up Information	Driver	a view the open pick-up information function	I can pick-up the parcel at the specified time	I have a list of delivery orders to pick-up today	I click on a delivery order in the list	I can view the address and pick-up time	1 M	Retrieve information from the database. Basic UI	2) Without this, picking up parcels without paper will not be possible with the new system
REQ 37	Delivering Orders	View Drop-Off Information	Driver	a function to view the drop-off information of package to be delivered	I can drop-off the parcel at the correct location	I have a list of delivery orders to deliver today	I click on a delivery order in the list	I can view the address of the drop-off orders	1 M	Retrieve information from the database. Basic UI	2) Without this, dropping off parcels without paper will not be possible with the new system

REQ 38	<b>Delivering Orders</b>	View Packages to Deliver	Employee	a view list of packages location function	I can load the correct truck with the correct packages to deliver	I am on the "Load Truck" page and have a large group of packages which need transporting into	I scan the shipping label barcode	I can view which truck the package should be loaded into	2	S	Retrieve information from the database. Require physical scanning device. Basic UI required	1) Makes loading the trucks to ship the products a lot easier than manually searching its Order ID. 2) However, alternative searching may already exist thus isn't incredibly urgent. Failure to load packages
REQ 39	<b>Delivery Routes</b>	View Driving Route	Driver	a function to view an efficient generated route between locations	I can deliver more packages in a single day	I am in the delivery truck and have the "Delivery Packages" page on a device	I click "Generate Route"	I can follow the route to pick-up and deliver packages	16	C	Need to use the list of todays order for a specific truck and integrate this with Google Maps and their API to generate a range of stops for the package driver to	1) Increases driver efficiency 3) A lot of time taken to implement 4) Google may change their API 7) Route algorithm may need tweaking as road works and traffic have to be
REQ 40	<b>Delivering Orders</b>	Fill-in Delivery Signature	Customer	a fill in delivery signature function when a parcel arrives at destination	the sender can know that the parcel has been delivered to the correct destination	I am receiving a package at my house and the delivery driver has a digital signature	I draw my signature on the device	The package is confirmed to have been delivered intact	2	C	Update the server with information from device that has external software that must be integrated. Basic UI	1) Very little business value 2) Customers may be upset that they do not get proper confirmation that their package has been delivered 3) Cost of a physical signature
REQ 41	<b>Customer Information</b>	Add Customer Type	Customer	a change customer type function	I can be exposed to business partnerships with On the Spot	I am on the "Account Information" page	I select a different customer type	On The Spot will know that my account is of a different type and treat it	1	S	Update the server with information. Basic UI	1) Makes connection between business and On The Spot more obvious and could increase growth, but this can occur without an explicit business and customer split 2) Customers may perceive some slight that they are not
REQ 42	<b>Customer Information</b>	Pre-Fill Consignment Information	Employee	to have information about a customer with an account pre-fill consignment details	I do not need to input information which the company already has on record	I create a new delivery order for a customer with an existing account and am on the "Create Order" page	I enter the customers username	The information already in the customers account should auto-fill the form	2	S	Retrieve a variety of information and insert it into a form. Intermediate UI	1) Increases speed of data entry 2) No penalties
