

Software Requirements Specifications for Ski Resort Information Systems

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Issue	Date	Detail of changes
0.a	21 March 1999	First issue to reviewers in draft form
0.b	15 July 1999	Modified following initial comments from reviewers
0.c	20 July 1999	Modified following further comments from <i>Skiers Luck</i> customer team
1.0	10 January 2000	Modified following changes to the User Needs Document

SRS for Ski Resort Information System

1. Introduction

This document specifies the requirements for the Ski Resort Information System

1.1 Purpose

The purpose of the Ski Resort Information System is to support the booking of rooms and snowboard courses and also to enable the users to query weather and snow condition forecasts. The intended audience for this document is the visitor of the Ski Resort, who is the customer.

1.2 Scope

The software product (i.e Ski Resort Information System) will be of benefit to customers who want to check information relating to the weather and snow conditions, perform room booking/cancellation activities and book/cancel snowboard courses for both adults and kids. The system will assist in querying weather and snow condition forecasts for a date queried, allow booking or cancelling of single or double rooms at the resort hotel “Skier’s Luck” online, via a credit card, book one-day beginners courses on snowboards and book special snowboard courses for kids. The goal of the intended system is to allow the visitor to query weather information, book courses and also to facilitate room booking or cancellation activities.

1.3 Assumptions

The following are assumptions and dependencies that do not reflect on the initial user needs, however are assumed to be a necessary component of the SRIS

- Return error message: The SRIS needs to return error messages in order to notify users when system error occur
- Issue of receipt: Resort administrator may issue a receipt to the user after booking is made

1.4 References

- Group A0403, (2003) *31475 Requirements Engineering: Peer Review Deliverable 2 Submission*, Autumn 2003, University of Technology Sydney, Australia
- IEEE Std 830-1998, *IEEE Recommended Practise for Software Requirements Specification*, IEEE Computer Society
- Zowghi, D. (2002), *Meeting Scheduler System: Software Requirements Specification*, Macquarie University, NSW

1.5 Overview

This document describes the system requirements specifications for the Ski Resort Information System. Section 1 is the introduction section, which explains the purpose of the document, the scope of the system, the definitions of specific terms used and references used. Section 2, is the overall description, which describes the domain or the environment where the system operates within. Section 3, is the Specific Requirements, which

describes the two main types of requirements, essential and extension requirements.

2. Overall description: Domain Description

2.1 Problems of Current System

The main problem with the current system that can be identified is that a system that is currently in place cannot provide booking for both the Resort and SB course. The current system is creating user dissatisfaction and rates of booking have drooped in the past year. Currently, there is no cancellation function that can accommodate for the needs of the user post booking.

2.2 Product Functions

The Ski Resort Information System (SRIS) provides several facilities for the users. The users of the system are visitors who visit Ski Resort and perform various activities on the SRIS. The visitor is able to use the SRIS to query the weather (QW) and snow conditions (QSC) on a date specified (DS). The visitor is able to book single or double rooms at the resort “Skier’s Luck” online via a credit card. The visitor will need to indicate the room booking date (RBD) on the SRIS. In order to make a successful room booking, the visitor will need to enter their personal information.

The visitor is also able to book one-day beginners courses on snowboards. There is only one course per day and a maximum number of 8 people can attend per course. The visitor will need to specify the snowboard course booking date (SCBD) on the SRIS. The visitor will also need to enter the personal information prior to booking a snowboard course. The resort also offers special courses for kids. In order to build courses with kids of same age, the visitor has to enter the kid’s age. Cancelling of courses or room bookings is only possible up to 10 days ahead.

2.3 User Characteristics/ Stakeholders

2.3.1 Visitor

The visitor is defined as the user of the Ski Resort system. They are the most common type of user who would use the system on a daily basis and what most of the bookings will be made by to the Ski Resort. Their role is to book their course, rooms and make cancellations when needed so that they get the best possible service from the resort.

The visitor will collaborate with the resort administrator to confirm and validate bookings prior and upon making a booking to the system.

2.3.2 Resort Administrator

The resort administrator is a user who is able to take bookings through the system that are made by the visitor. The resort administrator’s main role is to confirm that bookings have been made for the purposes of the visitor. The resort administrator will also be able to make transactions valid and issue a receipt upon visitor payment.

