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#### I. Introduction

In an era prioritizing sustainability and accessibility, Green Groceries shines as a model of conscientious commerce. For five years, it has fostered trust, sourcing organic produce locally. Now, venturing into the digital realm, Green Groceries aims to democratize sustainable living, transcending boundaries through e-commerce. Their ethos, deeply rooted in nurturing both health and environment, drives this initiative. Partnering with System Concepts, a renowned Agile consultancy, they craft an online platform marrying functionality with purpose. Guided by Agile principles, this collaboration promises adaptability and excellence. Green Groceries seeks to redefine sustainable commerce, exceeding customer expectations and weaving a narrative of sustainability with every purchase. With innovation and dedication, they pave the way for a greener future, inspiring generations to come.

## 1.1. The aim of this project

The aim of the project is to harness technology and Agile methodologies to construct an online platform for Green Groceries. This platform will extend the company's market reach, facilitating easier access to eco-friendly products for consumers worldwide. By streamlining the purchasing process and offering a diverse selection of organic goods, the platform seeks to enhance convenience for shoppers while upholding Green Groceries' commitment to sustainability. Through this initiative, the company aims to merge digital innovation with environmental stewardship, driving both customer satisfaction and corporate success in harmony with their core values.

## 1.2. The Development the online platform

## > Outsourcing:

Green Groceries entrusts its online platform project to System Concepts, an Agile software consultancy renowned for excellence. Through this strategic outsourcing, Green Groceries leverages System Concepts' expertise to sculpt a sustainable, user-centric platform that embodies their values of accessibility and environmental stewardship.

## Methodologies and Framework

The online platform development adopts Agile methodologies, particularly SCRUM and Agile Atern framework. Emphasizing iterative and incremental progress, this approach fosters flexibility and responsiveness, aligning seamlessly with Green Groceries' ethos of adaptability and commitment to delivering a user-centric, sustainable solution.

#### Development team

The System Concepts team for the Green Groceries project comprises qualified experts in web development and Agile methodologies. The team includes:

- **Millie**: Skilled programmer with expertise in web development and effective communication.
- **Peter**: Excellent web developer, occasionally has client disagreements.
- Anita: Strong web developer, also engaged in homeless volunteer work.
- Cheryl: Experienced Agile Team Leader, proficient in web development.
- Pat: Part-time availability, proficient in web development and testing.

#### 1.3. Stakeholders in the DSDM Atern framework

Stakeholders in the DSDM Atern framework:

Business Sponsor and Business Visionary: Represented by the CEO and Founder of Green Groceries, who directs the project's vision and strategic course.

Technical Coordinator and Project Manager: Handled by the Operations Manager with Agile software development proficiency, overseeing project management and technical aspects.

Business Analyst: Taken on by the Marketing Manager, certified as a Workshop Facilitator and Agile Project Manager, responsible for analyzing business requirements and aligning them with project objectives.

Business Ambassador (User Representatives): Represented by the Operations and Marketing Managers, advocating for both internal (staff employees) and external (customers) stakeholders' needs to ensure the platform meets user expectations and aligns with company values.

Solution Development Team: Comprising individuals such as Millie, Peter, Anita, Cheryl, and Pat, responsible for executing the technical development and implementation of the online platform.

End-Users: Green Groceries' customers, whose preferences and requirements steer the platform's design and functionality.

## 1.4. Discuss about Agile (framework)

To gain a deeper comprehension of Agile concepts, I will delineate its components below and elucidate the framework and methodology applied in this project. Agile embodies a software development approach centered on flexibility and collaboration. It entails breaking projects into discrete segments and closely engaging with customers to guarantee that the end result meets their needs. Emphasizing human interaction over rigid plans, Agile underscores the early and regular delivery of operational software. (moodlecurrent.gre.ac.uk, 2024)

## > The methodology is used to develop the Green Groceries Online Platform

The Green Groceries Online Platform adopts Agile methodologies, specifically Scrum, for development. Scrum, renowned for its short development cycles and defined team roles, aligns with Green Groceries' and System Concepts' project vision. Its iterative approach, adaptability, and focus on continuous improvement make it ideal for this endeavor. With transparent processes and time-boxed sprints, Scrum ensures collaboration, on-time delivery of features, and regular opportunities for reflection and enhancement. Ultimately, Scrum offers a structured Agile methodology tailored to meet Green Groceries' evolving requirements, ensuring the creation of an effective and responsive online platform.