REQ 43	<b>Customer Information</b>	Add Addresses to Account	Customer	an add address to account function	I do not have to type out the address every time I fill in consignment details	I am on the "Account Information" page and have entered in my new address	I click "Save Address"	I can select the address later when needing to enter an address	1	S	Update the server with information. Basic UI	2) Customers may be annoyed they have to put information in again 8) Must store this information properly under ISO 27001
REQ 44	<b>Customer Information</b>	Store Online Payment Methods	Customer	a store payment method function	I can use the payment method at a later today without having to enter in the information again	I am on a payment screen and have entered payment details	I click "Save Payment Method"	I can select the payment details later when needing to enter payment details	1	S	Retrieve information from the database. Basic UI	2) Customers may be annoyed the have to put credit card information in again 8) Must store this information properly under ISO 27001
REQ 45	<b>Customer Information</b>	View Order Archive	Customer	a view previous delivery orders function	I can refresh my knowledge that a previous delivery order	I have an "Archive" options as a customer in the navigation bar	I click "Archive"	I can view a list of delivery orders which are closed	1	S	Update the server with information. Basic UI	2) Customers may be annoyed they cant confirm their previous orders
REQ 46	<b>Customer Information</b>	Change Personal Details	Customer	a change account's personal details function	On the Spot can communicate with me using my preferred	I am on the "Account Information" page and have edited the	I click "Update"	The personal details I have entered are saved	1	S	Update the server with information. Basic UI	2) Customers may be annoyed they cant edit their previous details 8) Must store this information properly under ISO 27001
REQ 47	<b>Query Communication</b>	Create Online Query	Customer	a raise online query function	I can have any questions I have about the service be answered by a person	I am on the 'raise query' page and have entered in my query's	I click 'Submit Query'	I receive confirmation that my query has been sent	1	M	Update the server with information. Basic UI	1) Highly requested by the business to direct correspondence away from Bill 2) Customers who don't understand the ordering system wont be able to place or get help with their
REQ 48	<b>Query Communication</b>	View Unresolved Queries	Employee	a function to view a list of all unresolved queries in order of oldest to newest	I can see which customer query I need to attend to first.	I am on the queries page with a list of unresolved queries to resolve	I click 'open' on the first one	The unresolved query with the oldest response will	1	M	Retrieve information from the database. Basic UI	2) Having the list be ordered means that old queries don't get lost and annoy customers that never got a response
REQ 49	<b>Query Communication</b>	Respond To Online Queries	Employee	a function to respond to an unresolved customer query	I can provide assistance for the customer	I open unresolved query and have inserted information	I press 'send response'	The information will be sent to and received by the logged-in-users account and the system should remove	1	M	Update the server with information. Basic UI	5) Required to answer queries
REQ 50	<b>Query Communication</b>	Mark Queries as Resolved	Employee	a mark query as resolved function	I do not attempt to respond to the query in the future	I am on the 'customer query' page and select the query	I click on 'marked resolved' button	the query from the 'unresolved' list and archive it	1	M	Update the server with information. Basic UI	1) Will prevent answered queries obscuring new queries
REQ 51	<b>Query Communication</b>	Create Feedback	Customer	a send feedback function	I can use the feedback to improve the service they have given me	I am on the "send feedback" page	I click "send feedback"	The feedback is sent to On The Spot for review	1	S	Update the server with information. Basic UI	1) Feedback will help the business, but isn't as essential as helping customers via queries

