Summer 2025

Software Requirements Specification

TRUE NORTH BBQ REVIVAL

https://github.com/eunkii/PRC566-Team5-TrueNorthBBQRevival.git

AIDAN KILPATRICK

EUNKI KIM

ERIC YAKIMOFF

SYED NABEEL RAZA

KABIR DONDA

BBQ SQUAD | Group 5

Executive Summary

Background

Description

Company Value Add

End-User Value Add

Scope

What is Included

What is Not Included

Justification

Table of Contents

Section 1

1.1 Document Authors

- Aidan Kilpatrick

- Eunki Kim

- Eric Yakimoff

- Syed Nabeel Raza

- Kabir Donda

1.2 Document Revision History

WEEK	DATE	Revisions
1		•
2		•
3	September 21, 2025	• Sec1 • Sec2.1
4	September 24, 2025	• Sec2.2 • Sec2.3 • Sec2.4 • Sec2.5
5		•
6		•
7		•
8		•
9		•
11		•
12		•
13		•
14		•

1.3 Document Purpose

This document's purpose is to provide a structured roadmap for True North BBQ Revival project outlining the required specifications.

1.4 Audience

The intended audience for this document is all key stakeholders and decision makers pertaining to True North BBQ Revival.

1.5 Group Agreement

Team 5

Project Title

True North BBQ Revival Dev

Project Time Frame

Planning Sept–Dec 2025

Implementation Jan–April 2026

Action/Maintain/Grow April 2026–Onwards

Team Members

Aidan Kilpatrick

Eunki Kim

Eric Yakimoff

Syed Nabeel Raza

Kabir Donda

Team Leadership

Eunki Kim

Team Functions/Roles

Aidan Kilpatrick   -   Developer

Eunki Kim   -   UI/UX Designer

Eric Yakimoff   -   Back-End Developer

Syed Nabeel Raza -   Data Analyst

Kabir Donda   -   Developer

Team Meetings

Wednesday   -   11:40AM   B1031

Thursday   -   09:50AM   Online (Teams)

Monday   -   03:30PM   Online (Teams)

Team Problems

Everyone has a busy schedule so it's hard to organize a time to set a meeting.

Team Commitment

The undersigned members agree to work together on the project until the end of the PRJ666 next Semester. They recognize that as a team and individually they are equally responsible for the quality of all deliverables.

Name	Date	Signature
Kabir Donda	September 17th, 2025	*Kabir Donda*
Eunki Kim	September 17th, 2025	*Eunki Kim*
Eric Yakimoff	September 17th, 2025	*Eric Yakimoff*
Syed Nabeel Raza	September 17th, 2025	*Syed Nabeel*
Aidan Kilpatrick	September 17th, 2025	*Aidan Kilpatrick*

Section 2

2.1 Project Proposal

2.1.1 Project Background

The global grill market is growing steadily, valued at over $5 billion annually (Statista).
Businesses such as Grill Hero, BBQ Pro, Synsix, are already operating in
this space as a regular B2C business, they have limited capacity and reach, manual scheduling and no direct connections with the grill manufacturers and lack direct support from them.

Name	Personal Cleaning	Commercial Cleaning	Booking Method	Manufacturer Certification	Trustworthiness	Quality
Grill Hero	✓	✓	Online Reservation Form	✗	△	Medium-High

BBQ Pro	✓	✗	Online Reservation Form	✗	△	Medium
Synsix	✓	✗	Quote Request	✗	△	Medium

As seen in the table above, none of the cleaning businesses are currently working closely with manufacturers and mostly providing personal cleaning services.

2.1.2 Problem Statement

The Problem

Consumers who own BBQs face a persistent challenge: cleaning and maintaining their grills is messy, time-consuming, and often neglected. With 70% of Canadian households owning a grill (HBPA), this is not a small inconvenience but a widespread issue. A poorly cleaned BBQ not only affects performance and taste but also raises safety concerns, such as grease fires and harmful bacteria buildup.

Why It Matters

BBQ ownership is a major investment for many households, and customers expect their grills to last. Without proper maintenance, these products wear down faster, causing frustration for owners and potential reputational damage for manufacturers. For BBQ companies, this represents a missed opportunity to both improve customer satisfaction and create a new revenue stream.

Why Current Solutions Don't Work

While independent BBQ cleaning companies exist, they operate without certifications or manufacturer backing. As a result, customers cannot trust that their grills will be cleaned safely, effectively, or without voiding warranties. This gap leaves consumers hesitant to use these services and BBQ manufacturers unable to protect the long-term value of their products.

