



**UNIVERSITY OF
GREENWICH**

**COMP1787:
REQUIREMENTS MANAGEMENT**

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Section A: Management Summary

1. Introduction about the case study - Green Groceries company and their goals when carrying out this project

In the age of technology 4.0, digital transformation has become an important step forward, contributing to the strong development of society, especially in the business sector. However, not all companies agree and adapt quickly to this technological revolution. Green Groceries, one of the businesses facing this challenge, despite having built a solid reputation in the local organic grocery sector over five years, still struggled to adapt and expand its business scale in the digital age.

So, to overcome these challenges without an in-house software development team, Green Groceries decided to partner with professional software developers. Instead of relying on internal development, they chose to outsource software projects, a wiser and more economical decision.

It is important to choose a software development partner that is trustworthy and knowledgeable about agile development methods. After a careful consideration process, Green Groceries chose System Concepts (SC) as the ideal partner for its project. With the promise of agility and efficiency through the application of SCRUM and Agile concepts, SC not only makes the project move stronger but also ensures the online platform can launch quickly within 3 months to help Green Groceries achieve success in the digital age.



2. Introduction about Development the online platform: Outsourcing, methodologies, framework, dev team.

Outsourcing

In the information technology industry, outsourcing refers to the practice of contracting out or continuing to provide services or job duties to a third party. This position assigns the proper personnel to each company in order to address their specific issues and offer suitable solutions. Businesses may maximize their efficiency and save a lot of money and time by doing this. Developing software on demand, implementing network services, and creating information technology systems are just a few examples of the various tasks that can be outsourced.

The benefits and drawbacks of outsourcing work in the information technology industry are outlined in the table below:

CIO - (NOV 25 2022)

URL(<https://www.cio.com/article/272355/outsourcing-outsourcing-definition-and-solutions.html>)

Advantages	Disadvantages
<ul style="list-style-type: none">✓ Money Savings: Payroll, benefits, and infrastructure costs can all be considerably decreased by outsourcing IT work to nations with cheaper labor.✓ Access to specialist knowledge and skills: Businesses can access a worldwide talent pool through outsourcing, giving them access to specialized knowledge and skills that might not be available internally.✓ Concentrate on core activities: Companies can concentrate on their core competencies and strategic goals by assigning non-core IT operations to outside vendors.✓ Flexibility and scalability: Outsourcing offers flexibility and scalability, enabling companies to quickly adjust IT resources in response to changing demand without requiring long-term agreements.✓ Faster time to market: By utilizing the experience and resources of outside	<ul style="list-style-type: none">✗ Quality issues: If there are discrepancies in standards, procedures, or cultural norms, outsourcing may give rise to questions concerning the caliber of work produced by outside contractors.✗ Communication difficulties: Disparities in geography and culture can cause miscommunication, misinterpretations, and delays in project completion, which can affect teamwork and output.✗ Risks to security: When outsourcing IT tasks, particularly when working with foreign vendors, confidential information and intellectual property may be subject to security risks such as data breaches, leaks, and illegal access.✗ Dependency on vendors: If you rely too much on outside companies to provide essential IT services, you run the danger of losing control, becoming locked in to a vendor, and not being able to react quickly enough to changing business requirements.✗ Legal and regulatory compliance:

suppliers, outsourcing can shorten project delivery schedules and hasten the time it takes for goods and services to reach consumers.	Contractual commitments, data privacy regulations, and other complicated legal and regulatory requirements may all need to be navigated when outsourcing IT work. This can lead to a rise in the risks and expenses associated with compliance.
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Methodologies

Framework

Dev Team

Name	Role	Description
Cheryl	Team Leader	Cheryl is the seasoned captain of our Agile ship. With a wealth of experience in leading web development teams, she ensures smooth sailing through efficient management and coordination.
Millie	Programmer	Millie is a web development whiz, armed with top-notch coding skills and exceptional communication prowess. She ensures seamless collaboration within the team, delivering stellar results every time.
Peter	Web Developer	Peter is the go-to guy for web development expertise. While he's known for his technical finesse, occasional client disagreements don't deter his commitment to delivering top-tier work.
Anita	Web Developer	Anita is a web development virtuoso with a heart of gold. When she's not crafting code, she's out making a difference through volunteer work for the homeless, showcasing her passion for both tech and humanity.
Pat	Developer	Pat may be part-time, but his web development and testing skills are full-time fantastic. Despite his limited availability, he's a dependable team player, offering invaluable insights and support throughout the project.