REQ 52	Query Communication	Review Feedback	Employee	a review feedback function	I can address service issues that are detailed in the reviews	I am on the "customer feedback" page with a list of customer	I click on a piece of feedback	I can view and archive the feedback		1 S	Retrieve information from the database. Basic UI	5) Requirement for sending feedback is to have it go somewhere and be readable
REQ 53	Advanced Communication	Automated FAQ	Customer	a instantly answered common questions function	I do not have to wait for customer support to answer the question I have.	I am in the "Automated FAQ" chat system and have written a question	I click "send"	If the question has been previously answered, a response is automatically given		8 C	Need a large bank of pre-existing answered questions equivalent to a set of documentation. Retrieving this information for the database also needs to occur dynamically based on the question. Advanced UI	1) Will reduce the strain on queries and live chat greatly, since common questions will not require a person but 2) Will not be sorely missed by customers as other avenues exist for communication and 3) building it is a large task that requires a lot of work 6) which will continuously change as answers become
REQ 54	Advanced Communication	Live Chat System	Customer	a real time customer support system	I do not have to wait as long as query based communication	I am in the "Live Chat" and have written a question	I click "send"	A person at On The Spot will be able to see the question		8 C	Need to have existing staff waiting in real time with low latency to live chat, and have documentation at their fingertips more extensive than the one provided for the FAQ. A separate server may also be needed to handle this with messages being stored in the database and gathering the current FAQ user. If multiple employees are live chatting this will need to be handled as well.	2) People really enjoy talking to a human rather than a robot and want quick answers now 3) Need a lot of staff to man live chat and running a new server also bring the price up quite high 4) Costs of extra labour may outweigh the benefits, and customers could get frustrated if the service isn't available 24/7 6/7) Trainees will need constant training as the system updates throughout deployment
REQ 55	Advanced Communication	Chat Waiting System	Employee	a waiting queue of customers in live chat function	I can answer their questions accurately as I am fixing one problem	I am already in a Live Chat with a customer	A new customer wants to chat	They join a queue till the current customer has had		1 C	Updating a queue in the server. Basic UI	5) Requirement for live chat system to function properly
REQ 56	Advanced Communication	Query Analysis Classification	Employee	a function to analyse and classify incoming queries for their word content	the appropriate staff member can answer the query based off of their expertise	a query is sent to On The Spot	The classification tool analysis the query	The query is classified into categories for different staff members to address		16 W	Building a machine learning algorithm to scan text and then accurately classify the information. Update the server with meta information of the query and retrieving the information from the database to use. Basic UI	1) Would increase the productivity of those answering queries 3) Machine learning is quite difficult to implement and the amount of time spent means the cost outweigh the productivity benefit
REQ 57	Complaint Communication	Create Complaint	Customer	a raise an online complaint function	I can have On The Spot resolve problems with the service I received	I am on the 'raise complaint' page and have entered in my complaint	I click 'Submit Complaint'	I receive confirmation that my complaint has been sent		1 S	Update the server with information. Basic UI	1) Complaints can help business understand their problems 2) Customers may be upset they cannot send in complaints 4) Could receive hate spam
REQ 58	Complaint Communication	Address Complaint	Employee	a function to refund a customer who has a legitimate complaint about the service they received	customers will feel better about the service since their complaint has been addressed	I am on the "Unresolved Complaint" page and have validated the customer received inappropriate service	I click "refund"	the payment for the delivery is sent back to the customer		8 S	Update the server with information as well as handle refunds being sent from the company through a range of payment providers and methods. Basic UI	2) Customers with real problems could be very upset with a refund 3) Insane level of cost due to the refunds directly taking money out of the business but this is offset with repeat customers 8) Refunds are required to be implemented under Australian Consumer
REQ 59	Complaint Communication	View Open Complaints	Employee	a function to view a list of all unopened complaints in order of oldest to newest	I can see which customer complaint I need to address	I am on the "Unresolved Complaints" page with a list of unresolved	I click 'open' on the first one	the oldest unviewed complaint will open		1 S	Retrieve information from the database. Basic UI	5) requirement for complaints