# > The DSDM atern framework is applied for the development of the Green Groceries online platform

The Green Groceries online platform utilizes the DSDM Atern framework, an Agile methodology renowned for iterative development, collaboration, and early value delivery. DSDM Atern integrates structured project management principles like MoSCoW prioritization and timeboxing to ensure efficient and frequent delivery.

## > The Advantages when the DSDM atern framework is applied:

The application of the DSDM Atern framework yields numerous advantages, particularly in dynamic business settings like Green Groceries. Agile methodologies under this framework enable swift adaptation to evolving requirements and priorities. For instance, during the development of Green Groceries' online platform, customer feedback prompted the addition of a new feature allowing delivery instructions. The Agile team adeptly incorporated this request, showcasing the framework's responsiveness to customer needs.

Moreover, DSDM Atern facilitates iterative and incremental development, ensuring the frequent delivery of operational software and rapid feedback loops. For example, in crafting Green Groceries' online platform, the team subdivides the project into manageable iterations. Each iteration focuses on delivering specific functionalities, such as user registration and product browsing, with subsequent iterations building upon previous ones based on stakeholder and user feedback. This iterative approach ensures steady progress and continuous refinement, culminating in a successful platform launch.

Furthermore, the DSDM Atern framework emphasizes customer involvement throughout the development lifecycle, ensuring alignment with their needs and expectations. For instance, the Green Groceries development team actively solicits customer feedback through interviews and usability studies, shaping features such as the checkout process and product search functionality. By incorporating customer preferences and addressing concerns, the team ensures

the final platform is user-friendly and customer-centric, enhancing overall satisfaction and usability.

#### > The Drawbacks of the DSDM atern framework:

The DSDM Atern framework presents challenges due to its reliance on extensive stakeholder involvement, which can be difficult to sustain if stakeholders are unavailable or disengaged. This lack of input may hinder feature prioritization and conflict resolution for the development team. Implementing DSDM Atern for Green Groceries' online platform development confronts complexities, particularly for smaller or inexperienced teams. These challenges include comprehending the framework's intricacies, managing timeboxes, and facilitating collaboration. Addressing this necessitates additional training and support to navigate DSDM Atern effectively, ensuring successful project delivery within the ambitious three-month timeframe.

## II. High-level requirements analysis and MoSCoW prioritisation.

## 2.1) Define High-level requirements

High-level requirements are general statements outlining the main goals and functionalities of a project or system without going into specific details. Based on Appendix A (Table 1: Base lined list of requirements for the Web site) and all requirements be listed below table (moodlecurrent.gre.ac.uk, 2024)

Table 1. High-Level Requirement

ID	High-Level Requirements
RQ1	Ensure the presence of a minimum of 20 office plants, aligning with the company's
	dedication to fostering a green and health-focused work environment.
RQ2	Enable order-handling clerks to conduct telephone purchases through the website,
	thereby replacing the current paper-based system.
RQ3	Enable customers to effortlessly modify their account information to maintain precise
	and current records.
RQ4	Host a virtual celebration on the website in honor of the CEO's birthday, embodying the company's vibrant and amiable culture.
RQ5	Ensure website compliance with Data Protection Act requirements to mitigate
	potential fines and safeguard user data security.

ID	High-Level Requirements
RQ6	Offer customers the option to select delivery slots that align with their scheduling
	preferences, ensuring effective accommodation of their needs.
RQ7	Provide customers with the capability to register an account on the website.
RQ8	Enable customers to effortlessly adjust the contents of their shopping cart to
	accommodate changes in their purchasing decisions.
RQ9	Introduce pet-friendly policies to cultivate a positive and inclusive workplace
	environment.
RQ10	Architect the system to seamlessly manage a 30% surge in traffic during peak periods,
	maintaining optimal performance without degradation.
RQ11	Enable customers to input distinct delivery and invoice addresses, facilitating delivery
	to alternative locations with ease.
RQ12	Provide customers with the choice to opt-in or opt-out of receiving marketing
	information to mitigate the risk of excessive junk mail.
RQ13	Utilize encryption protocols to safeguard all user data, encompassing personal
	information and payment details, thereby ensuring the utmost level of security.
RQ14	Ensure the continuity of branding elements and design throughout the website to
	reinforce the company's brand identity consistently.
RQ15	Promote the involvement of the development team in quarterly team-building
	events, fostering collaboration and cultivating a positive work atmosphere.
RQ16	Create a dedicated offers or discount page on the website to inform customers about
	available promotions, as requested by the Marketing Director.
RQ17	Guarantee compliance with VAT legislation on the website to evade potential fines,
	as directed by the Chief Accountant.

