Green Thumb

a web app for Lawn Service companies



Test Plan

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# 1. Introduction

## 1.1 Objectives

The following document will provide a comprehensive framework for testing the agile web-based Green Thumb Lawn Service Software (GTLSS) package. The testing framework will involve two primary levels: the user interface (UI) design and functionality for the customers and client and the database functionality for the client. The team will utilize two different kinds of testing methodologies: black-box and white-box testing. The black-box (component requirements) testing methodology will involve testing the UI design and functionality. The white-box (algorithmic) testing will involve the code coverage and path coverage of the UI.

## 1.2 Background

The agile web-based GTLSS package is an online portal facilitating Business-to-Consumer (BC2) transactions. The GTLSS package will provide efficiency in customer and business interaction by reducing the need for personal interaction through the automating of services and products for delivery. The GTLSS package will also provide employee, equipment, inventory, and scheduling management for the business, which will further increase efficiency for the business by reducing the need for clerical work, thus increasing revenue. In the following Testing Plan document, analysis of the UI design and functionality along with database functionality will be tested to ensure the development of GTLSS for the business and consumer to reach the highest efficiency and profit margin.

## 1.3 Scope

The scope of the testing for the GTLSS package will involve testing cases specifics for the three modules of the architectural context diagram:

1. User Interface (UI) – Section 2.1
2. Services (SV) – Section 2.2
3. Domain Objects (DO) – Section 2.3

Out-of-Scope for GTLSS package will be testing for security protocols, assignment of specific employee or equipment for scheduling, real interaction with payment collection, bookkeeping.

## 1.4 References

References for the software test specification include:

1. IEEE std. 829-1998-IEEE Standard for Software Documentation
2. Software Requirement Specification (SRS) for GTLSS
3. Software Design Document (SDD) for GTLSS

# 

## 1.5 Testing Environment

The testing environment for GTLSS will be moderate due to the involvement of other components such as web server, web server software, browser compatibility, and database communication. Therefore, the testers will limit their scope to functionality of the UI on two major browsers platformers Google and Firefox for the desktop along with communication of the database to the website.

### 1.5.1 Software

The GTLSS package will require minimal software installation for the business. This E-commerce web application can run on Windows or Linux operating system. The GTLSS package will require access to a database software package like Windows Database or MySQL for the purpose of the business to perform database updates on inventory, employee, equipment, and calendar (Business holidays).

### 1.5.2 Hardware

A desktop or laptop with the following hardware requirements: **Processor**: Intel Core i7, **Hard Drive**: 256GB Solid State, **Monitor Resolution**: 1024x768, and **Memory**: 8GB RAMs. If working with desktop include a keyboard and mouse.

### 1.5.3 Communication

Networking requirements for GTLSS package will require secure protocols with SSL (Secure Sockets Layer) and TLS (Transport Layer Security) by the business. For the purpose of the testers, networking will be performed over TCP/IP protocols. The GTLSS package will require minimal internet speeds of 384kbps along with dedicated ports.

### 1.5.4 Tools

The testing environment will consist of hardware able to access different web browsers. Since the domain object layer and the application layer of the GTLSS package will not be designed for public use, their access will be limited to the testers. Thus, all the team members as testers will have administrative rights to the database and access to the UI. As a result, the testers will ensure UI functionality for the customer and business and MySQL database.

### 1.5.5 Data

The testers of the GTLSS package should have the following data in order to complete the use cases in Section 4 of this Test Plan:

1. Inventory data
2. Products data with pricing
3. Annuals
4. Perennials
5. Vegetables
6. Mulch
7. Soil
8. Trees
9. Shrubs
10. Fertilizer
11. Services data with pricing
12. Mowing
13. Tree trimming
14. Shrub trimming
15. Lawn fertilization
16. Snow removal
17. Spring Clean-Up
18. Fall Clean-Up
19. Tree and Shrub Fertilization
20. Calendar

a. Non-overlapping for successful delivery of services requested

b. Overlapping of date when employee and equipment is maximized.

1. Customer data
   1. Names (first, last)
   2. Address (Street, state, and zip code)
   3. Dummy credit card information (valid and invalid formats)
   4. Dummy phone numbers (valid and invalid formats)
2. Employee
3. Name (First, Last, Salary)
4. Equipment
5. Name (push mowers, riding mower, snow blower, rakes etc.)
6. Description
7. UI functionality
8. Verify browser compatibility
9. Launching the site on different browsers i.e. Google & Firefox
10. Verify navigation bar is visible
11. Verify all links are represent
12. Email
13. Verify all text is clearly visible
14. Logo
15. Product description
16. Content for each page
17. Verify images are loading
18. Verify products page have add to cart button
19. Verify each page has a back to top feature
20. Verify text boxes are visible for contact page
21. Functional Testing
22. Verify all pages have correct links
23. Verify email link will open composition for user
24. Verify add to cart button
    1. Adds items from the services and product page to checkout page
25. Verify checkout

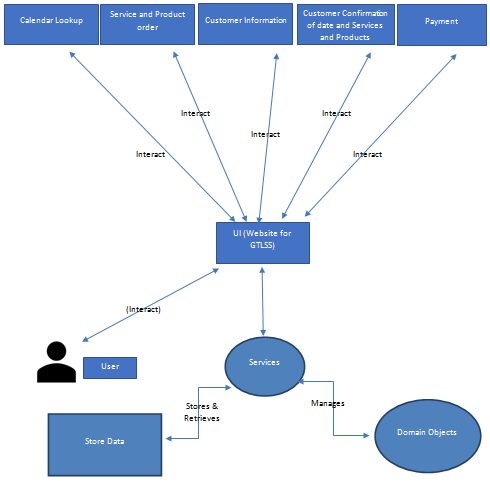
The set of data listed will accommodate the entirety of test cases across the UI, service, and domain objects cases listed for the Test Plan for GTLSS.