## Appendix D: Risk Register

Risk Register For On The Spot												
Risk Identifier	Date Registered	Category	Risk Description	Probability	Impact	Risk	Proximity	Response Category	Response Action	Status	Owner	Actionee
R1	21/09/2021	Technology	Cause of a malicious attacker attempting to gain access to the system performing a MITM attack on the login information, the event of a confidentiality breach of administrator data allowing for the attacker to have administrator privileges occurs, with the effect of immediately halting development till the breach is dealt with	low	low	medium	During 2 Iteration Development	Avoid	Use a HTTPS connection rather than HTTP so that all website traffic is encrypted between client and server by default, regardless if the authentication information that is encrypted is hashed or not. If the breach still occurs, a prior backup should be switched to with different credentials after the security flaw is patched.	Closed	Technical Coordinator	Software Development Team
R2	21/09/2021	Technology	Cause of a malicious attacker attempting to take down the site via a Distributed Denial of Service (DDOS) attack, the event of the site is unavailable for an extended period of time occurs, with the effect of development being stalled for the period time the servers are down	very low	very low	medium	From First Delivery	Reduce	Reduce damage by having redundant network capacity and server processing power as well as dynamic expansion. Can focus on development of requirements that are not customer server dependent.	Open	Technical Coordinator	Team Leader
R3	21/09/2021	Technology	Cause of an employee visiting a malicious website which launches a cross site scripting attack in an attempt to steal login information, the event of an attacker gaining access to administrator privileges occurs, with the effect of immediately halting development till the breach is dealt with	high	medium	medium	From First Delivery	Avoid	Avoid CSRF by using a secret key in the website to make sure that the origin is not a malicious request. If the breach still occurs, a prior backup should be switched to with different credentials after the security flaw is patched.	Open	Technical Coordinator	Software Development Team
R4	21/09/2021	Technology	Cause of the software development team and specifically testers missing possible test cases, the event of an bugs are present in the released iterable version causing the site to not function properly, denying certain features or leaving exploits	high	medium	medium	Throughout Development	Reduce	Reduce bugs by following the Development Approach Definition. Have tests for each requirement and verify those test cases before the requirement is complete, as well as team members designated to write and check those test cases, and then run these features by the business advisor to guarantee they are working correctly	Open	Technical Coordinator	Software Development Team
R5	29/09/2021	Technology	Cause of an extreme weather event, the event of an damage to development servers and equipment is sustained, with the effect of pausing development till the physical infrastructure could be repaired, and possibly having data permanently destroyed	very low	very high	medium	Any time	Accept/Reduce	Reduce damage by hosting servers and equipment in locations about the flood level. A contingency plan when extreme weather arises to back-up data and distribute servers to multiple locations. Accept by having emergency messages that can be sent out after an event to analyse what has been damaged, and have suppliers details to resupply Agile Solutions.	Open	Technical Coordinator	Technical Coordinator
R6	29/09/2021	Technology	development equipment, the event of the infrastructure of the solution is kept on is stolen, with the effect of development pausing until the infrastructure is repaired, recovered and able to be used for development	very low	medium	low	From First Delivery	Reduce	Reduce theft by having CCTV and fences surrounding On The Spot servers, warehouses and other equipment storing locations	Open	Technical Coordinator	Technical Coordinator
R7	29/09/2021	Technology	Cause of external payment processes stopping working, the event of the development of payment based requirements is forced to stop occur, with the effect of delays to the project	high	medium	medium	From First Delivery	Transfer	Transfer development team to start working on requirements that do not require the outside payment providers	Open	Technical Coordinator	Software Development Team
R8	29/09/2021	Technology	widespread networking interruptions, the event of an connection and throttling problems for project meetings and development updates occur, with the effect of delays to the project development and reduce ability to communicate	very low	low	very low	From First Delivery	Transfer	At the first sign of the ISP being unreliable, switch providers to one that is reliable	Open	Technical Coordinator	Software Development Team