3. Discuss about Agile, why Agile is an appropriate approach? Advantages/ Disadvantages? What is applied methodology? Why?

4. What is an applied framework? Why?

5. Conclusion

Section B: High level requirements analysis and MoSCoW prioritization

1. B1 - Review baseline requirements

A. Section B1.1

Requirements ID	Requirement Description	Stakeholder	FR/NFR	Reason
GG-2	In order to showcase our commitment to an environmentally friendly and conducive work environment, the company will ensure the presence of a minimum of 20 office plants.	Staff	NFR	Although having office plants might enhance the overall ambiance of a workplace, it is often not considered an essential necessity at a senior level. High-level criteria should prioritize essential capabilities or objectives that are clearly aligned with the company's mission or the providing of its product or service.
GG-4	Commence a virtual celebration on our website to demonstrate our company's cheerful and inclusive culture in honor of the CEO's birthday.	Staff	FR	Organizing a virtual celebration on the company's website to commemorate the CEO's birthday is categorized as a functional need as it explicitly outlines a specific function or feature that the website must possess. According to the criterion, the website must have the ability to host virtual events. This feature has a direct

				effect on the capacities of the website and serves the objective of fostering the company's culture by making virtual festivities easier.
GG-5	To evade substantial penalties, as the Managing Director, I aim to guarantee that our website complies with the provisions of the Data Protection Act.	Director	NFR	Adhering to legislation such as the Data Protection Act is crucial, albeit it is more of a detailed guideline rather than a broad obligation. High-level criteria should encompass a wider scope and focus on strategic objectives, such as guaranteeing the security and privacy of data in all operational activities.
GG-7	As a consumer, I require delivery timing alternatives to effectively coordinate my calendar.	Customer	FR	This statement qualifies as a functional requirement as it clearly delineates a particular function that the product or service must satisfy. In this instance, the stipulation is that the product or service must provide many choices for the schedule of delivery. This has a direct impact on the service's performance and

				fulfills a specific consumer need, enabling them to efficiently manage their calendar.
GG-9	Let us implement pet-friendly policies to establish a work climate that is more inclusive and welcoming.	Staff	NFR	Although it is crucial to promote tolerance and optimism in the workplace, having pet-friendly policies is more of a cultural preference rather than a fundamental necessity. High-level requirements generally refer to broad aims or features that directly affect business goals.
GG-10	Design the system to be capable of handling a 30% surge in traffic during peak hours without encountering any latency.	Staff	NFR	Ensuring that a system can effectively manage a higher volume of traffic is essential. However, it may not be suitable to define a specific percentage increase as a broad need. High-level criteria should prioritize scalability and performance without delving into detailed measurements.
GG-15	To ensure maximum security, it is recommended to encrypt all user data, including payment and personal information.	Staff	NFR	Ensuring the encryption of user data is of utmost importance for maintaining security.

				<p>However, it is typically regarded as a specific requirement rather than a broad one. High-level requirements should prioritize overarching goals such as safeguarding data integrity, rather than getting caught up in individual implementation intricacies.</p>
GG-16	<p>In order to strengthen our brand recognition, it is important to ensure that all branding and design elements on the website are uniform and cohesive.</p>	Staff	NFR	<p>Ensuring consistent branding is crucial for establishing brand identification, although it primarily serves as a design guideline rather than a top-level mandate. High-level requirements should prioritize overarching business objectives rather than getting caught up in specific design aspects.</p>
GG-17	<p>Coordinate quarterly team-building initiatives for the development team to cultivate collaboration and promote a positive work atmosphere.</p>	COO	NFR	<p>Although it is important to promote teamwork and create a positive work atmosphere, the responsibility of arranging team-building activities lies mostly with the management rather than being a top-level necessity.</p>

				High-level requirements should prioritize overall objectives rather than individual employee tasks.
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B. Section B1.2