ID	High-Level Requirements
RQ18	Implement acceptance of all forms of payment on the website to capture a broader
	market share, in line with the Operations Director's aspirations.

After reviewing all the previously provided requirements, I find that some of them are inappropriate, as illustrated below.

Table 2. The requirements are inappropriate

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
RQ1	Ensure the presence of a	Business	FR	RQ1 is a functional
	minimum of 20 office	Ambassador		requirement as it directly
	plants, aligning with the			impacts the physical
	company's dedication to			workspace environment. It
	fostering a green and			ensures the presence of 20
	health-focused work			office plants, in line with
	environment.			Green Groceries' ethos of
				sustainability and promoting a
				healthy workplace. This aligns
				with the company's
				commitment to fostering a
				green and health-focused
				work environment, enhancing
				employee well-being.
RQ4	Host a virtual celebration	Business	FR	RQ4 qualifies as a functional
	on the website in honor of the CEO's birthday,	Ambassador		requirement since it stipulates a specific function
	embodying the			or capability of the online
	company's vibrant and			platform. Hosting a virtual
	amiable culture.			celebration on the website for
				the CEO's birthday embodies the company's culture and
				enhances employee morale.

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
				This aligns with Green Groceries' objective of fostering a vibrant and amiable work environment through interactive online features.
RQ5	Ensure website	Project	FR	RQ5 constitutes a functional
	compliance with Data	manager		requirement due to its
	Protection Act			necessity for the online
	requirements to mitigate			platform's operation.
	potential fines and			Ensuring website compliance
	safeguard user data			with Data Protection Act
	security.			requirements is crucial to
				mitigate potential fines and
				safeguard user data security.
				This directly aligns with Green
				Groceries' commitment to
				protecting customer
				information and adhering to
				legal standards, ensuring trust
				and regulatory compliance.
RQ6	Offer customers the	End-User	FR	RQ6 is categorized as a
	option to select delivery			functional requirement
	slots that align with their			because it specifies a
	scheduling preferences,			necessary functionality for the
	ensuring effective			online platform. Offering
	accommodation of their			customers the option to select
	needs.			delivery slots aligns with

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
				Green Groceries' aim to
				provide a seamless and
				customer-centric shopping
				experience. This feature
				ensures effective
				accommodation of
				customers' scheduling
				preferences, enhancing
				convenience and satisfaction.
RQ9	Introduce pet-friendly	Business	FR	RQ9 is considered a functional
	policies to cultivate a	Ambassador		requirement because it
	positive and inclusive			outlines a necessary feature
	workplace environment.			or policy to be implemented
				within the organization.
				Introducing pet-friendly
				policies aligns with the
				ambassador's goal of
				fostering a positive and
				inclusive workplace
				environment. This directly
				impacts the operational
				aspect of the business by
				establishing guidelines that
				accommodate employees'
				needs and preferences,

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
				enhancing morale and
				productivity.
RQ10	Architect the system to	Business	FR	RQ10 qualifies as a functional
	seamlessly manage a 30%	Ambassador		requirement because it
	surge in traffic during			pertains to ensuring the
	peak periods, maintaining			effectiveness and reliability of
	optimal performance			the online platform during
	without degradation.			peak periods. Architecting the
				system to manage a 30%
				surge in traffic aligns with the
				ambassador's interest in
				maintaining optimal
				performance and user
				experience. This directly
				impacts the operational
				aspect of the business by
				ensuring the platform can
				accommodate increased
				demand without degradation,
				thereby safeguarding
				customer satisfaction and
				business reputation.
RQ13	Utilize encryption	Business	FR	RQ13 qualifies as a functional
	protocols to safeguard all	Ambassador		requirement because it
	user data, encompassing			directly addresses the
	personal information and			ambassador's concern for

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
	payment details, thereby			security and data protection.
	ensuring the utmost level			Utilizing encryption protocols
	of security.			to safeguard user data aligns
				with the ambassador's goal of
				ensuring the utmost level of
				security. This directly impacts
				the operational aspect of the
				business by implementing
				measures to protect sensitive
				information, thereby
				fostering trust and
				compliance with data
				protection regulations.
RQ14	Ensure the continuity of	Business	FR	RQ14 is considered a
	branding elements and	Ambassador		functional requirement
	design throughout the			because it relates to
	website to reinforce the			maintaining consistency and
	company's brand identity			coherence in branding
	consistently.			elements and design across
				the website. Ensuring
				continuity of branding
				elements reinforces the
				company's brand identity
				consistently, which aligns with
				the ambassador's objective of
				promoting and upholding the

	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
i		Technical Coordinator and Project Manager	NFR NFR	organization's image and values. This directly impacts the operational aspect of the business by enhancing brand recognition and fostering a cohesive user experience, ultimately contributing to customer loyalty and engagement.  RQ15 qualifies as a functional requirement because it directly pertains to fostering collaboration and cultivating a positive work atmosphere within the development team. Promoting the involvement of the team in quarterly team-building events aligns with their responsibilities for overseeing project execution and team dynamics. This directly impacts the operational

ID	High-Level Requirements  Description	Stakeholder	FR/NFR	Reason
				ultimately contributing to project success.

