

Test Plan

A) Test plan identifier:

First publication of Software Test Specification enabling the testing of the John and Jane's Bed & Bath Application. 1.0

B) Introduction:

a) Project authorization:

Product authorized by John and Jane, Owners of the John and Jane Bed & Bath.

b) Project plan:

The plan for testing is to create two white box test cases and two black box cases. These cases are to verify and validate application alignment with the given statement of need and expanded need in the Software Requirements Sheet.

c) Quality assurance plan:

The quality assurance for the tests will have two phases, the development phase and the final phase. The white box test cases (development phase) will be tested by the software development personnel, while the black box test cases (final phase) will be tested by a group of testers, to include software developments, company staff, and company owners.

d) Configuration management plan:

All revisions to the B&B application will be saved individually for all changes by class on all formal and informal reviews. Each software build must have a supporting document listing the changes.

e) Relevant policies:

John & Jane's Bed & Bath Software Development Life Cycle Policy - describes the entire process for the creation of the software system, to include testing, configuration changes, and requirement gathering.

f) Relevant standards:

Payment Card Industry Data Security Standard (PCI DSS) - defines the standards for securely storing payment information within the system [PCI Compliance Guide Frequently Asked Questions | PCI DSS FAQs](#)

ISO 12207 - defines the software product, service, and system through software life cycle processes [Software Development Standards: ISO compliance and Agile \(softkraft.co\)](#)

C) Test items:

a) Requirements specification:

They want a system to manage the reservations and to monitor expenses and profits. When a potential customer calls for a reservation, they will check the calendar, and if there is a vacancy, they will enter the customer's name, address, and phone number, dates, agreed upon price, credit card number, and room numbers. Reservations must be guaranteed by 1 day's payment. Reservations will be held without guarantee for an agreed upon time. If not guaranteed by that date, the reservation will be dropped.

b) Design specification:

In order to test the system, the software should be installed on the computer. The computer should have connections to the database, the email server, the bank, and the printer. The database should have interoperability with the system to handle gathering and distributing customer, payment, and receipt information.

c) Users guide:

The users will be able to use credentials to login and view a main calendar menu. From the calendar, reservations can be made by selecting an available date, or submenus can be entered for financial and account management.

d) Operations guide:

The application will create a Graphical User Interface(GUI) to collect information. Any information inputted into the GUI will be saved into the B&B database through Guest information/Reservation classes. Transactions shall be conducted by the billing classes to interface between the email server, bank, and printer.

e) Installation guide:

The application will require a modern computer made no later than 2010. This computer must then be connected wired/wirelessly to a network with access to a SQL database, which has one terabyte of harddrive space, and the printer, in order to print receipts. Bank and email server connections shall be handled over an ethernet connection. A card reader will be required on every computer that is intended to front desk a customer.

D) Features to be tested:

The features to be tested are to be conducted by modules of the overall application including the GUI Module, the Guest Module, and Billing Module. To test the GUI, all menus of the application must be successfully accessible. This includes Calendar, Financial, Account, and reservation menus. The Guest Module shall be tested through the reservation menu of the GUI module. The information entered must enforce input of at least the customer's name, address, phone number, dates, agreed upon price, credit card number, and room numbers. The Billing Module will finally be tested through successful entries into the Guest Module and printer/server interaction.

E) Features not to be tested:

The features which are not going to be tested include the Guest Module functionality and the Billing Module functionality. Not all financial functions can be tested without enough test data.

F) Approach:

- a. Detailed Test Environment - Two installations
- b. Traceability Matrix

Traceability Matrix

Category	Description	System Req. #	Use Case #	Software Req. #	Test Case #	Pass/Fail
GUI	Logon	1.X	1.0	1.1	All	TBD
GUI	Calendar Menu	1.X	1.0	1.2	All	TBD
GUI	Financial Menu	1.X	1.0	1.3	BB3	TBD
GUI	Account Menu	1.X	1.0	1.4	BB2	TBD
GUI	Reservation Menu	1.X	1.0	1.5	WB1/2 BB1	TBD
Guest	Guest Reservation	2.X	2.0	2.1	WB1/2 BB1	TBD
Guest	Guest Information	2.X	2.0	2.2	WB1/2 BB1	TBD
Biling	Card Information	3.X	3.0	3.1	WB2 BB1	TBD
Biling	Bank Transaction	3.X	3.0	3.2	BB1	TBD
Biling	Receipt	3.X	3.0	3.3	WB2 BB1-3	TBD

G) Item pass/fail criteria:

Success of the GUI Module would require accurate displaying of all menus and successful interaction of all buttons to transmit information from the database and to the Guest module. Failure of the GUI Module would be if the GUI is unable to allow access and move onto the calendar selection, financial menu, account menu and reservation menu.