The Opportunity

By partnering with a certified cleaning company, BBQ manufacturers can legitimize this service, protect their customers' investments, and build brand loyalty. For our company, the partnership provides access to an existing, ready-made customer base while positioning us as the trusted, manufacturer-approved solution to a problem households across Canada already face.

2.1.3 Product Vision

Long term goal is to give thousands of job opportunities, $100 million-$1 billion net worth, have branches all throughout Canada and America. Be THE BBQ Cleaning company by 2030.

2.2 Stakeholders and Users

Internal:

- Project Manager   – Responsible of managing the current project's resource, timeline and progress.
- Developers   – The ones designing, implementing and maintaining the project.
- Business Owner   – Makes the final decisions and provides the fund for the project.
- Cleaning Specialists   – Those who visit the site and professionally clean the grills for our customers.

External:

- Individual Customers   – Customers getting personal grills at home cleaned.
- Commercial Customers – Businesses getting their grills at the workplace cleaned.
- Grill Manufacturers   – Partnered grill manufacturers providing direct support to our cleaning service and brand certification.
- Suppliers   – Provides equipment and expandable for sustaining high quality service.

2.3 Project Scope

In Scope (Included in the Project):

- Complete Web-based application
    - Customer booking
    - Payment Portal
    - Scheduling Features
- Admin Dashboard for our management of the Clients
    - Job tracking
    - Employee assignment
    - Partner reporting
- Portal/Interface for Technicians
    - for managing their cleaning jobs assigned to them
- A Referral System Integration with the BBQ Manufacturers and Retailers
- Database for Customers:
    - Profile Management
    - Service History
    - Monthly/Weekly Booking Schedule (Recurring)
- Notifications for appointment reminders and confirmations
    - Emails
    - SMS

Out-of-Scope (Not Included in the Project):

- Hardware Integration for the Customers BBQ Grill (IoT sensors in BBQs)
- Full/Completed Mobile Application (It's beyond our technical aspects and can be considered in later phases)
- Our own payment gateway (instead we will be integrating with Stripe or PayPal)

2.4 System Risks

Technical Risks

- Integration challenges with third-party payment providers (Stripe, PayPal).
- Scalability concerns if the platform grows faster than expected.
- Security risks around handling customer data and payments.

Operational Risks

- Scheduling conflicts could cause double bookings or missed jobs.
- Ongoing maintenance and system support will be required.

Business Risks

- Dependence on manufacturer partnerships for certification.
- Competitors may adapt quickly and reduce our advantage.
- Any service failure could harm customer trust and reputation.

External Risks

- Regulatory changes could require costly adjustments.
- Economic downturns may lower demand for cleaning services.
- Reliance on third-party cloud, payment, and notification systems poses outage risks.

Mitigation

- Build scalable, modular architecture and test integrations thoroughly.
- Provide staff training and phased onboarding.
- Monitor compliance, security, and customer feedback to adapt quickly.

2.5 Operating Environment

Client-Side Environment (End Users)

- **Platform**: Web browsers (Google Chrome, Microsoft Edge, Safari, Firefox).
- **Devices Supported**: Desktop PCs, laptops, tablets, and smartphones.

- **Operating Systems**: Cross-platform (Windows, macOS, iOS, Android, Linux).
- **Connectivity**: Requires stable internet access (minimum 3 Mbps for smooth operation).
- **Interface**: Responsive web design to adapt to different screen sizes.

Server-Side Environment (Application Hosting)

- **Hosting**: Cloud-based (e.g., AWS, Azure, or Google Cloud).
- **Server OS**: Linux-based distribution (Ubuntu preferred).
- **Web Server**: Apache or Nginx.
- **Application Framework**: Node.js / Express.js (for back-end).
- **Database**: PostgreSQL or MySQL for relational data storage.
- **APIs**: Integration with third-party payment systems (Stripe, PayPal) and notification services (SMS/email).

Technician/Administrator Environment

- **Devices Supported**: Tablets or smartphones for technicians; desktops/laptops for admins.
- **Operating Systems**: iOS, Android (technician mobile access), Windows/macOS (admin portal).
- **Connectivity**: Wi-Fi or LTE/5G required for on-site technicians to receive/update job assignments in real-time.

Development & Deployment Environment

- **Development Tools**: GitHub for version control, Visual Studio Code / JetBrains IDEs for development.
- **Containerization**: Docker for consistent deployment environments.
- **CI/CD**: GitHub Actions or Jenkins for automated testing and deployment.
- **Testing Environment**: Separate staging server to replicate production environment for QA.

2.6 Functional Requirements

Technician (Nabeel)

Question:

> "What details do you need to perform a job effectively?"

Answer:

> "The system should provide detailed job assignment information, including location, time, and type of service. It should also allow all the users to update their job status such as being marked

as "started" or "completed" and they should be able to upload photos with <mark>full mobile access</mark> to ensure functionality while on-site."