After reviewing all the previously provided requirements, I find that some of them are appropriate, as illustrated below.

Table 3. The requirements are appropriate

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
RQ2	Enable order-handling	Business	FR	RQ2 constitutes a functional
	clerks to conduct	Ambassador		requirement since it specifies
	telephone purchases			a necessary capability for the
	through the website,			online platform. Enabling
	thereby replacing the			order-handling clerks to
	current paper-based			conduct telephone purchases
	system.			through the website replaces
				the current paper-based
				system, enhancing efficiency
				and streamlining operations.
				This directly aligns with Green
				Groceries' goal of launching a
				seamless online platform for
				customer convenience and
				operational effectiveness.
RQ3	Enable customers to	End-User	FR	RQ3 represents a functional
	effortlessly modify their	their requirement as it outlines		requirement as it outlines a
	account information to			necessary feature for the

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
	maintain precise and			online platform. Enabling
	current records.			customers to effortlessly
				modify their account
				information ensures the
				maintenance of precise and
				current records. This
				functionality aligns with
				Green Groceries' aim of
				providing a seamless and
				user-friendly experience,
				enhancing customer
				satisfaction and data
				accuracy.
RQ7	Provide customers with	End-User	FR	RQ7 is considered a functional
	the capability to register			requirement because it
	an account on the			directly addresses the needs
	website.			and expectations of the end-
				users who will interact with
				the online platform. Providing
				customers with the capability
				to register an account aligns
				with their requirement for
				personalized experiences and
				access to additional features
				or services. This functionality
				directly impacts the user

by allowing users accounts, manage is, and access ontent, ultimately satisfaction and it.  es as a functional it because it dresses the needs ations of the endracting with the actions. Enabling to effortlessly contents of their art aligns with their it for flexibility and use during the experience. This y directly impacts experience by ers to modify their ased on their purchasing enhancing e and satisfaction.
a i, ii t e t d a ri t t e y

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
RQ11	Enable customers to input	End-User	FR	RQ11 is classified as a
	distinct delivery and			functional requirement
	invoice addresses,			because it directly addresses
	facilitating delivery to			the needs and preferences of
	alternative locations with			the end-users interacting with
	ease.			the online platform. Enabling
				customers to input distinct
				delivery and invoice
				addresses aligns with their
				requirement for flexibility and
				convenience in managing
				their orders. This functionality
				directly impacts the user
				experience by allowing users
				to specify different addresses
				for delivery and billing,
				facilitating seamless
				transactions and enhancing
				satisfaction.
RQ12	Provide customers with	End-User	FR	RQ12 qualifies as a functional
	the choice to opt-in or			requirement because it
	opt-out of receiving			directly addresses the
	marketing information to			preferences and concerns of
	mitigate the risk of			the end-users interacting with
	excessive junk mail.			the online platform. Providing
				customers with the choice to

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
				opt-in or opt-out of receiving
				marketing information aligns
				with their requirement for
				control over their
				communication preferences.
				This functionality directly
				impacts the user experience
				by allowing users to manage
				their subscriptions, mitigating
				the risk of receiving excessive
				junk mail and enhancing their
				satisfaction with the platform.
RQ16	Create a dedicated offers	Business	FR	RQ16 qualifies as a functional
	or discount page on the	Analyst		requirement because it
	website to inform			directly addresses a specific
	customers about			feature or capability required
	available promotions, as			for the online platform.
	requested by the			Creating a dedicated offers or
	Marketing Director.			discount page aligns with the
				Marketing Director's request
				to inform customers about
				available promotions. This
				functionality impacts the
				operational aspect of the
				platform by providing a
				means to showcase

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
				promotions, thereby contributing to marketing strategies and potentially increasing customer
				engagement and sales.
RQ17	Guarantee compliance with VAT legislation on the website to evade potential fines, as directed by the Chief Accountant.	Business Analyst	NFR	RQ17 is classified as a non- functional requirement because it pertains to the overall quality, performance, and regulatory compliance of the online platform rather than specific functionalities. Guaranteeing compliance with VAT legislation is crucial for avoiding potential fines and legal consequences, aligning with the Chief Accountant's directive. This requirement impacts the platform's overall governance and adherence to regulatory standards, ensuring financial
				integrity and mitigating risks, which are concerns often analyzed and overseen by the business analyst.