Requirements ID	Requirement Description	Stakeholder	FR/NFR	Reason
GG-1	As an Order Handling Clerk, I aim to utilize the website for the purpose of processing telephone purchases, replacing the current paper-based approach.	Sale Staff	FR	This criterion is considered high-level since it specifically aims to convert the process of handling telephone purchases from a paper-based system to an online system through the website. It improves efficiency and accessibility for Order Handling Clerks by streamlining the procedure.
GG-3	As a customer, I desire the ability to modify my account details in order to guarantee that the most current information about me is accurately recorded.	Users	FR	This requirement is considered high-level because it clearly defines a goal: enabling consumers to change their account details for the purpose of maintaining correct records. Customers benefit from having control over their information, which guarantees its accuracy and currency.
GG-6	Customers create an account on the website.	Users	FR	This need is considered high-level since it specifies a fundamental capability, which is

				the ability for customers to create an account on the website. Customers benefit from personalized features, such as saved preferences and order history, which enhance their overall experience.
GG-7	Customers are provided with a selection of delivery time slots to organize their schedules accordingly.	Users	FR	This requirement is considered high-level as it clearly defines a crucial functionality: providing clients with the option to select delivery time windows that best fit their schedules. Customers are benefited by the service as it provides them with flexibility and control over the timing of their orders, hence increasing convenience and happiness.
GG-8	Customers have the ability to make changes to their shopping carts while they are in the process of making a purchase.	Users	FR	This criteria is considered high-level as it emphasizes a crucial functionality: enabling customers to make changes to their shopping carts while they are in the midst of making a purchase. Customers are provided with

				flexibility and convenience, allowing them to modify their purchases before finalizing their purchase, resulting in a more seamless shopping experience.
GG-11	As a customer, I desire the ability to input distinct delivery and invoice addresses in order to facilitate the receipt of bags when staying at a friend's residence.	Users	FR	This need is considered high-level as it highlights an important feature, which is the ability for customers to provide distinct delivery and billing addresses. Customers profit from the service by gaining convenience, as it allows them to receive orders at other locations, such as a friend's home, without any difficulty.
GG-14	As a consumer, I desire the ability to opt-in or opt-out of receiving marketing materials in order to prevent the inundation of unsolicited promotional mail.	Users	FR	This criteria is considered high-level because it specifically targets a fundamental functionality: providing consumers with the ability to decide whether they want to receive marketing materials. The advantage comes in empowering

				consumers to have control over their inbox, minimizing unwanted commercial mail, and augmenting their overall satisfaction with the service.
GG-18	As the Marketing Director, I request the creation of a dedicated page for offers and discounts to effectively communicate this information to our clients.	Marketing Director	FR	This need is considered high-level since it clearly defines a crucial feature, which is the creation of a separate page specifically for displaying deals and discounts. The advantage is in its ability to enable the Marketing Director to efficiently convey promotional information to clients, hence enhancing engagement and potentially stimulating sales.
GG-19	As the Chief Accountant, I desire for the website to comply with VAT legislation in order to avoid a substantial penalty.	Accountant	FR	This criteria is considered high-level due to its importance in achieving a critical objective: ensuring the website adheres to VAT legislation. The advantage is in its ability to assist the Chief Accountant in reducing the likelihood of

				significant fines, thereby protecting the financial stability and reputation of the organization.
GG-20	As the Operations Director, my objective is to maximize market penetration by accepting all means of payment.	CEO	FR	This criteria is considered high-level since it emphasizes a strategy objective: to accept all types of payment in order to maximize market penetration. The advantage is in its ability to enable the Operations Director to expand the consumer base by catering to diverse payment preferences, ultimately leading to increased sales and facilitating a seamless shopping experience for customers.

2. B2 - High level requirements list

A. Section B2.1

B. Section B2.2

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+ WBS:

+ MosCoW:

60(Must have)

20(Should have)

20(Could have)

=> release

Section C: Legal, Social, Ethical and Professional issues

Section C1: Legal, Social, Ethical and Professional issues

1. Data Protection

❖ What data will be collected

No	Data will be collected	Data fields include	Explain
1	Customer data containing personal details	The dataset will include data fields such as complete name, email address, phone number, and delivery address.	The objective of collecting this data is to facilitate the Green Groceries online system's interaction and communication with clients. For example, maintaining the customer's name and address in the records will allow Green Grocery to accurately deliver the products to the correct address and avoid any potential shipping risks. In addition, collecting email addresses enables the quick and effortless communication of information to customers regarding new products, enticing offers, or updates on their orders. This enhances the user's purchasing experience while simultaneously strengthening the relationship with clients.
2	Information pertaining to the	The dataset will include data	The objective of gathering transaction

	transactional interactions between customers and the system.	elements such as order time, specific payment type, product information and quantity, and anticipated delivery time.	information is to retain data regarding the platform's purchase procedure, including payment and order histories. This data is useful for tracking purchases, delivering efficient customer service, and safely managing transactions. By maintaining a record of customer orders, Green Grocery may create personalized recommendations using previous purchases, enhancing the overall shopping experience for the consumer. This enhances the convenience and pleasure of online purchase, benefiting both customers and businesses.
3	Security-related data	This dataset will contain data fields such as encryption keys and security event logs.	Green Groceries use security data to find effective data protection measures that safeguard against cyberattacks targeting their entire system and consumer information. In addition, monitoring and documenting security incidents enables the timely detection and resolution of problems, hence improving the reliability and trustworthiness of the system for users.