# 2. Architectural Context Diagram Mappings

## 2.1 User Interface

Figure 1 will provide the architectural design through the user perspective i.e. the customers and the business manager for the GTLSS package. The users will access the user interface of this software via the GTLSS website.

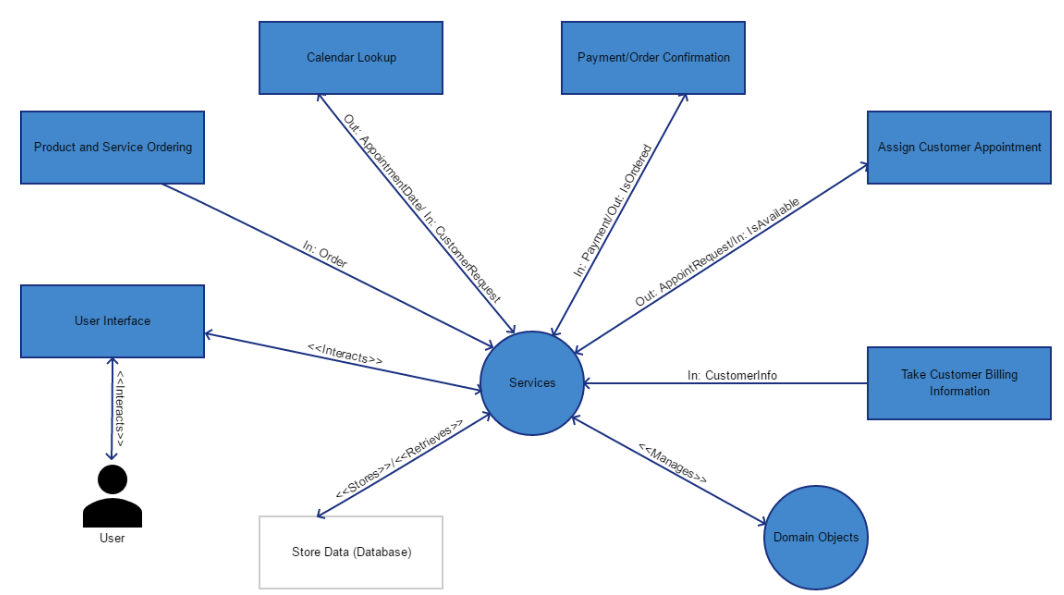
**Figure 1. Architectural Context Diagram – User Interface**



## 2.2 Services

Figure 2 will provide the business logic processes for the GTLSS package when domain objects are involved, such as looking up employee, equipment, inventory, and date availability. The service module provides output to the UI and input by the business manager into the SQL database for the purpose of managing domain objects.

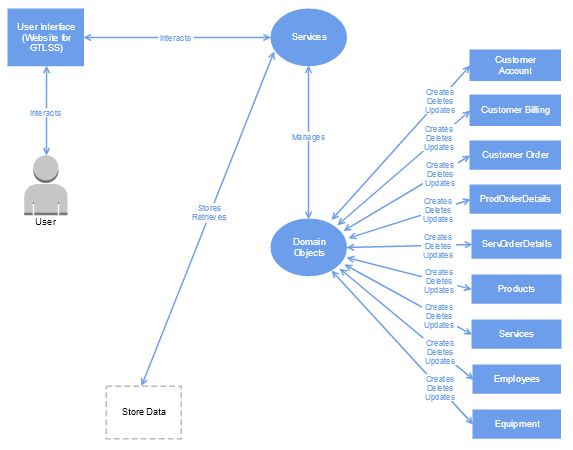
**Figure 1. Architectural Context Diagram – Services**

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## 2.3 Domain Objects

Figure 3 will cover all entities that hold data in GTLSS for the purpose of producing the output of a confirmation for the customer. The objects holding the data will be referred to as domain objects.

**Figure 3. Architectural Context Diagram – Domain Objects**



# 3. Traceability Matrix

The traceability matrix (Table 1) will provide a linkage between the initial software requirements (SRS) and software design (SDD) to the testing (STS) use cases for the GTLSS package. By utilizing the traceability matrix accountability on the testing framework can be measured as pass/fail.