ID	High-Level Requirements	Stakeholder	FR/NFR	Reason
	Description			
RQ18	Implement acceptance of	Business	FR	RQ18 qualifies as a functional
	all forms of payment on	Sponsor		requirement because it
	the website to capture a	And		directly addresses a specific
	broader market share, in	Business		feature or capability needed
	line with the Operations	Visionary		for the online platform.
	Director's aspirations.			Implementing acceptance of
				all forms of payment aligns
				with the Operations Director's
				aspirations to capture a
				broader market share. This
				functionality impacts the
				operational aspect of the
				platform by expanding
				payment options, thereby
				enhancing customer
				convenience and potentially
				increasing sales, which are
				aligned with the business
				sponsor's objectives and the
				visionary's strategic goals.

## 2.2) The MoSCoW/Timebox rules

The project spans 3 months, structured into 6 sprints of 2 weeks each, following the Scrum methodology. To allocate time effectively, I'll first calculate the total work hours needed. The team comprises five members: four work full-time (8 hours/day), and one works part-time (4 hours/day). With the team working 5 days a week, over 3 months (60 days), the total labor hours are tabulated below:

Table 4. Total labor time for this project

Member	Working hours per a day	Working day (3 months)	Hours
4-Full time	8	60	1920
1 Part-time	4	60	240
		Total hours	2160

To sum up, the total labor time is 2160 hours, therefore each sprint will receive around 360 hours.

Estimation for each requirement (WBS - Work breakdown structure):

Table 5. Estimation for each requirement (WBS - Work breakdown structure)

No.	Requirement ID	Requirement	Break tasks	Estimation (man.hour)
1	RQ02	Enable order-handling clerks to conduct telephone purchases through the website, thereby replacing the current paper-based system.	1.1: Database table design for order management - 60 hours  1.2: User interface development for order processing - 50 hours  1.3: Backend functionality implementation for order submission - 50 hours  1.4: Payment gateway integration for online transactions - 40 hours	300

				Estimation
No.	Requirement ID	Requirement	Break tasks	(man.hour)
			1.5: Order confirmation and tracking system implementation - 50 hours  1.6: Testing and debugging of order processing system - 30 hours  1.7: Staff training on utilizing the new system - 20 hours	
		Enable customers to effortlessly modify their account information to maintain precise and	2.1: User interface design for user account management - 40 hours  2.2: Backend functionality development for account data storage - 36 hours  2.3: Implementation of account update functionality - 40 hours  2.4: Implementation of data validation and security measures - 40 hours  2.5: Testing of account update features across	
2	RQ03	maintain precise and current records.	update features across various devices - 40 hours	220

				Estimation
No.	Requirement ID	Requirement	Break tasks	(man.hour)
			2.6: Creation of user documentation for account management – 24 hours	
		Ensure website compliance with Data Protection Act requirements to mitigate potential fines and safeguard	3.1: Database table design for user registration - 54 hours 3.2: Design of registration form and user interface - 40 hours  3.3: Backend functionality development for user registration - 40 hours  3.4: Implementation of email verification and account activation process - 36 hours  3.5: Implementation of data encryption and privacy	
3	RQ05	user data security.	measures - 25 hours	260

No.	Requirement ID	Requirement	Break tasks	Estimation (man.hour)
			<ul><li>3.6: Testing of registration process for usability and security - 40 hours</li><li>3.7: Creation of user guidance for account registration - 25 hours</li></ul>	
4	RO08	Enable customers to effortlessly adjust the contents of their shopping cart to accommodate changes in their purchasing decisions.	4.1: Database table design for shopping cart management - 40 hours.  4.2: Design of intuitive shopping cart interface - 40 hours  4.3: Development of backend functionality for cart management - 36 hours  4.4: Implementation of dragand-drop functionality for item rearrangement - 32 hours	245
4	RQ08	purchasing decisions.	hours	245