4	The data consists of statistical analysis data.	The dataset may contain statistics on system traffic, customer demographics, user demographics, and the effectiveness of SEO keywords.	
5	Employee data inside the company	The dataset of this table may encompass account information, job history particulars, and personal characteristics of the employee,...	

- **How to storage data**

Efficient data storage is critical for Green Groceries' online platform to ensure smooth operations, fast access, and the ability to grow as the company grows. Customer information, product details, orders, payment records, and inventory data are some of the types of data the platform must store. Therefore, businesses can use a cloud-based storage solution such as Amazon Web Services (AWS) S3 or Google Cloud Storage. These platforms provide reliable, scalable, and secure hosting options. Green Groceries can benefit from storage flexibility, automatic backups, and strong security measures when using cloud storage. Additionally, the use of a relational database management system (RDBMS), such as PostgreSQL or MySQL, to store structured data and a NoSQL database, such as MongoDB, to store unstructured data can provide flexibility.

- **How to process data**

Green Groceries needs efficient data processing to manage inventory, optimize delivery routes, and analyze customer behavior. Effective data processing results in quick decisions and better business operations. As a result, businesses can use technologies such as Apache Hadoop for big data processing and storage, Apache Kafka for real-time data streaming, and Apache Spark for large-scale data processing. These technologies will allow Green Groceries to efficiently process large amounts of data, perform complex analyses, and derive valuable insights. Additionally, using frameworks like TensorFlow or PyTorch to integrate machine learning algorithms can help better process data and enable analytics systems to predict and make recommendations tailored to the user's experience.

- **How to transfer data**

An efficient data transfer mechanism is needed for seamless communication between different parts of the online platform and integration with external systems such as logistics providers and payment gateways. Therefore, RESTful APIs—application programming interfaces—can be used for communication between different platform modules. This allows for lightweight and efficient data transmission via the HTTP (S) protocol. To ensure reliability and scalability, use message-queuing systems such as RabbitMQ or Apache Kafka for asynchronous communication between microservices. uses secure data transfer protocols such as HTTPS and TLS to encrypt data in transit, protecting against unauthorized access and ensuring that your data is kept safe. Additionally, to effectively monitor, control, and secure APIs, use API management platforms like Apigee or Kong.

- **Purpose for data usage**

For Green Groceries to optimize service, optimize operations, and improve customer satisfaction, they must understand the purpose of using data. Companies can identify trends, preferences, and areas for improvement by analyzing data usage patterns. Therefore, the solution may include the use of powerful data analytics and reporting tools to track and analyze sales performance, inventory turnover, product popularity, and customer interactions. customer's cooperation. Present insights in an easy-to-understand way using data visualization techniques like charts and dashboards. To ensure compliance with data privacy regulations such as GDPR and CCPA, conduct regular data audits and prioritize data security measures to protect critical data. Additionally, to find growth initiatives and innovation opportunities, use data-driven decision-making processes.

2. Legal

- ❖ **Data Privacy**

It is important to protect the privacy of user data. All personal data and payment information are secured using strong encryption protocols. Additionally, regulations such as the Data Protection Act are complied with. This gives customers confidence when they know their information is protected.

- ❖ **Security and Fraud detection**

Green Groceries must implement strict security measures to prevent fraud and protect customer transactions when using this online shopping platform. The platform protects businesses and customers by identifying and mitigating any suspicious activity using advanced fraud detection technologies.

- ❖ **Compliance with financial regulation**

To avoid penalties and maintain financial integrity, Green Groceries must comply with financial regulations, such as VAT laws. providing secure payment options while expanding the market audience and enhancing the platform's reputation.

- ❖ **Guideline clearly, easy accessing**

When implementing the Green Groceries platform, clear and accessible user instructions are critical for a seamless experience. By providing intuitive navigation, simple account management tools, and transparent trading processes, users can navigate the platform with ease, promoting positive engagement and satisfaction.