2.4 General Constraints

- Firewall and antivirus software for the system will be the customer's responsibility and not SRIS priority
- Internet browsing tools is out of scope for SRIS and is the responsibility of the customer
- The budget for the development of SRIS inclusive of cost of SRIS training is approximately \$200,000

2.5 Hardware

The SRIS must be able to support a networking environment, with an Internet connection speed fast enough to:

- Transfer information to and from overseas and national customers
- For communication between staff
- Broadband internet connection was suggested

2.6 Software

The following software is required in order to perform tasks and functions specified on the SRIS. The software stated below is to be provided by the customer

- Internet browsers (Internet Explorer, Netscape Navigator)
- Microsoft Office
- Scanner software (scanning images)
- Antivirus software

3. Specific Requirements

The specific requirements for the SRIS are divided into two categories: *essential* and *extension*. The essential requirements (baseline requirements) are those that must be met by the computer-based solution. The extension requirements are of secondary importance and would greatly enhance the functionality of the overall system. If time and resources permit, they should also be implemented. The extension requirements would be of some benefit to the system users but are not absolutely necessary for the system's basic functioning. Hence, the essential requirements have higher priority than the extension requirements.

3.1 Essential Requirements

3.1.1 Functional Requirements

3.1.1.1 Query Weather and Snow Forecast

- 3.1.1.1.1 The user shall be able to query weather forecast (QW) for the DS
- 3.1.1.1.2 The SRIS shall display weather conditions and temperatures for the DS
- 3.1.1.1.3 The SRIS shall display snow thickness levels and areas affected for the DS

- 3.1.1.1.4 The SRIS shall have access to a database that contains the details of weather and snow condition

3.1.1.2 Book Room

- 3.1.1.2.1 The shall select either to book for single or double room (BR)
- 3.1.1.2.2 The user shall submit a RBD on the SRIS for the single or double room
- 3.1.1.2.3 The visitor shall enter personal information, such as *name, address and phone*
- 3.1.1.2.4 The SRIS shall check for room availability from the rooms' database system
- 3.1.1.2.5 The SRIS shall allow more than one user to book a room through a resort administrator at any one time
- 3.1.1.2.6 The SRIS shall confirm the reservation status of the room booking to the user
- 3.1.1.2.7 The SRIS shall present the user with a booking receipt after confirming that the room is booked
- 3.1.1.2.8 The SRIS shall allow a receipt to be issued by one and only one resort administrator
- 3.1.1.2.9 The SRIS shall allow one user to make one payment at any one time for a room

3.1.1.3 Book SB Course

- 3.1.1.3.1 The user shall be able to book one-day beginners courses on snowboards (BC) based on a list of available dates provided
- 3.1.1.3.2 The SRIS shall specify only one course a day is available
- 3.1.1.3.3 The SRIS shall specify that the maximum number size for a course is 8 people
- 3.1.1.3.4 The SRIS shall ask the user to choose another date if number of course participants is more than 8
- 3.1.1.3.5 The SRIS shall present the user with a booking receipt after confirming that the course is booked
- 3.1.1.3.6 The user shall book snowboard courses for kids (BKC)
- 3.1.1.3.7 The SRIS shall require the kids to be of same age for the snowboard course
- 3.1.1.3.8 The user shall enter the kid's age

- 3.1.1.3.9 The SRIS shall ask the user to choose another date if the DS is outside the kids' course age range
- 3.1.1.3.10 The SRIS shall ask the user to choose another date if the DS is outside the kids' course age range
- 3.1.1.3.11 The SRIS shall confirm the status of the kids' snowboard course
- 3.1.1.3.12 The SRIS shall calculate the payment of a SB course based on the kids' age placed by user
- 3.1.1.3.13 The SRIS shall present the user with a booking receipt after confirming that the kid's course is booked

3.1.1.4 Cancel Course

- 3.1.1.4.1 The user shall cancel the course booking up to 10 days ahead
- 3.1.1.4.2 The SRIS shall notify the status of the cancellation
- 3.1.1.4.3 The user shall cancel the snowboard courses up to 10 days ahead
- 3.1.1.4.4 The SRIS shall notify the status of the cancellation
- 3.1.1.4.5 The user shall enter a reply after receiving the notification for the cancellation for room and course
- 3.1.1.4.6 The SRIS shall allow a user to cancel once a payment is made, without a penalty

3.1.1.5 Cancel Room

- 3.1.1.5.1 The user shall cancel room booking up to 10 days ahead
- 3.1.1.5.2 The SRIS shall notify the status of the cancellation
- 3.1.1.5.3 The user shall cancel the snowboard courses up to 10 days ahead
- 3.1.1.5.4 The SRIS shall notify the status of the cancellation
- 3.1.1.5.5 The user shall enter a reply after receiving the notification for the cancellation for room
- 3.1.1.5.6 The SRIS shall allow a user to cancel room once a payment is made, without a penalty