4.5: Integration with inventory system for real-time updates - 40 hours  4.6: Testing of cart modification features for usability and accuracy - 32 hours  4.7: Creation of user tutorials for cart management - 25 hours  5.1 Design database tables for address management - 40 hours  5.2 Design address entry fields and validation - 30 hours  5.3 Develop backend logic for storing and managing address data - 40 hours					Estimation
inventory system for real- time updates - 40 hours  4.6: Testing of cart modification features for usability and accuracy - 32 hours  4.7: Creation of user tutorials for cart management - 25 hours  5.1 Design database tables for address management - 40 hours  5.2 Design address entry fields and validation - 30 hours  5.3 Develop backend logic for storing and managing address data - 40 hours	No.	Requirement ID	Requirement	Break tasks	(man.hour)
for address management - 40 hours 5.2 Design address entry fields and validation - 30 hours 5.3 Develop backend logic for storing and managing address data - 40 hours				inventory system for real-time updates - 40 hours  4.6: Testing of cart modification features for usability and accuracy - 32 hours  4.7: Creation of user tutorials for cart management - 25	
Enable customers to input distinct delivery and invoice addresses, facilitating delivery to alternative locations  5.4 Implement option for separate delivery and invoice addresses - 35 hours  5.5 Ensure data encryption and protection for sensitive information - 30 hours  5.6 Test address entry and	5	RO11	input distinct delivery and invoice addresses, facilitating delivery to alternative locations	for address management - 40 hours 5.2 Design address entry fields and validation - 30 hours 5.3 Develop backend logic for storing and managing address data - 40 hours 5.4 Implement option for separate delivery and invoice addresses - 35 hours 5.5 Ensure data encryption and protection for sensitive information - 30 hours	240

				Estimation
No.	Requirement ID	Requirement	Break tasks	(man.hour)
			validation process - 40 hours 5.7 Provide user guidance for address management - 25 hours	
6	RQ12	Provide customers with the choice to optin or opt-out of receiving marketing information to mitigate the risk of excessive junk mail.	6.1: Database table design for managing marketing preferences - 40 hours 6.2: Design of preference setting interface - 24 hours 6.3: Development of backend functionality to store marketing preferences - 36 hours 6.4: Implementation of optin/opt-out feature for marketing communications - 40 hours	225

				Estimation
No.	Requirement ID	Requirement	Break tasks	(man.hour)
			<ul> <li>6.5: Ensuring compliance</li> <li>with data protection</li> <li>regulations - 25 hours</li> <li>6.6: Testing of preference</li> <li>settings for accuracy and</li> <li>functionality - 40 hours</li> <li>6.7: Creation of user</li> <li>instructions for managing</li> <li>marketing preferences - 20</li> <li>hours</li> </ul>	
		Create a dedicated offers or discount page on the website to inform customers about available promotions, as requested by the	7.1: Database table design for managing offers - 40 hours 7.2: Design of layout and structure for offers/discount page - 40 hours  7.3: Development of functionality to manage promotional content - 42 hours  7.4: Implementation of dynamic display of offers based on user preferences -	
7	RQ16	Marketing Director.	36 hours	270

				Estimation
No.	Requirement ID	Requirement	Break tasks	(man.hour)
			<ul> <li>7.5: Integration with marketing database for offer tracking - 32 hours</li> <li>7.6: Testing of offer page functionality and responsiveness - 48 hours</li> <li>7.7: Creation of staff guidance for accessing and redeeming offers - 32 hours</li> </ul>	
		Implement acceptance of all forms of payment on the website to capture a broader market share, in line with the Operations Director's	8.1: Conduct research and choose payment gateway providers - 40 hours  8.2: Integrate selected payment gateways with the website - 40 hours  8.3: Develop backend logic for processing various payment methods - 30 hours  8.4: Implement secure payment handling and encryption measures - 40 hours  8.5: Test payment processing for reliability and security -	
8	RQ18	aspirations.	40 hours	225

				Estimation
No.	Requirement ID	Requirement	Break tasks	(man.hour)
			8.6: Offer user support for	
			payment-related inquiries -	
			25 hours	
			Total effort	2085

## The MoSCow estimation

Table 6. Estimation for each requirement (WBS - Work breakdown structure)

ID	Requirement	MoSCoW	Reason for prioritization	Effort	SUMMARY (man.hour)	Scale
RQ05	Ensure website compliance with Data Protection Act requirements to mitigate potential fines and	Must have	This function is prioritized highest as it is essential for establishing user profiles, facilitating ordering, payment, delivery, personalization,	260	1050	52%

	safeguard		and promotional		
	user data		activities. Its		
	security.		implementation		
			aligns seamlessly		
			with the core		
			functionalities of		
			the online		
			platform.		
	Create a		This function is		
	dedicated		pivotal for		
	offers or		maintaining		
	discount page		precise customer		
	on the		information, vital		
	website to		for the seamless		
	inform		operation of other		
	customers		features. By		
	about		empowering		
	available		customers to		
	promotions,		update their		
	as requested		details, it		
	by the		guarantees data		
	Marketing		accuracy and		
	Director.		facilitates		
		Must	seamless		
RQ16		have	transactions.	270	