**Table 1. Traceability Matrix**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Category** | **Requirement Description** | **Requirement Type** | **Test Case** | **Pass/Fail** |
| 1 | User Interface | Home Index page loads for GTLSS | Front-end | 4.1.1 |  |
| 2 | User Interface | Navigation Bar displays on each page of the website. | Front-end | 4.1.2 |  |
| 3 | User Interface | Navigation Bar is functional and links to each page | Back-end | 4.1.3 |  |
| 4 | User Interface | Content description loads on each page | Front-end | 4.1.4 |  |
| 5 | User Interface | Content images display on each page | Front-end | 4.1.5 |  |
| 6 | User Interface | Website links to email composition for customers | Back-end | 4.1.6 |  |
| 7 | User Interface | Contact page loads with text boxes to enter customer information and comments | Front-end | 4.1.7 |  |
| 8 | User Interface | Services page loads description of services with add to cart functionality | Front-end | 4.1.8 |  |
| 9 | User Interface | Products page loads description of products for sale with add to cart functionality | Front-end | 4.1.9 |  |
| 10 | User Interface | The “add to cart” button functionality works to move services items selected to cart | Back-end | 4.1.10 |  |
| 11 | User Interface | The “add to cart” button functionality works to move product items selected to cart | Back-end | 4.1.11 |  |
| 12 | Services | Validate inventory and addToCart | Back-end | 4.2.1 |  |
| 13 | User Interface | Inventory "sold out” display on add cart button | Front-end | 4.1.12 |  |
| 14 | User Interface | Cart icon is functional and displays service and product items on the checkout form | Front-end | 4.1.13 |  |
| 15 | User Interface | “Admin Portal” Button displays on each page of the website | Front-end | 4.1.14 |  |
| 16 | User Interface | The "Admin Portal" button redirects to DBMS for data input by the Business Manager | Back-end | 4.1.15 |  |
| 17 | Domain Object | Business Manager inputs new products/supplies/equipment/employees data on the Admin Portal and the data gets inputted into the corresponding DB tables | Back-end | 4.3.1 |  |
| 18 | Domain Object | Business Manager retrieves products/supplies/equipment/employees data on the Admin Portal and the correct data gets pulled from the DB table and displayed to the manager | Back-end | 4.3.2 |  |
| 19 | Domain Object | Business Manager updates products/supplies/equipment/employees data on the Admin Portal and the data gets updated in the corresponding DB tables | Back-end | 4.3.3 |  |
| 20 | Domain Object | Business Manager deletes products/supplies/equipment/employees data on the Admin Portal and the correct data gets removed from the corresponding DB tables | Back-end | 4.3.4 |  |
| 21 | Domain Object | Customer User orders Services/Products and the order data gets stored into the CustomerOrders, ProdOrderDetails, and ServOrderDetails DB tables | Back-end | 4.3.5 |  |
| 22 | Domain Object | Customer User inputs customer information (name, address, etc.) and this data gets stored into the CustomerAccount DB table | Back-end | 4.3.6 |  |
| 23 | Domain Object | Customer User inputs billing information (credit card type, number, etc.) and this data gets stored into the CustomerBilling DB table | Back-end | 4.3.7 |  |
| 24 | Services | Validate correct data input for the database by the Business Manager | Back-end | 4.2.2 |  |
| 25 | Services | Numerical calculation performed for display in the checkout form of services and products. | Back-end | 4.2.3 |  |
| 26 | User Interface | Numerical representation of the total for services and products added to cart is displayed | Front-end | 4.1.16 |  |
| 27 | User Interface | Check out form displays a "submit" button | Front-end | 4.1.17 |  |
| 28 | User Interface | Customer presses the "submit" button to open the customer billing form | Front-end | 4.1.18 |  |
| 29 | User Interface | Customer billing form loads and displays text boxes for input by customer | Back-end | 4.1.19 |  |
| 30 | User Interface | Customer input (name, address, phone number, email, credit card information) | Front-end | 4.1.20 |  |
| 31 | Services | Customer input is validated that the correct string, numeric and character values for input for each data field | Back-end | 4.2.4 |  |
| 32 | User Interface | Validation is made a "submit" button is loaded and displayed | Back-end | 4.1.21 |  |
| 33 | User Interface | Customer presses the "submit" button | Front-end | 4.1.22 |  |
| 34 | Services | Assign a Customer ID | Back-end | 4.2.5 |  |
| 35 | User Interface | Calendar displays on check form | Front-end | 4.1.23 |  |
| 36 | User Interface | Customer assigns date | Front-end | 4.1.24 |  |
| 37 | Services | Validate date for customer | Back-end | 4.2.6 |  |
| 38 | Services | Invalidate date after the 20th Customer ID | Back-end | 4.2.7 |  |
| 39 | User Interface | Confirmation display of delivery date | Front-end | 4.1.25 |  |

# 4. Test Case Specifications

The test cases are provided for the three core modules for the GTLSS package, which is covered in section 2. The test will constitute the completion of steps to validate both the User Interface and DBMS for employees, equipment, and inventory. The test cases will validate all requirements are being meet from the Project Plan Document.

## 4.1 User Interface Test Cases

The test cases for the User Interface (UI) are designed to prove the UI design and functionality meet the requirements for the GTLSS package.

### 4.1.1 Specification ID: GTLSS-UI-01

**Objective:** The objective of the test case is to provide a black-box test for the UI. Home page is loading to the web browser as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer loading the Home Page for the GTLSS package.

**Input Specifications:**

1. Copy software file address to the **URL**.
2. Press enter.

**Output Specifications:**

1. Home page contents are displayed; navigation bar, images, email, and description.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.2 Specification ID: GTLSS-UI-02

**Objective:** The objective of the test case is to provide a black-box test for the UI. Navigation bar is loading on each page required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer loading the Home Page, which should display the navigation bar for the GTLSS package.

**Input Specifications:**

1. Copy software file address to the **URL**.
2. Press enter.

**Output Specifications:**

1. The navigation displays on each page of the GTLSS website i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.3 Specification ID: GTLSS-UI-03

**Objective:** The objective of the test case is to provide a black-box test for the UI. The Navigation bar functionality is linking to each of the site pages required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer pressing navigation bar items, which will redirect to the site page chosen.

**Input Specifications:**

1. Press navigation bar items i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Output Specifications:**

1. Each site page is linked and displayed i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.4 Specification ID: GTLSS-UI-04

**Objective:** The objective of the test case is to provide a black-box test for the UI. The content is displayed for each site page required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer able to view all content on the site pages i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Input Specifications:**

1. The GTLSS package files will display content for site pages i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Output Specifications:**

1. Content is displayed for site pages i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.5 Specification ID: GTLSS-UI-05

**Objective:** The objective of the test case is to provide a black-box test for the UI. The images are displayed on each site page as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer able to view all the images on the site pages i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Input Specifications:**

1. The GTLSS package files will display images for site pages i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Output Specifications:**

1. Images are displayed for site pages i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.6 Specification ID: GTLSS-UI-06

**Objective:** The objective of the test case is to provide a black-box test for the UI. The website links to email composition for customers as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer clicking on the email for green thumb and being directed to an email composition with the green thumb address in the to line.