R9	21/09/2021	People	Cause of employees of both companies who are in vital roles leaving the company, the event of a lack of staff assigned to a role occurs, with the effect of causing confusion of tasks, lack of enthusiasm for the existing project with the new employee, delaying the project and requirements changing	medium	low	low	Throughout Project	Reduce	Reduce the amount of people leaving Agile Solutions by having contracts and providing a healthy work environment. Replace employees quickly with contractors while also searching for long term replacements on job sites.	Open	Technical Coordinator	Team Leader
R10	21/09/2021	People	Cause of the employees of One The Spot not performing their duty in their assigned position, the event of a lack of guidance from a designated advisor role occurs, resulting in features being misinterpreted or unusable to employees.	very low	low	very low	Throughout Project	Avoid	Avoid business participants not helping by having the Business Sponsor ensure that the business participants participate and resolve issues. Have frequent and scheduled meetings to ensure that employees not helping are not doing so through lack of knowledge of being able to help or their need to help.	Open	Project Coordinator	Business Sponsor
R11	21/09/2022	People	Cause of the long time of development on external work, the event of a Members of Agile Solutions become disinterested or apathetic throughout the development cycle occurs, with the effect of the standard of work to drop and requirements being 'met' when they are not	very low	medium	low	Throughout Development	Reduce	Reduce the amount of people becoming apathetic in Agile Solutions by providing a healthy work environment	Open	Team Leader	Team Leader
R12	21/09/2023	People	Cause of employees of On the Spot not participating in workshops regarding the new system, the event of a requirements that were previously requested not being used occurs, the business no longer sees that the project has value to it and devotes less resources to it	very low	high	low	During Workshops	Reduce	Reduce business participants not participating in workshops by having the Business Sponsor ensure that the business participants participate and have the workshop facilitators have prior training so that people are more likely to participate	Open	Project Coordinator	Workshop Facilitator
R13	21/09/2024	People	Cause of part-time and casual employees being unavailable during crisis, critical moments of releases leading the event of a mismatch of information regarding the software occurs, with requirements to be built that wont be included in the project,	very high	medium	high	Throughout Project	Accept/Reduce	Accept that some employees will not be working all the time and reduce the confusion by having redundant back-up to replace them	Open	Project Coordinator	Project Coordinator
R14	29/09/2021	People	Cause of a lack of prior information provided by project visionary Bill Wiley, the event of the project vision to not be clearly defined occurs, to the effect of in incorrect	high	high	high	Throughout Project Planning	Avoid	Avoid a lack of information by communicating with Bill Wiley when he comes available	Open	Business Visionary	Business Advisor
R15	21/09/2025	Requirements	requirements to be built that wont be included in the project, the event of an irritation and rejection of the software occurs, with the effect of including features that were requested yet unimportant and disappointment with the solution	low	low	low	From First Delivery	Accept	Accept that some employees will have different expectations to what is being delivered and communicate with them via the communications in the communication plan	Open	Project Coordinator	Project Coordinator
R16	21/09/2026	Requirements	of the project will be delivered sooner than others, the event of rejection of the beginning iteration of the project occurs, with the effect of the rest of the project is deemed as a failure and less resources is devoted to it	low	low	low	From First Delivery	Accept	Accept that some employees will have different expectations to what is being delivered and communicate with them via the communications in the communication plan	Open	Project Coordinator	DSDM Coach
R17	21/09/2028	Requirements	Cause of employees of On The Spot sabotaging features that may effect their job to avoid it being replaced or altered, the event of features being described incorrectly occurs, with the effect of causing requirements to be missed and the end solution being ineffective at achieving its business goals	very low	very high	medium	Throughout Project	Reduce	Reduce the quantity of staff incidents by having good communication via the communication plan and ensuring staff that the upgrade will make their jobs easier. Recommend employees sign contracts with minimum work periods to ensure them that the upgrade will not replace them.	Open	Project Coordinator	Workshop Facilitator
R18	21/09/2021	Requirements	Cause of miscommunication with the business team, the event of the requirements not including key aspects of the project occurs, with the effect of distrust in Agile Solutions ability and disappointment with the created solution as it doesn't mean the business sponsors requirements	medium	very high	high	During Requirement Creation	Avoid	Avoid miscommunication with the business team by having set standard meetings to account for his busy schedule and have other business members know of the requirements so they can advise when he is not present. Upon discovery of a missed requirement, add it to the product backlog and attempt to schedule it for a later date.	Open	Technical Coordinator	Business Advisor