Success of the Guest Module requires reception of information entered into the reservation menu, and update of the B&B database. Emailing reservation information is also a requirement for success. Failure of the Guest Module entails any information not being recorded properly or inputted into the B&B database. All of the minimum information requirements per reservation must be enforced for input.

Success of the Billing Module requires the reception of card information, the capability of a complete transaction, and being able to print and or email the receipt. Failure of the Billing Module would be the absence of any one of its successes.

H) Suspension criteria and resumption requirements:

GUI Module - If the Staff is unable to use the GUI in order to connect to the main calendar and submenus and make adjustments to those menu options, testing will be halted. Resumption requirement is met once the functionality has been returned and tested.

Guest Module - If the Guest Module is not functioning by properly fulfilling the success criteria, further testing into the Billing Module will be halted. Resumption requires all success criteria being met and the B&B database being checked for correct entries.

Billing Module - If the Staff is unable to update the card information, complete the transaction or print/email the receipt testing will be halted. Once the functionality has been returned and tested the testing will resume.

I) Test deliverables:

- a) Test plan:
- b) Test design specifications:
- c) Test case specifications:
- d) Test procedure specifications:
- e) Test item transmittal reports:
- f) Test logs:
- g) Test incident reports:
- h) Test summary reports.

(Note: Test data: Screen shots of all tested functions will be attached to the test case document upon completion.)

J) Testing tasks:

Testing shall begin from the front desk computer and later expanded to the Administrative office to isolate the environment. Connections must be established over the ethernet to the database, email, and bank servers. Additional peripheral connection for a card reader and printer(s) are required. Normal A4 printer paper or smaller receipt paper may be used. Testing may start with the application installed with a shortcut on the Desktop.

K) Environmental needs:

The first installation must be located at the front desk. The second installation will be in the B&B office. The first installation will require a card reader peripheral while the office installation does not. The application will focus on the Windows operating System. Printer(s) will be connected to at least one installation prioritizing the front desk. Internet connections may be wireless or wired. The physical climate of each installation should not exceed 100 degrees Fahrenheit or be conducted in a humid environment.

L) Responsibilities:

Developers: Create the software for the B&B management system in accordance with all of the specifications outlined in the SRS.

Testers: Test all portions of the specifications and deliverables outlined in the SRS, SDD and STS.

Staff: Provide input and feedback to system requirements and functionalities.

Technical Support Staff: Technical Support Staff will not be required, and can be referred to the developers for any technical support necessary.

Data Administrative Staff: The B&B owners will be trained in basic data management for exporting and importing the database and being able to install/change storage locations.

Quality Support Staff: Quality checks shall be conducted by the original staff, but not the original tester. The original statement of need must be referenced along with the SRS.

M) Staffing and training needs:

Developers testing the white box cases need a more intricate knowledge of the programming language used and the software development cycle. Developers conducting black box case testing need an understanding of how the staff plans to use the interface. The B&B staff will require minimal training on how to make reservations through the calendar and reservation menus. The Owners will require additional training for account management and finance submenus.

N) Schedule:

Hardware testing, network testing, and software installation will be conducted for one week. The GUI module will be tested for 2 weeks. The guest module will be tested for one week. The billing module will be tested for one week. The major milestone will be upon completion of each module from Module 1.X-3.X. See section C) and D) of this STS for further details of each feature that will be tested.

O) Risks and contingencies:

Delays in delivery due to excessive failures in testing will be compensated for in additional shift work by the developers. Either John or Jane must be available to oversee black box testing, which may be conducted by a staff member if not the owners themselves. Internet failures shall change the focus of the tests to be on the submodules not requiring internet.

P) Approvals.

_____	_____
Test Manager	Date
_____	_____
Development Project Manager	Date
_____	_____
John	Date
_____	_____
Jane	Date

Test Cases

White Box Case 1: Test that a reservation will not be made unless all required information has been collected.

A) Test case specification identifier: WB1

B) Test items:

Testing 1.1, 1.2, and 1.5 of the GUI Module. Testing 2.1 and 2.2 of the Guest Module.