3.1.2 Non-functional Requirements

3.1.2.1 Performance Requirements

- 3.1.2.1.1 The SRIS shall provide an appropriate level of performance. The elapsed time for the

snowboard course booking made by the user and the determination of the corresponding course availability should be as small as possible

3.1.2.2 Reliability

- 3.1.2.2.1 The SRIS shall allow users to login to the SRIS 99% of the time, except in the case where users enter an incorrect username and password

3.1.2.3 Safety Requirements

- 3.1.2.3.1 The SRIS shall not disclose any personal information about users, other than their name and reference number to the operators of the system
- 3.1.2.3.2 The physical constraint shall not be broken. A room should not be booked by two different people and a user should not book for two snowboard courses at the same date and time specified
- 3.1.2.3.3 The SRIS shall accommodate decentralised requests, that is, any user should be able to use the SRIS and perform the activities specified independently of his whereabouts

3.1.2.4 Security Requirements

- 3.1.2.4.1 The SRIS shall authenticate users based on their authorisation levels.
- 3.1.2.4.2 The network that SRIS runs on shall be safe from any security threats
- 3.1.2.4.3 The network that SRIS runs on shall have anti-virus software to protect against lethal viruses

3.1.2.5 Interoperability

- 3.1.2.5.1 The SRIS shall be compatible with Unix, Mac and Microsoft operating systems
- 3.1.2.5.2 The SRIS shall be able to function in Internet Explorer and Netscape

3.1.2.6 Usability

- 3.1.2.6.1 The SRIS shall be useable by non-computer experts
- 3.1.2.6.2 The SRIS shall be easy to be learnt in a short amount of time. The training time requested by the clients is 3-4 working days for basic training and 2 weeks for intermediate training

3.2 **Extension Requirements**

The following is the list of the extension functional and non-functional requirements for SRIS. These features would greatly enhance the functionality of the overall system. If time and resources permit, they should also be implemented.

3.2.1 **Functional Requirements**

- 3.2.1.1 The SRIS should allow the user to query for weather forecast and snow conditions 2 weeks in advance
- 3.2.1.2 If there are more than one room available for the DS, the system should sort, order and display the result with the PD and room type at the top of the list
- 3.2.1.3 If the PD is not available, SRIS should recommend another date of the same room type
- 3.2.1.4 The SRIS should interact with the rooms database system to get user's previous room booking information
- 3.2.1.5 The SRIS should use the above information to determine if the user is a returned customer based on his visit history. This information can be used to customise the reply and in addressing the user subsequently
- 3.2.1.6 The SRIS should allow the user to specify additional needs when booking for the snowboard course
- 3.2.1.7 The SRIS should recommend another date if the snowboard course is full

3.2.2 **Non-functional Requirements**

- 3.2.2.1 Privacy rules should be enforced. Information about the system user will not be made available to any party unless when a written permission is obtained
- 3.2.2.2 The SRIS should be able to perform similar functions on both Netscape and Microsoft IE internet browser
- 3.2.2.3 The SRIS should be able to display all available rooms and snowboard courses within 10seconds after query is submitted

4. **Appendix A: Glossary, acronyms, and abbreviations**

This section specifies the definitions, acronyms, and abbreviations that must be used in the development of the Ski Resort Information System

Definitions :

- Ski Resort Information System – the computer based solution that meets the requirements specified in this document
- User – the visitor of Ski Resort who uses the Ski Resort Information System
- Visitor – the customer of Ski Resort, who may perform querying weather conditions, book/cancel rooms and snowboard courses
- Kids – children who are under 12 years of age
- Query weather – to check for weather conditions
- Query snow forecast – to check for snow conditions
- Book Room – to reserve a room at the resort hotel “Skier’s Luck”

- Cancel Room – to cancel a room booked at the resort hotel “Skier’s Luck”
- Book course – to reserve a snowboard course on a given date and time
- Cancel Course – to cancel a snowboard course booked on a given date and time
- Date Specified – A date on which a visitor submitted on the system to book/cancel the room/courses
- Preferred Date: The date that is preferred by the user, for the room booking or the course
- Room booking date – A pair of room booking date in format of *<calendar date, time period>*
- Snowboard course booking date – A pair of snowboard course booking date in format of *<calendar date, time period>*
- Operators of the system: A person or any internal or external party that operate the system

Abbreviations :

- SRIS: Ski Resort Information System
- QW: Query the weather
- QSC: Query the snow conditions
- DS: Date specified
- PD: Preferred Date
- RBD: Room booking date
- SCBD: Snowboard course booking date
- SB: Snowboard
- BR: Book room
- BC: Book courses on snowboards
- BKC: Book snowboard courses for kids

Appendix B: Use Case Diagram