R19	7/10/2021	Requirements	Cause of miscommunication with the business team, the event of the requirements not being prioritized correctly occurs, with the effect of deploying features which are not important and are not relevant to the businesses current needs	medium	medium	high	During increment planning	Avoid	Avoid miscommunication with the business team by having set meetings. Include business advisors in discussion of prioritization and get the business sponsors or project coordinators approval. Reprioritize requirements if needed.	Open	Technical Coordinator	Business Advisor
R20	21/09/2021	Organisational	Cause of a disconnect in communication between On the Spot team and Agile Solutions team, the event of a communications breakdown occurs, with the effect of project delays and	high	high	high	Throughout Development	Avoid	Avoid a disconnect in communication via sticking to the communications plan and working closely on the project with the business	Open	Technical Coordinator	Project Coordinator
R21	21/09/2021	Organisational	Cause of the size of the company, the event of the same employee covering multiple roles occurs, with the effect of employees being too busy to attend to their tasks and being unable to complete their tasks	medium	low	low	Throughout Project	Accept	Accept that employees will be busy and as the company grows and with this increase in business the new employees that enter the business can take up the role to relieve pressure on the existing employees	Open	Business Visionary	Project Coordinator
R22	21/09/2021	Organisational	Cause of The organisational structure of On The Spot changes as the company grows causing previously assigned roles to become untenable resulting in project delays and possibly disinterest	very low	very low	very low	Throughout Project	Accept	Accept that employees will be busy and as the company grows and with this increase in business the new employees that enter the business can take up the role to relieve pressure on the existing employees	Open	Business Visionary	Project Coordinator
R23	21/09/2021	Estimation	Cause of a lack of previous experience and poor group discussion, the event of under estimation of task time occurs, with the effect of the project exceeding the schedule	medium	medium	medium	During Requirement Creation	Avoid	Avoid a lack of experience and poor group discussion by including all of the development team who has years of experience, and form the discussion in a structured manner based off of the business visionaries wants and needs	Open	Team Leader	Development Team
R24	21/09/2021	Estimation	Cause of a lack of previous experience and poor group discussion, the event of underestimation of task time occurs, with the effect of requirements that could have been built being placed out of scope and producing a substandard product	very low	very low	very low	During Requirement Creation	Avoid	Avoid a lack of experience and poor group discussion by including all of the development team who has years of experience, and form the discussion in a structured manner based off of the business visionaries wants and needs	Open	Team Leader	Development Team
R25	21/09/2021	Estimation	Cause of a lack of previous experience and research, the event of an under estimation of price occurs, with the effect of the project being cancelled as it no longer produces an overall net positive business value	very low	extremely high	low	During Requirement Creation	Avoid	Avoid a lack of experience and poor group discussion by including all of the development team who has years of experience, and form the discussion in a structured manner based off of the business visionaries wants and needs	Open	Team Leader	Development Team
R26	29/09/2021	Estimation	Cause of the project schedule not being followed by the development team the event of On The Spot not receiving its deliverable on time occurs, with the effect of confusion and mistrust from On The Spot regarding what elements will be delivered, resulting in the cutback or cancellation of the project	very low	high	very low	During Development	Avoid	Avoid by following the High Level Delivery Plan. Educate those who do not have previous Agile experience with the required knowledge.	Open	Team Leader	DSDM Coach
R27	29/09/2021	Legal	Cause of On The Spot being sued for external reasons, the event of litigation ties up the business team members, with the effect of delays to the project	very low	medium	low	Any time	Accept	Accept that working with any client can cause risk of litigation and attempt to deliver products based on the limited information available	Open	Technical Coordinator	Team Leader

## Appendix E: Business Case Notes

### Appendix E.1

Salary is based on the average salary of software developers which is \$37/hour (Payscale, 2021).

### Appendix E.2

\$78,000 has been the estimated web design and development cost for the project as it is the average cost calculated when considering database integration, website hosting etc. (WebFX, 2021).

### Appendix E.3

\$725 is the estimated website maintenance cost. As on average, a development team may pay \$200-\$1250 per year for website maintenance. Hence, the maintenance cost for this project is taken from the average of the two costs (WebFX, 2021).

### Appendix E.4

\$950 is the estimated cost for training and documentation as the same with website maintenance, it is taken from the average cost of training and documentation (Tonic Design, n.d.).

### Appendix E.5

Unit amount of 5 computer systems is to accommodate the 5 project members of "Agile Innovation" if needed to work at "On the Spot." Cost per system is 3000 (Pratt, 2017).

### Appendix E.6

\$3000 is based on the amount that the business partner provides for business related expenses (\$25000 = 4 years, \$6250 = 1 year, project runs just under half a year. Therefore \$3000 is the estimated amount for business-related expenses).

## Appendix F: Nielsen and Molich's Ten User Interface Design Guidelines

### **1. Consistency and standards**

Interface designers should ensure that terminology is maintained across similar platforms. For example, there must be no ambiguity in wording so that users are certain words, actions and situations represent the same thing.

### **2. Visibility of system status**

Users should always be informed of system operations with easy to understand status reports given in reasonable time.