**Input Specifications:**

1. Clicking on the email address at the bottom of a site page.

**Output Specifications:**

1. Clicking on the email address at the bottom of a site page will result in an email composition window being opened with the address for green thumb being in the To line allowing the customer to send an email to the company.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.7 Specification ID: GTLSS-UI-07

**Objective:** The objective of the test case is to provide a black-box test for the UI. The contact page loads with text boxes to enter customer information and comments as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer opening the contact page, which will load text boxes for them to enter customer information and comments.

**Input Specifications:**

1. Clicking on the contact page in the navigation bar or otherwise loading the contact page.

**Output Specifications:**

1. Contact page loads with text boxes for customer information and comments.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.8 Specification ID: GTLSS-UI-08

**Objective:** The objective of the test case is to provide a black-box test for the UI. The services page loads with descriptions of services available and add to cart functionality as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer opening the services page, which will load descriptions of the services and provide add to cart functionality.

**Input Specifications:**

1. Clicking on the services page in the navigation bar or otherwise loading the services page.

**Output Specifications:**

1. Services page loads with descriptions of services and add to cart functionality.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.9 Specification ID: GTLSS-UI-09

**Objective:** The objective of the test case is to provide a black-box test for the UI. The products page loads with descriptions of products for sale and add to cart functionality as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer opening the products page, which will load descriptions of the products and provide add to cart functionality.

**Input Specifications:**

1. Clicking on the products page in the navigation bar or otherwise loading the products page.

**Output Specifications:**

1. Products page loads with descriptions of products and add to cart functionality.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.10 Specification ID: GTLSS-UI-10

**Objective:** The objective of the test case is to provide a black-box test for the UI. The “add to cart” button moves services to the users cart as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer adding services to their cart from the services page and verify that services are then in the users cart.

**Input Specifications:**

1. Clicking on the services page in the navigation bar or otherwise loading the services page.
2. Selecting a service.
3. Clicking “add to cart”.

**Output Specifications:**

1. Services page “add to cart” button when clicked puts the selected service into the user's cart.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.11 Specification ID: GTLSS-UI-11

**Objective:** The objective of the test case is to provide a black-box test for the UI. The “add to cart” button moves products to the users cart as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer adding products to their cart from the products page and verify that products are then in the users cart.

**Input Specifications:**

1. Clicking on the products page in the navigation bar or otherwise loading the products page.
2. Selecting a product.
3. Clicking “add to cart”.

**Output Specifications:**

1. Products page “add to cart” button when clicked puts the selected product into the user's cart.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.12 Specification ID: GTLSS-UI-12

**Objective:** The objective of the test case is to provide a black-box test for the UI. The “add to cart” button displays results in “sold out” message being displayed when an item is not available as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer adding a product to their cart from the product page and when the item is not available, it will display the sold out message.

**Input Specifications:**

1. Clicking on the products page in the navigation bar or otherwise loading the products page.
2. Selecting a product that is unavailable.
3. Clicking “add to cart”.

**Output Specifications:**

1. Products page “add to cart” button when clicked displays a message that the item is sold out.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser. GTLSS-SV-01

### 4.1.13 Specification ID: GTLSS-UI-13

**Objective:** The objective of the test case is to provide a black-box test for the UI. The cart icon is functional and displays service and product items on the checkout form as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer adding a products and services to their cart and then show the functionality of the cart icon in displaying the products and services on the checkout form.

**Input Specifications:**

1. Clicking on the products/services page in the navigation bar or otherwise loading the products/services page.
2. Selecting a product/service.
3. Clicking “add to cart”.
4. Clicking the cart icon.

**Output Specifications:**

1. Products/services selected should be displayed in the checkout form when the cart icon is selected.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser. GTLSS-SV-01

### 4.1.14 Specification ID: GTLSS-UI-14

**Objective:** The objective of the test case is to provide a black-box test for the UI. The Admin Portal button is displayed on each page as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer or other user being able to view the admin portal button on the site pages i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Input Specifications:**

1. Clicking on the site pages i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.

**Output Specifications:**

1. The admin portal button should be displayed on the site page.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.15 Specification ID: GTLSS-UI-15

**Objective:** The objective of the test case is to provide a black-box test for the UI. The Admin Portal button redirects to DBMS for data input by the business manager as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a user being able to view the admin portal button on the site pages i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page and be redirected to the admin portal for data input from that button.

**Input Specifications:**

1. Clicking on the site pages i.e. Home page, Services page, Landscaping supplies page, Landscaping tips page, Contact page, About Us, and Cart page.
2. Clicking on the Admin Portal Button

**Output Specifications:**

1. The admin portal button should redirect the user to the DBMS for data input by the business manager, with the proper password.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser. GTLSS-UI-14

### 4.1.16 Specification ID: GTLSS-UI-16

**Objective:** The objective of the test case is to provide a black-box test for the UI. The numerical total for services and products added to the cart is displayed as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer or other user being able to see the total for products and services they have added to their cart displayed.

**Input Specifications:**

1. Clicking on the products/services page in the navigation bar or otherwise loading the products/services pages
2. Selecting products/services.
3. Clicking “add to cart”.
4. Navigating to the cart once you have added all the products and services you wish.