			Providing		
			promotions and		
			discounts is a vital		
			marketing tactic		
			to allure and		
	Enable		retain customers.		
	customers to		Introducing this		
	effortlessly		feature early		
	modify their		enables Green		
	account		Groceries to seize		
	information		marketing		
	to maintain		opportunities and		
	precise and		foster customer		
	current	Must	engagement right		
RQ3	records.	have	from the start.	220	
	Enable order-				
	handling		This function is		
	clerks to		indispensable in		
	conduct		transitioning from		
	telephone		a paper-based		
	purchases		system to an		
	through the		online platform		
	website,		within an e-		
	thereby		commerce		
	replacing the		system, making it		
	current		an essential		
	paper-based	Must	requirement in my		
	' '				

	Implement					
	acceptance of					
	all forms of					
	payment on					
	the website					
	to capture a	Should				
	broader		Giving priority to			
	market share,	have	this function			
	in line with		guarantees a			
	the		smooth checkout			
	Operations		process and			
	Director's		optimizes revenue			
RQ18	aspirations.		opportunities.	225	470	25%
	Enable				470	23/0
	customers to					
	effortlessly					
	adjust the					
	contents of		This function			
	their	Should	holds significant			
	shopping cart	have	importance in the			
	to	Have	user's purchasing			
	accommodat		journey,			
	e changes in		warranting its			
	their		prioritization over			
	purchasing		the functions			
RQ08	decisions.		listed below.	245		

	Provide customers					
	with the					
	choice to opt-					
	in or opt-out		Since this function			
	of receiving		Since this function			
	marketing		is unrelated to the			
	information		ordering and			
	to mitigate		purchasing			
	the risk of		process, it is			
	excessive junk	Could	assigned the			
RQ12	mail.	have	lowest priority.	225		
			Total		1985	

In summary, the prioritization adheres to the MoSCoW rule (60:20:20) with a ratio of approximately 52:25:23 for Must-have, Should-have, and Could-have respectively. This allocation ensures the project's timely completion while aligning with MoSCoW's priority framework. As per Scrum methodology, these tasks are distributed across sprints, detailed in the table below:

Table 7. The MoSCoW's

	175	Spri	int 1	Spri	nt 2	Spri	int 3	Spri	nt 4	Spr	int 5	Spri	nt 6
	man.												
	hours /	wee	wee	wee	wee	wee	wee	wee	wee	wee	week	week	week
	week	k 1	k 2	k 3	k 4	k 5	k 6	k 7	k 8	k 9	10	11	12
	RQ05												
Must	RQ03												
have	RQ16												
	RQ01												
Should	RQ18												
have	RQ08												
Could	RQ11												
have	RQ12												

## III. Legal, Social, Ethical and Professional issues

#### 3.1) Data Controller

The Data Protection Act (DPA) is legislation designed to safeguard individuals' personal data and regulate its processing by organizations. It establishes guidelines for collecting, storing, using, and sharing personal information, ensuring individuals retain control over their data while organizations manage it securely and effectively.

Data privacy encompasses safeguarding individuals' personal information and their entitlement to govern its collection, utilization, and dissemination by organizations. It encompasses aspects such as confidentiality, integrity, accessibility of personal data, and individuals' right to manage their own information.

At Green Groceries, the data controller holds the primary responsibility for overseeing the collection, processing, sharing, and management of personal data via the company's online platform, ensuring compliance with data protection laws and regulations.

Here are the steps the data controller must take to oversee the collection, processing, sharing, and management of personal data:

Collecting Data: Supervising the collection of various personal data types from customers, including names, contact details, delivery addresses, payment information, and purchase preferences.

Storing Data: Implementing secure storage measures like encrypted databases or secure servers to adhere to data protection laws. Additionally, establishing access controls and authentication measures to prevent unauthorized data access.

Transferring Data: Ensuring appropriate safeguards are in place for data transferred to third parties, such as encrypted communication channels or data processing agreements.

Data Usage: Ensuring personal data is solely used for legitimate purposes, such as order processing, service improvement, user personalization, and legal compliance.

Overall, the data controller plays a vital role in ensuring responsible and ethical handling of personal data collected by Green Groceries. By implementing robust data protection measures and adhering to privacy-by-design principles, the data controller builds trust with customers and upholds their privacy rights in accordance with UK and European Union data protection laws.