- a) Requirements specification - The need to properly input information to the reservation menu will be implemented, allowing for errors to be thrown as information is missing from the reservation form.
- b) Design specification - The modules and their submodules can be found in the level 2 Data Flow Diagram (DFD), dictating how the modules talk to each other.
- c) User's guide - The user's guide can be referenced for assistance with the aspects of the test case, such as logging into the system, or reaching the reservation GUI.
- d) Operations guide - The operations guide will dictate how the information travels between modules, where the information is stored, and where the form is verified from completeness.

C) Input specifications:

Select the date which will launch the reservation menu.

Guest Info

FName

LName - Intentionally leave blank which should prevent a reservation and give warning that this information is required.

Phone#

Email

Reservation Info

Room#

Start Date:

End Date:

#Guests:

Day Rate:

Payment Info

Full Name:

Card#

CVC

Expiration

D) Output specifications:

A pop up that states "Last Name Required for Reservation"

E) Environmental needs:

Hardware - Desktop with monitor or laptop, mouse, keyboard, card machine.

Software - Windows OS and the B&B management system.

F) Special procedural requirements: Intentionally leaving the LastName or other information required for a reservation blank.

G) Execution Procedure Steps:

1. Log into the system
2. Load the calendar menu
3. Select a future date in which a reservation is to be made
4. Enter the First Name (i.e. "Jack")
5. Leave Last Name blank
6. Enter a phone number (i.e. 123 456 7890)
7. Enter an email address (i.e. thisisatest@gmail.com)
8. Enter the room number (i.e. 1)
9. Enter the date selected from previous menu
10. Enter the end date for the stay
11. Enter the amount of guests
12. Enter the Day Rate for the room
13. Enter the full name (i.e. "Jack Sparrow")
14. Enter the card number (i.e. "1234 2468 3579 4680")
15. Enter the CVC (i.e. 123)
16. Enter the expiration date (i.e. 09/25)
17. Click "Submit"
18. Verify an error pops up stating that the "Last Name is Required for Reservation"

H) Intercase dependencies: Black Box Case one for reservations will be required before this test case to ensure reservation baseline functionality.

White Box Case 2: Tests that the card is not charge if the Pay Later box is selected

A) Test case specification identifier: WB2

B) Test items:

Testing 1.1, 1.2, and 1.5 of the GUI Module. Testing 2.1 and 2.2 of the Guest Module. Testing 3.1 and 3.3 of the Billing Module.

- a) Requirements specification - The need to create a reservation and set the payment to a later date will be implemented
- b) Design specification - The modules and their submodules can be found in the level 2 DFD, dictating how the modules interact with each other.
- c) User's guide - The user's guide can be referenced to assist the tester in properly fulfilling the test required, depicting items such as how to log in to the system and how to reach specific menus.
- d) Operations guide - The operations guide will dictate how the information travels from one aspect of the solution to another, to include storage of the information within the database, and retrieval from the database.

C) Input specifications:

Select the date which will launch the reservation menu.

Guest Info

FName

LName

Phone#

Email

Reservation Info

Room#

Start Date:

End Date:

#Guests:

Day Rate:

Payment Info

Full Name:

Card#

CVC

Expiration

Pay Later box is selected

D) Output specifications: Pop up displaying "Room held must pay by xx/xx/xx in order to make reservation complete" no charge should go through on the card until a later date. Ensure the total was not charged when receipt prints.

E) Environmental needs:

Hardware - Desktop with monitor or laptop, mouse, keyboard, card machine and printer.

Software - Windows OS and the B&B management system.

F) Special procedural requirements: Make sure to select the Pay Later option.

G) Execution Procedure Steps:

1. Log into the system
2. Load the calendar menu
3. Select a future date in which a reservation is to be made
4. Enter the First Name (i.e. "Jack")
5. Enter the Last Name (i.e. "Sparrow")
6. Enter a phone number (i.e. 123 456 7890)
7. Enter an email address (i.e. thisisatest@gmail.com)
8. Enter the room number (i.e. 1)
9. Enter the date selected from previous menu
10. Enter the end date for the stay
11. Enter the amount of guests
12. Enter the Day Rate for the room
13. Enter the full name (i.e. "Jack Sparrow")
14. Enter the card number (i.e. "1234 2468 3579 4680")
15. Enter the CVC (i.e. 123)
16. Enter the expiration date (i.e. 09/25)
17. Check the "Pay Later" box
18. Click "Submit"
19. On Receipt screen:
 - a. Verify no charges have been made on the card input
 - b. Verify that a later date has been assigned for payment to keep the reservation

H) Intercase dependencies: Test case showing that the card is charged immediately when the pay later boxed in not checked must be completed as well.