**Output Specifications:**

1. The cart with the total price for the products and services should be displayed.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser. GTLSS-UI-13 has completed and items are displayed in cart. Calculation by GTLSS-SV-03 will be completed as cart is opened.

### 4.1.17 Specification ID: GTLSS-UI-17

**Objective:** The objective of the test case is to provide a black-box test for the UI. The cart/checkout form displays a submit button as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer or other user being able to view the submit button on the Cart/Checkout page.

**Input Specifications:**

1. User adds items to the cart from products/services pages.
2. User clicks on the cart button.

**Output Specifications:**

1. The submit button should be displayed on the bottom of the cart/checkout page.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.1.18 Specification ID: GTLSS-UI-18

**Objective:** The objective of the test case is to provide a black-box test for the UI. The submit button is functional and opens the customer billing form as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer adding a products and services to their cart and then show that pushing the submit button at the bottom of the cart opens the customer billing form.

**Input Specifications:**

1. Clicking on the products/services page in the navigation bar or otherwise loading the products/services page.
2. Selecting a product/service.
3. Clicking “add to cart”.
4. Clicking the cart icon.
5. Clicking on submit at the bottom of the cart page.

**Output Specifications:**

1. Products/services selected should be displayed in the checkout form when the cart icon is selected.
2. Submit button opens the customer billing form.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser. GTLSS-UI-17

### 4.1.19 Specification ID: GTLSS-UI-19

**Objective:** The objective of the test case is to provide a black-box test for the UI. The customer billing form loads and displays text boxes for customer input as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer checking out with products and services from the cart and the billing form opening for customer input.

**Input Specifications:**

1. Clicking on the products/services page in the navigation bar or otherwise loading the products/services page.
2. Selecting a product/service.
3. Clicking “add to cart”.
4. Clicking the cart icon.
5. Clicking on submit at the bottom of the cart page.

**Output Specifications:**

1. Products/services selected should be displayed in the checkout form when the cart icon is selected.
2. Submit button opens the customer billing form.
3. Customer billing form loads and displays text boxes for customer input.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser. GTLSS-UI-18

### 4.1.20 Specification ID: GTLSS-UI-20

**Objective:** The objective of the test case is to provide a black-box test for the UI. The customer billing form receives customer input (name, address, phone number, email, credit card information) properly as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer inputting their billing information into the billing form.

**Input Specifications:**

1. Clicking on the products/services page in the navigation bar or otherwise loading the products/services page.
2. Selecting a product/service.
3. Clicking “add to cart”.
4. Clicking the cart icon.
5. Clicking on submit at the bottom of the cart page.
6. Entering Customer information into the billing form that has been opened.

**Output Specifications:**

1. Billing form should load with appropriate text boxes (name, address, phone number, email, credit card information) for customer input
2. Text boxes should retain information entered by the customer as they proceed to complete the form

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser. User has selected items to be purchased and has clicked submit at the bottom of the cart to open the billing information page GTLSS-UI-19.

### 4.1.21 Specification ID: GTLSS-UI-21

**Objective:** The objective of the test case is to provide a black-box test for the UI. The customer billing form receives customer input (name, address, phone number, email, credit card information) and that information is validated causing a submit button to be displayed allowing the customer information to be stored as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer inputting their billing information into the billing form, the information being verified and the submit button being displayed.

**Input Specifications:**

1. Clicking on the products/services page in the navigation bar or otherwise loading the products/services page.
2. Selecting a product/service.
3. Clicking “add to cart”.
4. Clicking the cart icon.
5. Clicking on submit at the bottom of the cart page.
6. Entering customer information into the billing form that has been opened.

**Output Specifications:**

1. Billing form should load with appropriate text boxes (name, address, phone number, email, credit card information) for customer input
2. Text boxes should retain information entered by the customer as they proceed to complete the form
3. After validation (GTLSS-SV-04) the submit button is displayed

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser. User has selected items to be purchased and has clicked submit at the bottom of the cart to open the billing information page GTLSS-UI-19, GTLSS-UI-20 and GTLSS-SV-04.

### 4.1.22 Specification ID: GTLSS-UI-22

**Objective:** The objective of the test case is to provide a black-box test for the UI. The submit button is displayed and clicked allowing the billing information to be stored as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer inputting their billing information into the billing form, the information being validated, the submit button being displayed and the button being pressed to submit the billing information.

**Input Specifications:**

1. Clicking on the products/services page in the navigation bar or otherwise loading the products/services page.
2. Selecting a product/service.
3. Clicking “add to cart”.
4. Clicking the cart icon.
5. Clicking on submit at the bottom of the cart page.
6. Entering customer information into the billing form that has been opened.
7. Clicking on submit button to submit/store the billing information

**Output Specifications:**

1. Billing form should load with appropriate text boxes (name, address, phone number, email, credit card information) for customer input
2. Text boxes should retain information entered by the customer as they proceed to complete the form
3. The submit button should be clickable for customer and functional (allowing to store customer billing information)

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser. User has selected items to be purchased and has clicked submit at the bottom of the cart to open the billing information page GTLSS-UI-19, GTLSS-UI-20, GTLSS-UI-21 and GTLSS-SV-04.

### 4.1.23 Specification ID: GTLSS-UI-23

**Objective:** The objective of the test case is to provide a black-box test for the UI. The calendar is displayed on the check form as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer viewing the calendar after submitting their billing information to the checkout portion of the website.