## 3.2) Legal, Social, Ethical and Professional issues

## **Legal Issues:**

Data Protection and Privacy Laws: It is crucial to ensure that user data collected by the Green Groceries Online Platform is handled securely and complies with relevant data protection laws, such as GDPR or CCPA. Failure to do so, like mishandling user data or neglecting encryption measures, could result in lawsuits from affected users and investigations from regulatory authorities.

Consumer Protection: Compliance with consumer protection laws is essential to safeguard consumers' rights and interests. This includes providing accurate product information, fair pricing, reliable customer service, and honoring warranties and refund policies. Violations, such as inaccurate product information or deceptive pricing practices, may lead to legal action and damage to the brand reputation.

Compliance with Financial Regulation: Adherence to financial regulations governing online transactions and payment processing is necessary. This involves ensuring secure payment gateways, fraud prevention measures, and compliance with regulations such as PCI DSS. Failure to implement these measures may expose customers to financial risks and regulatory scrutiny.

Intellectual Property and Licensing: Respecting intellectual property rights, such as patents, trademarks, and copyrights, is essential. Any usage of images, logos, or branding without proper licensing or violation of patents and trademarks could result in legal actions for copyright infringement and reputational harm.

Advertising and Marketing Laws: Abiding by advertising and marketing rules is mandatory to ensure promotional endeavors are truthful and permissible. This includes obtaining consent before sending marketing emails to customers and ensuring advertising claims are accurate and substantiated to avoid legal penalties and loss of consumer confidence.

#### Social Issues:

Accessibility: Ensuring the online platform is accessible to users with disabilities is imperative. This involves designing the website with accessibility features such as adjustable font sizes and high-contrast color options to improve readability for users with visual impairments.

Security Awareness: Prioritizing security awareness among users by educating them about online security best practices, such as recognizing and avoiding common security threats when shopping online, helps enhance overall platform security.

Transparency and Trust: Building trust and credibility with users requires transparency about business practices, pricing policies, and product sourcing. Providing detailed information about the company's values, sourcing practices, and environmental initiatives fosters trust and transparency.

Community Engagement: Fostering a sense of community among users through interactive features and social media integration encourages community interaction and collaboration, enhancing user engagement and loyalty.

#### **Ethical Issues:**

Fairness: Ensuring fairness in operations, including pricing, promotions, and access to products and services, is crucial. Offering discounts and promotions that unfairly favor certain customer segments may lead to accusations of discrimination and damage to the brand reputation.

Protecting Consumers: Upholding ethical standards by transparently labeling products, offering fair pricing, and delivering reliable customer service helps protect consumers and build long-term relationships.

Protecting Business Data and Information: Ethically protecting sensitive business data and information through robust security protocols demonstrates a commitment to integrity and responsibility in handling sensitive information.

## **Professional:**

Compliance with Standards and Regulations: Failure to comply with industry standards and regulations may result in legal penalties and reputational damage.

Test for Quality Assurance (QA): Neglecting quality assurance testing can lead to a poor user experience and decreased customer satisfaction.

Security and Data Protection: Inadequate security measures may expose the platform to data breaches and compromised customer information.

The BCS Code of Conduct: Violating professional codes of conduct can erode trust with stakeholders and tarnish the company's reputation.

#### IV. Conclusion

In retrospect, the successful culmination of the Green Groceries Online Platform project underscores the effective application of Agile methodologies, notably the DSDM (Dynamic Systems Development Method) and Scrum approach. This achievement was realized through the active engagement of stakeholders, adherence to established development frameworks, and seamless collaboration between internal and external teams. By prioritizing key functionalities such as customer registration, account updates, telephone purchases, and online transactions, the platform not only met business objectives but also addressed user needs adeptly.

Moreover, it is imperative to acknowledge the invaluable contribution of our instructor throughout this journey. Their unwavering dedication and expert guidance played a pivotal role in navigating the complexities of the assignment. Their patient mentorship and comprehensive explanations not only clarified uncertainties but also deepened our understanding of the subject matter. We extend our heartfelt gratitude for their steadfast commitment to our success and appreciate the significant time and effort invested in supporting our academic pursuits.

In essence, the culmination of the Green Groceries Online Platform project serves as a testament to the synergy of collaborative efforts, agile methodologies, and expert guidance. It not only reinforces our commitment to delivering innovative solutions but also highlights the transformative power of effective teamwork and mentorship in achieving project success.

# References

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