- ❖ **Intellectual property and license**

Protecting a company's intellectual property and ensuring compliance with licensing requirements is critical. The platform promotes creativity and innovation by using appropriate protocols and respecting copyright laws.

- ❖ **Terms of Service and User Agreements:**

To establish trust and accountability, terms of service and user agreements must be clear and easy to understand. Articulating user rights and responsibilities will make things clearer, reducing disputes and improving user relationships.

❖ **Consumer Protection**

To build customer trust and loyalty, strong safeguards are necessary. By addressing issues such as product quality assurance, disputes, and refunds, the platform demonstrates its commitment to customer satisfaction and enhances its reputation and credibility in the market.

3. Social

❖ **Impact to all citizens:**

By providing an easy way to access organic and locally sourced grocery products, the Green Groceries online platform can have a positive impact on people. People, especially those living in places with limited access to such products, can benefit from more sustainable options available through the platform.

❖ **Accessibility:**

The Green Groceries online platform must have a user-friendly interface so that everyone can access it. These features include clear navigation paths, screen reader compatibility, and adjustable font sizes to accommodate users with disabilities or limited technical proficiency.

❖ **Technical Education for Consumers:**

Green Groceries may provide educational resources such as instructional videos, step-by-step guides, and online support forums to help them understand and effectively use online platforms. With these resources, consumers can feel more confident and comfortable using the platform.

❖ **E-commerce Security Awareness:**

The Green Groceries online platform should prioritize consumer awareness by implementing strict security measures and educating consumers about the potential risks associated with online shopping. To protect sensitive information and prevent unauthorized access, this includes using a secure payment gateway, HTTPS encryption, and multi-factor authentication.

❖ **Transparent and Trust:**

The success of an online platform depends on maintaining transparency with customers. This can be achieved by Green Groceries by providing clear and detailed product information, transparent pricing, and honest communication about sourcing and environmental impact. Additionally, Green Groceries can enhance trust and loyalty by actively soliciting customer feedback and promptly resolving issues.

4. Ethical

Fairness:

Đảm bảo rằng mọi giao dịch và quy trình trên nền tảng trực tuyến của Green Groceries được thực hiện một cách công bằng và minh bạch, không ưu tiên hoặc phân biệt đối xử với bất kỳ đối tượng nào.

Giải pháp: Thực hiện cơ chế đánh giá và giám sát để đảm bảo rằng tất cả các sản phẩm và dịch vụ được trình bày trên nền tảng đều tuân thủ các tiêu chuẩn công bằng và đạo đức. Cung cấp thông tin rõ ràng và minh bạch về quy trình lựa chọn và xếp hạng sản phẩm, đảm bảo sự công bằng và minh bạch cho tất cả các đối tượng.

Protect Consumer:

Đảm bảo rằng các quy định và biện pháp bảo vệ người tiêu dùng được thực hiện một cách toàn diện, bảo vệ hợp pháp và quyền lợi của người mua hàng.

Giải pháp: Thực hiện các biện pháp bảo vệ người tiêu dùng như chính sách hoàn tiền linh hoạt, giải quyết tranh chấp hiệu quả và đảm bảo chất lượng sản phẩm. Cung cấp thông tin rõ ràng và minh bạch về các chính sách bảo vệ người tiêu dùng trên nền tảng, giúp tạo ra một môi trường mua sắm trực tuyến an toàn và đáng tin cậy.

Protect Business Data:

Đảm bảo rằng mọi dữ liệu và thông tin kinh doanh của Green Groceries được bảo vệ một cách an toàn và đáng tin cậy, tránh bị rò rỉ hoặc lạm dụng.

Giải pháp: Thực hiện các biện pháp bảo mật mạnh mẽ như mã hóa dữ liệu, kiểm soát truy cập, và giám sát liên tục để ngăn chặn và phát hiện sớm mọi hành vi không đúng đắn hoặc đe dọa an ninh thông tin. Đào tạo nhân viên về tầm quan trọng của bảo mật dữ liệu và thực hành an toàn khi làm việc trực tuyến, giúp nâng cao nhận thức và phòng ngừa nguy cơ liên quan đến bảo mật thông tin kinh doanh.

5. Professional

Section C2: BSC Code of Conduct

- 1. Introduction about BSC code of conduct**
- 2. Summarize 4 codes of conduct in BCS and example**

References