**Input Specifications:**

1. Clicking on the products/services page in the navigation bar or otherwise loading the products/services page.
2. Selecting a product/service.
3. Clicking “add to cart”.
4. Clicking the cart icon.
5. Clicking on submit at the bottom of the cart page.
6. Entering customer information into the billing form that has been opened.
7. Clicking on submit button to store the billing information.

**Output Specifications:**

1. Calendar should be displayed on the form after customer submits their billing information.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser. User has selected items to be purchased and has clicked submit at the bottom of the cart to open the billing information page GTLSS-UI-19, GTLSS-UI-20, GTLSS-UI-21, GTLSS-UI-22 and GTLSS-SV-04 and GTLSS-SV-05.

### 4.1.24 Specification ID: GTLSS-UI-24

**Objective:** The objective of the test case is to provide a black-box test for the UI. The calendar is displayed on the check form and the user selects a date for delivery as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer viewing the calendar and selecting a date for delivery after submitting their billing information to the checkout portion of the website.

**Input Specifications:**

1. Clicking on the products/services page in the navigation bar or otherwise loading the products/services page.
2. Selecting a product/service.
3. Clicking “add to cart”.
4. Clicking the cart icon.
5. Clicking on submit at the bottom of the cart page.
6. Entering customer information into the billing form that has been opened.
7. Clicking on submit button to store the billing information.
8. Selecting a date from the calendar that is displayed for delivery of products/services

**Output Specifications:**

1. Calendar should be displayed on the form after customer submits their billing information.
2. Calendar should retain date selected by the customer as they proceed to complete the checkout

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

Date needs to be checked for availability before calendar is displayed.

**Inter-case Dependencies:**

The GTLSS file package and the web browser. User has selected items to be purchased and has clicked submit at the bottom of the cart to open the billing information page GTLSS-UI-19, GTLSS-UI-20, GTLSS-UI-21, GTLSS-UI-22, GTLSS-UI-23 and GTLSS-SV-04 and GTLSS-SV-05.

### 4.1.25 Specification ID: GTLSS-UI-25

**Objective:** The objective of the test case is to provide a black-box test for the UI. The confirmation of the delivery date is displayed as required by the section of Project Plan Document section 1.3.1.

**Test Items:** The test will emulate a customer viewing the calendar and selecting a date for delivery and the confirmation of the date being displayed.

**Input Specifications:**

1. Clicking on the products/services page in the navigation bar or otherwise loading the products/services page.
2. Selecting a product/service.
3. Clicking “add to cart”.
4. Clicking the cart icon.
5. Clicking on submit at the bottom of the cart page.
6. Entering customer information into the billing form that has been opened.
7. Clicking on submit button to store the billing information.
8. Selecting a date from the calendar that is displayed for delivery of products/services.

**Output Specifications:**

1. Confirmation of delivery date for the order should be displayed.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

Date needs to be checked for availability before delivery date is finalized GTLSS-SV-06.

**Inter-case Dependencies:**

The GTLSS file package and the web browser. User has selected items to be purchased and has clicked submit at the bottom of the cart to open the billing information page GTLSS-UI-19, GTLSS-UI-20, GTLSS-UI-21, GTLSS-UI-22, GTLSS-UI-23 and GTLSS-SV-04, GTLSS-SV-05, GTLSS-SV-06.

## 4.2 Services Test Cases

The service test cases will be designed to test the programming of the application program interface (API) for the GTLSS package.

### 4.2.1 Specification ID: GTLSS-SV-01

**Objective:** The objective of the test case is to provide a white-box test for the inventory of the GTLSS package and its ability to ensure that a product is available for purchase by the user and that it is properly added to their cart.

**Test Items:** Products (Database), Order, “Add to Cart” button.

**Input Specifications:**

1. Clicking on the products page in the navigation bar or otherwise loading the products page.
2. Selecting a product.
3. Clicking “add to cart”.

**Output Specifications:**

1. Product inventory will be checked to make sure that item is available/valid.
2. Product will be added to the user's cart and an order with the item will be created.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

If an item is not in the inventory, a message will be displayed as outlined in GTLSS-UI-13.

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.2.2 Specification ID: GTLSS-SV-02

**Objective:** The objective of the test case is to provide a white-box test for the data input to the database by the Business Manager.

**Test Items:** Databases (Products, Services, Equipment, Employees)

**Input Specifications:**

1. Navigate to the Admin Portal
2. Add a product using the add supplies button

**Output Specifications:**

1. Correct data type will ensure that you are entering valid data types into the form
2. Product will be added to the database, it will overwrite existing data if the product already exists or create a new entry.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

None

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.2.3 Specification ID: GTLSS-SV-03

**Objective:** The objective of the test case is to provide a white-box test for the calculation performed for display in the checkout form of services and products.

**Test Items:** Databases (Products, Services), calculation, order, cart

**Input Specifications:**

1. Clicking on the products page in the navigation bar or otherwise loading the products page.
2. Selecting a product.
3. Clicking “add to cart”.
4. Navigating to the cart once you have added all the products and services you wish.
5. Clicking check out

**Output Specifications:**

1. Correct products and services will be displayed in the cart
2. Calculation will add totals for the cost of products/services
3. Total cost for all items will be displayed in the confirmed order

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

None

**Inter-case Dependencies:**

The GTLSS file package and the web browser. All products and services are in stock as confirmed by GTLSS-SV-01.

### 4.2.4 Specification ID: GTLSS-SV-04

**Objective:** The objective of the test case is to provide a white-box test for the customer input that validates that it is the correct string, numeric and character value types are input for each field.