Extracted Functional Requirement:

- **Technician portal with job details & status update**
- **Responsive mobile UI**

Admin (Eunki Kim)

Question:

"What kind of reports or Dashboard is essential for your role?"

Answer:

"As an admin, our <mark>dashboard</mark> needs to <mark>provide statistics</mark> such as sales and many other types of <mark>reports</mark>. Along with it, I should be able to <mark>track down current booking, payments statements</mark>, <mark>job tracking</mark> and <mark>partner reporting</mark> capability which is integrated with a <mark>referral system</mark> connected to our partnered BBQ Manufacturers and Retailers."

Extracted Functional Requirement:

- **Admin dashboard for business overview**
- **Job tracking capability**
- **Report generation feature**
- **Partner integration with afiliated businesses**

Customer (Aidan Kilpatrick)

Question:

"What would you like out of the application?"

Answer:

"I want the application to be <mark>easy to use</mark>, with <mark>prices clearly visible</mark> right away, and the ability to make a <mark>booking directly on the site</mark>. I also want a clear <mark>description of how the cleaning is performed</mark> and details about the <mark>products or methods used</mark>, so I can decide whether to proceed with the service."

Extracted Functional Requirement:

- **User-Friendly interface with clear service details**
- **Online booking system**

Investor (Aidan Kilpatrick)

Question:

"What do you need from us to help you understand how we will be successful with this business?"

Answer:

"I would like the website to be ==easy to use== and ==fast to load== in order to ==reduce bounce rate== and ==increase conversion== from leads to sales. I also want to see a ==detailed business plan== outlining how goals will be accomplished, including specific dates and milestones to ensure we stay on track."

Extracted Functional/Managerial Requirements

- **User-friendly, high-performance website**
- **Comprehensive business plan with timelines and measurable milestones for progress tracking.**

2.7 Nonfunctional Requirements

Technician (Nabeel)

Question:

"What would you like out of the application?"

Answer:

"I want to quickly see all my assigned jobs for the day, with the customer's address, time, and type of service. I should be able to update the ==job status anywhere and anytime== even when I'm on the go directly on my phone. "

Extracted Non-Functional Requirement:

- **Offline functionality to store updates and sync automatically when online.**

Admin (Eunki Kim)

Question:

"As an admin, what are your expectations surrounding performance, reliability and security   aspect of the system?"

Answer:

"I require admin dashboard to be as <mark>responsive as possible even under a high load</mark> with large   booking and report requests. Along with that, the system needs to be <mark>highly protected</mark> as it   provides access to important credentials such as payment details. I am also expecting the   system to handle <mark>concurrent users</mark> on the page with ease"

Extracted Non-Functional Requirements:

- **High performance and reliability under heavy load.**
- **Strong security for protection of sensitive data.**
- **Scalability of the website.**

2.8 UI/UX Interface Mock-ups

Section 3

3.1 Data Flow Diagrams

3.2 User Stories and related Use Case Scenarios

3.3 Activity Diagrams

3.4 Business Rules

Business Rule #	Description	Activity Diagram	Related UCS	UI Mock-up
BR1		AD1	UC1	UI 2.7.2
BR2		AD2	UC2	UI 2.7.3
BR3		AD3	UC3	UI 2.7.4
BR4		AD3	UC3	UI 2.7.4
BR5		AD5	UC4	UI 2.7.6
BR6		AD6	UC5	UI 2.7.6
BR7		AD7	UC6	UI 2.7.7
BR8		AD8	UC7	UI 2.7.8
BR9		AD8	UC7	UI 2.7.8
BR10		AD8	UC7	UI 2.7.8
BR11		AD8	UC7	UI 2.7.8
BR12		AD8	UC7	UI 2.7.8
BR13		AD9	UC8	UI 2.7.9
BR14		AD9	UC8	UI 2.7.9
BR15		AD9	UC8	UI 2.7.9
BR16		AD9	UC8	UI 2.7.9
BR17		AD10	AD9	UI 2.7.9
BR18		AD10	AD9	UI 2.7.9
BR19		AD10	AD9	UI 2.7.9
BR20		AD11	UC10	UI 2.7.10
BR21		AD11	UC10	UI 2.7.11
BR22		AD11	UC10	UI 2.7.11
BR23		AD12	UC11	UI 2.7.10
BR24		AD13	UC12	UI 2.7.12

Section 4 – Domain Class

Section 5 – Database

Section 6 – Project Management

6.1 Work Breakdown Structure

6.2 Milestones & Acceptance Criteria

Section 7 – Product Backlog & Implementation Schedule

Section 8 – Client/Faculty Sign-off