### **3. System match to the real world**

Designers should endeavour to mirror the type of language, phraseology and concepts users may find in the real world as opposed to 'tech-speak'. Presenting information in logical order and piggybacking on expectations users may have formed during real-world interactions will reduce cognitive strain and make systems easier to use.

### **4. User control and freedom**

Offer users a digital space where backward steps are possible, including undoing and redoing previous actions.

### **5. Error prevention**

Wherever possible, design systems so that the number of possible errors is kept to a minimum. Like this users are not called upon to detect and remedy problems, which may on occasion be beyond their level of expertise. Eliminating or flagging actions that may result in errors are two possible means of achieving error prevention.

### **6. Recognition rather than recall**

Maintain task-relevant information within the display whilst users are carrying out actions so that cognitive load is minimised. Due to the limitations of short-term memory designers should ensure users do not have to remember information across parts of the dialogue. Keeping such information visible or offering easy means of retrieving this information is essential.

### **7. Flexibility and efficiency of use**

With increased use comes demand for less interactions that allow faster navigation. This can be achieved by using abbreviations, function keys, hidden commands and macro facilities. Users should be able to customise or tailor the interface to suit their needs so that frequent actions can be achieved through more convenient means.

### **8. Aesthetic and minimalist design**

Keep clutter in the goal space to a minimum. All unnecessary information competes for the user's limited attentional resources, which could inhibit retrieval of relevant information. Therefore, the display must be reduced to only the necessary components for the current tasks, whilst providing clearly visible and unambiguous means of navigating to more specific information, tasks, actions or any other content.

### **9. Help users recognise, diagnose and recover from errors**

Designers should assume users are unaware of technical terminology so error messages should be expressed in plain language to bring problems to the user's attention and solutions should be worded to ensure nothing gets lost in translation.

### **10. Help and documentation**

Although the ideal is for users to navigate the system without having to resort to documentation, it may, at times be necessary. When users require help, ensure it is easily located, specific to the task at hand, worded so as to guide them through the necessary steps and not too long-winded.

(Schmitt, n.d.)

## Appendix G: SOLID Design Principles

**Single Responsibility Principle.** Everything should have only one reason to change. This will help developers understand the context and responsibility of what they are building and when there is a need for change.

**Open-Closed Principle.** A change in behaviour should be possible without changing existing code, e.g. by using extension points and creating code that can be plugged in.

**Liskov Substitution Principle.** Derived objects or types must be substitutable for their base. For Derick this is a more focused version of the Open-Closed principle.

**Interface Segregation Principle.** A client should not be forced to depend on interfaces it doesn't use. A problem is that there are no explicit interfaces in JS, but there are ways around this.

**Dependency Inversion Principle.** Consists of two concepts, abstraction which states that we should depend on abstractions, not on concrete implementations and ownership that states that low level implementation should depend on high level concepts.

(Stenberg, 2014)

## Appendix H: BABOK 3.0 Prioritization Criteria

Prioritization means "*Order of importance*". BABOK 3.0 suggests 8 factors that influence the prioritization of requirements.

1. Benefit - It is the advantage that the business accrues as a result of the requirement implementation. The benefit derived can refer to functionality, quality or strategic / business goals.
2. Penalty - It is the consequence of not implementing a requirement. It can refer to the loss in regulatory penalties, poor customer satisfaction or usability of the product.
3. Cost - It is the effort and resources that are required to implement a requirement. A resource can refer to finance, man-power or even technology.
4. Risk - It is the probability that the requirement might not deliver the expected value. This can be due to various reasons ranging from difficulty in understanding the requirement to implementing the requirement.
5. Dependencies - It is the relationship between requirements. As such, a requirement will require the completion of another requirement for its implementation.
6. Time Sensitivity - Everything comes with an expiry date. There has to be mention of what time the requirement will expire or also if the requirement is seasonal.
7. Stability - It refers to the likelihood of the requirement remaining static.
8. Regulatory/Policy Compliance – Those requirements that must be implemented to meet the regulatory requirements.

(BABOK, 2021)