**Test Items:** Billing Information (page), customerInput.

**Input Specifications:**

1. Clicking on the products page in the navigation bar or otherwise loading the products page.
2. Selecting a product.
3. Clicking “add to cart”.
4. Clicking “submit”
5. Typing information into the text boxes of the billing information page

**Output Specifications:**

1. Correct data types are verified as user enters information into the billing fields
2. An error is provided if a data type does not match or cannot be validated (for example a 6 digit phone number or numerical input in the name category)

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

None

**Inter-case Dependencies:**

The GTLSS file package and the web browser. GTLSS-UI-20 and all previous steps required to get to that point have been properly implemented allowing user to check out and submit a completed billing form.

### 4.2.5 Specification ID: GTLSS-SV-05

**Objective:** The objective of the test case is to provide a white-box test for to create an ID for each customer order received.

**Test Items:** Billing Information (page), customerInput, customerAccount.

**Input Specifications:**

1. Clicking on the products page in the navigation bar or otherwise loading the products page.
2. Selecting a product.
3. Clicking “add to cart”.
4. Clicking “submit”
5. Typing information into the text boxes of the billing information page
6. Clicking “submit”

**Output Specifications:**

1. A new customer ID is created and added to the customer account with the billing information provided for the order.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

Verification of information by GTLSS-SV-04 must occur first. A check of the database for existing customer records could also be done to prevent duplication of records.

**Inter-case Dependencies:**

The GTLSS file package and the web browser. GTLSS-UI-22 and all previous steps required to get to that point have been properly implemented allowing user to check out and submit a billing form.

### 4.2.6 Specification ID: GTLSS-SV-06

**Objective:** The objective of the test case is to provide a white-box test for to check that the date is valid for the calendar that is displayed to the customer when they are confirming their order.

**Test Items:** Billing Information (page), customerInput, customerAccount, calendar.

**Input Specifications:**

1. Clicking on the products page in the navigation bar or otherwise loading the products page.
2. Selecting a service.
3. Clicking “add to cart”.
4. Clicking “submit”
5. Typing information into the text boxes of the billing information page
6. Clicking “submit”

**Output Specifications:**

1. Calendar generated will only have dates available for selection that we have available workers to meet the customer's needs.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

Database check of which dates have already been selected to prevent too many customers from being scheduled on the same dates.

**Inter-case Dependencies:**

The GTLSS file package and the web browser. User has selected items to be purchased and has clicked submit at the bottom of the cart to open the billing information page GTLSS-UI-19, GTLSS-UI-20, GTLSS-UI-21, GTLSS-UI-22, GTLSS-UI-23 and GTLSS-SV-04 and GTLSS-SV-05.

### 4.2.7 Specification ID: GTLSS-SV-07

**Objective:** The objective of the test case is to provide a white-box test for that the date be invalidated after 20 customers have selected it when they are confirming their order. (The 21st customer will not be able to select the same date)

**Test Items:** Billing Information (page), customerInput, customerAccount, calendar.

**Input Specifications:**

1. Clicking on the products page in the navigation bar or otherwise loading the products page.
2. Selecting a service.
3. Clicking “add to cart”.
4. Clicking “submit”
5. Typing information into the text boxes of the billing information page
6. Clicking “submit”

**Output Specifications:**

1. Calendar generated will only have dates available for selection that we have available workers to meet the customer's needs. If 20 other customers have selected the same date the date will be unavailable for the 21st customer.

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

Database check of which dates have already been selected to prevent too many customers from being scheduled on the same dates.

**Inter-case Dependencies:**

The GTLSS file package and the web browser. User has selected items to be purchased and has clicked submit at the bottom of the cart to open the billing information page GTLSS-UI-19, GTLSS-UI-20, GTLSS-UI-21, GTLSS-UI-22, GTLSS-UI-23 and GTLSS-SV-04, GTLSS-SV-05 and GTLSS-SV-06.

## 4.3 Domain Object Test Cases

The test case will be designed to test the data encapsulation and storage portion of the GTLSS package. This testing will be performed by a user testing team.

### 4.3.1 Specification ID: GTLSS-DO-01

**Objective:** The objective of the test case is to provide a white-box test for the Supplies/Services/Equipment/Employees domain objects by having the system add new Supplies/Services/Equipment/Employees object according to the user request.

**Test Items:** The items to be tested in this test case are the functions that create new Supplies/Services/Equipment/Employees domain objects. This case tests valid data entry.

**Input Specifications:**

1. The Admin User of the GTLSS requests to add a new Supply to the DB by clicking on the Add link under Supplies. The user adds information about a new product (e.g. product name, path to the product image, product description, and product price). Then, clicks on Add button.
2. The Admin User of the GTLSS requests to add a new Service to the DB by clicking on the Add link under Services. The user adds information about a new service (e.g. service name, path to the service image, description, and fee). Then, clicks on Add button.
3. The Admin User of the GTLSS requests to add a new Equipment to the DB by clicking on the Add link under Equipment. The user adds information about a new equipment (e.g. name, description). Then, clicks on Add button.
4. The Admin User of the GTLSS requests to add a new Employee to the DB by clicking on the Add link under Employees. The user adds information about a new employee (e.g. name, salary). Then, clicks on Add button.

**Output Specifications:**

1. The successful creation of a Product object
2. The successful creation of a Services object
3. The successful creation of an Equipment object
4. The successful creation of an Employees object

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.3.2 Specification ID: GTLSS-DO-02

**Objective:** The objective of the test case is to provide a white-box test for the Supplies/Services/Equipment/Employees domain objects by having the system retrieve all available Supplies/Services/Equipment/Employees data according to the user request.

**Test Items:** The items to be tested in this test case are the functions that retrieve appropriate data for Supplies/Services/Equipment/Employees domain objects.