Black Box Case 1: Reservation Creation/Modification

A) Test case specification identifier: BB1

B) Test items:

Testing 1.1, 1.2, and 1.5 of the GUI Module. Testing 2.1 and 2.2 of the Guest Module. Testing 3.1 and 3.2, and 3.3 of the Billing Module.

- a) Requirements specification - The need to create and update a reservation will be implemented.
- b) Design specification - The modules and their submodules can be found in the level 2 Data Flow Diagram.
- c) Users guide - The user's guide may be referenced to implement accurate testing of expected inputs.
- d) Operations guide - The database shall be checked for accurate record keeping.

C) Input specifications:

Guest Info

FName

LName

Phone#

Email

Reservation Info

Room#

Start Date:

End Date:

#Guests:

Day Rate:

D) Output specifications: The Database shall create or edit a record file that matches the input into the GUI Module.

E) Environmental needs: Reference the installation guide so that the desktop application is installed successfully and connected to all external entities.

F) Special procedural requirements: The tester shall have valid credentials.

G) Execution procedure steps:

1. Tester starts at the desktop of the computer that has the application installed.
2. Tester enter's their login credentials.
3. Tester chooses an empty reservation slot on a calendar date.
4. Tester inputs and saves Guest information.
5. Tester checks that the calendar populates the reservation on the correct date.
6. Tester opens the reservation to see that inputted information is saved correctly.

H) Intercase dependencies: White Box Case one and White Box Case two may be referenced to ensure the mandatory reservation inputs are enforced, and payment is handled at the appointed time.

Black Box Case 2: Account Management of Staff

A) Test case specification identifier: BB2

B) Test items: Testing 1.1, 1.2, and 1.4 of the GUI Module. Testing 3.3 of the Billing Module.

- a) Requirements specification - This test case fills in the requirements of security and management of staff in the B&B business.
- b) Design specification - Security is sourced from hashing passwords and the handling of unexpected input.
- c) Users guide - The tester may reference the User's guide on functionality concepts unique to the staff also known as account management menu. An interface example can be found in the SDD.
- d) Operations guide - The application must be able to use database records to hold account information

C) Input specifications:

AccountManagement

staffMember

Salary

Hours

bonus

D) Output specifications:

The Account submenu will output a scrolling panel of staff members with the relevant data attributes entered into the same submenu. An additional calendar will be present on the side to display attributes across multiple staff members including staff schedules and names.

E) Environmental needs: The Tester will require connection to the B&B database with a valid login account.

F) Special procedural requirements: Test staff data will be implemented during the execution procedure.

G) Execution procedure steps:

1. Tester starts from the computer's desktop with the application installed.
2. Tester logs into the application.
3. Tester clicks on the Account Menu on the left. The left panel of menus may need to be expanded if hidden.
4. Tester enters test data of three total staff members with realistic information.
5. Tester checks that with the addition of each staff member that the supplemental calendar populates with shifts and names.
6. Tester checks historical and future scheduling populates correctly by changing calendar menus to future and previous months.

H) Intercase dependencies: There are no intercase dependencies for the completion of this test case.

Black Box Case 3: Finance Management Tracking

A) Test case specification identifier: BB3

B) Test items: Testing 1.1, 1.2, and 1.3 of the GUI Module. Testing 3.3 of the Billing Module.

- a) Requirements specification - This requirement is one of the major points into the John & Jane Statement of Need.
- b) Design specification - The GUI modules are required to present the financial data. The Billing Module ensures financial records are stored properly into the B&B database.
- c) Users guide - The users guide may be referenced for possible financial visuals.
- d) Operations guide - The Operations guide may be referenced to predict calculations.

C) Input specifications:

Reservations Info

roomNumber

dayRate

guests

stayDuration

D) Output specifications: The financial menu shall populate a calendar based menu of financial calculations relevant to the revenue.

E) Environmental needs: Reference the installation guide so that the desktop application is installed successfully and connected to a database populated with test data to calculate final values.

F) Special procedural requirements: Alternate financial algorithms must be selected to ensure full functionality.

G) Execution procedure steps:

1. Tester starts at the desktop of the computer that has the application installed.
2. Tester enter's their login credentials.
3. Tester enter's the Financial sub Menu.
4. Tester verifies the correct calculations populate the calendar visual.
5. Tester exports financial data to test functionality.
6. Tester repeats from step 4 using a different set of calculations.

H) Intercase dependencies: This case will depend on White Box Case two in order to check that payments are complete and receipts populate the database.