**Input Specifications:**

1. The Admin User of the GTLSS requests to see all available Supplies data by clicking on the Show link under Supplies.
2. The Admin User of the GTLSS requests to see all available Services data by clicking on the Show link under Services.
3. The Admin User of the GTLSS requests to see all available Equipment data by clicking on the Show link under Equipment.
4. The Admin User of the GTLSS requests to see all available Employees data by clicking on the Show link under Employees.

**Output Specifications:**

1. Admin Portal shows Review of Products (name, description, price, etc.)
2. Admin Portal shows Review of Services (name, description, fee, etc.)
3. Admin Portal shows Review of Equipment (name, description, etc.)
4. Admin Portal shows Review of Employees (name, salary, etc.)

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.3.3 Specification ID: GTLSS-DO-03

**Objective:** The objective of the test case is to provide a white-box test for the Supplies/Services/Equipment/Employees domain objects by having the Supplies/Services/Equipment/Employees data changed according to the user request.

**Test Items:** The items to be tested in this test case are the functions that update data for Supplies/Services/Equipment/Employees domain objects. This case tests valid data entry.

**Input Specifications:**

1. The Admin User of the GTLSS requests to change a Supply data in the DB by clicking on the Update link under Supplies. The user selects what product already in the database he wants to adjust and inputs the updated information about a product (e.g. product name, path to the product image, product description, or product price). Then, clicks on Update button.
2. The Admin User of the GTLSS requests to change a Service data in the DB by clicking on the Update link under Services. The user selects what service already in the database he wants to adjust and inputs the updated information about a service (e.g. service name, path to the service image, service description, or service fee). Then, clicks on Update button.
3. The Admin User of the GTLSS requests to change an Equipment data in the DB by clicking on the Update link under Equipment. The user selects what equipment already in the database he wants to adjust and inputs the updated information about an equipment (e.g. name or description). Then, clicks on Update button
4. The Admin User of the GTLSS requests to change an Employee data in the DB by clicking on the Update link under Employees. The user selects what employee already in the database he wants to adjust and inputs the updated information about an employee (e.g. name or salary). Then, clicks on Update button.

**Output Specifications:**

1. The successful update of a Product object
2. The successful update of a Services object
3. The successful update of an Equipment object
4. The successful update of an Employees object

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.3.4 Specification ID: GTLSS-DO-04

**Objective:** The objective of the test case is to provide a white-box test for the Supplies/Services/Equipment/Employees domain objects by having the system remove Supplies/Services/Equipment/Employees object according to the user request.

**Test Items:** The items to be tested in this test case are the functions that delete existing Supplies/Services/Equipment/Employees domain objects.

**Input Specifications:**

1. The Admin User of the GTLSS requests to remove a Supply data from the DB by clicking on the Delete link under Supplies. The user selects what product already in the database he wants to delete. Then, clicks on Delete button.
2. The Admin User of the GTLSS requests to remove a Service data from the DB by clicking on the Delete link under Services. The user selects what service already in the database he wants to delete. Then, clicks on Delete button.
3. The Admin User of the GTLSS requests to remove an Equipment data from the DB by clicking on the Delete link under Equipment. The user selects what equipment already in the database he wants to delete. Then, clicks on Delete button.
4. The Admin User of the GTLSS requests to remove an Employee data from the DB by clicking on the Delete link under Employees. The user selects what employee already in the database he wants to delete. Then, clicks on Delete button.

**Output Specifications:**

1. The successful deletion of a Product object
2. The successful deletion of a Services object
3. The successful deletion of an Equipment object
4. The successful deletion of an Employees object

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.3.5 Specification ID: GTLSS-DO-05

**Objective:** The objective of the test case is to provide a white-box test for the Customer Order, Product Order Details, and Service Order Details domain objects by having the system add new Customer Order, Product Order Details, and Service Order Details information.

**Test Items:** The items to be tested in this test case are the functions that create new Customer Order, Product Order Details, and Service Order Details domain objects. This case tests valid data entry.

**Input Specifications:**

1. At the Checkout, the Customer places the order by pressing the Submit button.

**Output Specifications:**

1. The successful creation of a Customer Order object along with:
   * The successful creation of a Product Order Details object, if Customer selected any supplies
   * The successful creation of a Service Order Details object, if Customer selected any services
   * The successful creation of objects for Product Order Details and Service Order Details, if Customer selected both, products and services

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser

### 4.3.6 Specification ID: GTLSS-DO-06

**Objective:** The objective of the test case is to provide a white-box test for the Customer Account domain object by having the system add new Customer Account information.

**Test Items:** The items to be tested in this test case are the functions that create new Customer Account domain objects. This case tests valid data entry.

**Input Specifications:**

1. At the Checkout, the Customer User inputs a valid customer data (e.g. name, address, phone, etc.).

**Output Specifications:**

1. The successful creation of a Customer Account object

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.

### 4.3.7 Specification ID: GTLSS-DO-07

**Objective:** The objective of the test case is to provide a white-box test for the Customer Billing domain object by having the system add new Customer Billing information.

**Test Items:** The items to be tested in this test case are the functions that create new Customer Billing domain objects. This case tests valid data entry.

**Input Specifications:**

1. At the Checkout, the Customer User inputs a valid customer billing data (e.g. credit card type, number, etc.).

**Output Specifications:**

1. The successful creation of a Customer Billing object

**Environmental Needs:**

1. Laptop or Desktop with keyboard and mouse.
2. Web browser
3. Operating system with GTLSS files installed.

**Special Procedural Requirements:**

n/a

**Inter-case Dependencies:**

The GTLSS file package and the web browser.