

Sheps.code

Requirements Document

*The System*

Team Members:

|  |
| --- |
| James Shepherd  with Isabelle Taljaard |

Date Submitted:

**TABLE OF CONTENTS**

[1 SYSTEM OVERVIEW 3](#_Toc7688081)

[2 FUNCTIONAL REQUIREMENTS 4](#_Toc7688082)

[2.1 Business Use Case Model 4](#_Toc7688083)

[2.2 Use Case Glossary 5](#_Toc7688084)

[2.3 Use Case Narratives (User Stories) 7](#_Toc7688085)

[1. Package A: Activity Management 7](#_Toc7688086)

[2. Package B: Bucket List Management 10](#_Toc7688087)

[3. Package C: Activity Completion 14](#_Toc7688088)

[4. Package D: Account Management 16](#_Toc7688089)

[3 NON-FUNCTIONAL REQUIREMENTS 19](#_Toc7688090)

[3.1 Interface Requirements 19](#_Toc7688091)

[3.2 Performance Requirements 19](#_Toc7688092)

[3.3 Security Requirements 19](#_Toc7688093)

[3.4 Operational Requirements 19](#_Toc7688094)

[4 DATA REQUIREMENTS 21](#_Toc7688095)

[5 Project Matters 23](#_Toc7688096)

[5.1 Open Issues 23](#_Toc7688097)

[5.2 Preliminary Schedule 23](#_Toc7688098)

[6 Researching the Requirements 24](#_Toc7688099)

[6.1 10 User Interview Questions 24](#_Toc7688100)

# SYSTEM OVERVIEW

The System is an administrative tool to assist the committee members of the Nelson Mandela University Ballroom and Latin Society with their yearly tasks. Each committee member and the coach will have his/her own account which will allow access to the respective functionality.

The chairperson will be able to view all pages, manage the list of important contact persons, manage the partnering list and manage the member records excluding the financial related matters.

The vice-chairperson will be able to view all pages, manage the list of important contact persons and manage the partnering list.

The treasurer will be able to view all pages and edit the financial records related to member records.

The secretary will be able to view all pages and manage the record of society members except for financial related information.

The events coordinator will be able to view all pages and keep a record of contact persons for different event related items/services.

The intervarsity coordinator will be able to view all pages and manage partnerships.

The marketing coordinator will be able to view all pages.

The technical coordinator will be able to view all pages and keep track of all society stock. He/she will be able to keep a stock list and perform a stock count as well as keep track of stock location.

The sponsorship coordinator will be able to view all pages and keep a record of past and current sponsors as well as currently sponsored items.

# FUNCTIONAL REQUIREMENTS

## Business Use Case Model

## Use Case Glossary

|  |  |  |
| --- | --- | --- |
| **Package ID: A Package Name: Members** | | |
| **Use Case ID** | **Use Case Name** | **Actors** |
| A0100 | Manage Members | Chairperson, Secretary |
| A0200 | Update Financial Records | Treasurer |
| A0300 | View Members | All |

|  |  |  |
| --- | --- | --- |
| **Package ID: B Package Name: Partnering** | | |
| **Use Case ID** | **Use Case Name** | **Actors** |
| B0100 | Manage Partnering | Chairperson, Vice, IV |
| B0200 | View Partnering | All |

|  |  |  |
| --- | --- | --- |
| **Package ID: C Package Name: Contact Persons** | | |
| **Use Case ID** | **Use Case Name** | **Actors** |
| C0100 | Manage Contact Persons | Chair, Vice, Events |
| C0200 | View Contact Persons | All |

|  |  |  |
| --- | --- | --- |
| **Package ID: D Package Name: Stock** | | |
| **Use Case ID** | **Use Case Name** | **Actors** |
| D0100 | Manage Stock | Tech |
| D0200 | Count Stock | Tech |
| D0300 | Hire Stock | Tech |
| D0400 | View Stock List | All |
| **Package ID: E Package Name: Sponsorship** | | |
| **Use Case ID** | **Use Case Name** | **Actors** |
| E0100 | Manage Sponsors | Sponsorship |
| E0200 | Manage Sponsored Items | Sponsorship |
| E0300 | View Sponsors | All |
| E0400 | View Sponsored Items | All |

## 

## Use Case Narratives (User Stories)

### Package A: Members

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| A0100 | Manage Members | |
| **Primary Business Actors** | | **Other participating Actors** |
| Secretary | | Chairperson |
| **Description** | Responsible for adding, updating and deleting member records. | |
| **Pre-Conditions** | The actor is logged in. | |
| **Triggers** | The actor selects the “Add Member”, “Update Record” or “Delete Record” option within the Members tab. | |
| **Post-Conditions** | An member record is added, updated or deleted. | |
| **Basic Flow of Events** | 1. Options “Create Activity”, “Update Activity” and “Delete Activity” are displayed. 2. Admin selects “Create Activity”. 3. The system displays an activity details form, with “Cancel” and “Save” buttons available. 4. Admin inputs activity name, along with other details, including a brief description, difficulty level, the price to complete the activity (if there is one) and the number of points to be rewarded if the user completes the activity. 5. Admin selects “Save”. 6. The system saves the activity within the CheckPoint database. 7. A message is displayed confirming that the activity has been saved. 8. Admin home screen displayed. | |
| **Alternate Flow of Events** | 2. Admin selects “Update Activity”  3. The system displays a search bar, with “Search” and “Cancel” buttons available.  4. Admin inputs the name of the activity in the search bar.  5. Admin selects “Search”.  5.1. Admin selects “Cancel”  5.2. Return to Basic Flow step 8.  6. The system displays a list of activities containing the searched activity name.  6.1. The system does not find any activities containing the searched activity name and displays “No activities found” message, as well as an “OK” button.  6.2. The Admin selects “OK” and is returned to step 3.  7. Admin selects the required activity.  7.1. Admin selects “Cancel”  7.2. Return to Basic Flow step 8.  8. Return to Basic Flow step 3. | |
| **Alternate Flow of Events** | 2. Admin selects “Delete Activity”.  3. The system displays a search bar, with “Search” and “Cancel” buttons available.  4. Admin inputs the name of the activity in the search bar.  5. Admin selects “Search”.  6. The system displays a list of activities containing the searched activity name.  6.1. The system does not find any activities containing the searched activity name and displays “No activities found” message, as well as an “OK” button.  6.2. The Admin selects “OK” and is returned to step 3.  7. Admin selects the required activity.  7.1. Admin selects “Cancel”.  7.2. Return to Basic Flow step 8.  8. A confirmation message appears for the user to “Confirm” or “Cancel” the deletion.  9. Admin selects “Confirm”.  9.1. Admin selects “Cancel”.  9.2. Return to step 6.  10. A message confirms that the activity has been deleted.  11. Return to Basic Flow step 8. | |
| **Alternate Flow of Events** | 5. Admin selects “Cancel”  6. Return to Basic Flow step 8. | |

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| A0200 | Update Financial Records | |
| **Primary Business Actors** | | **Other participating Actors** |
| Treasurer | |  |
| **Description** | The Treasurer is able to view the member records and update the finance . | |
| **Pre-Conditions** | The Admin is logged in. The Admin has received notification of the activity suggestion. | |
| **Triggers** | The Admin selects the “Approve Suggested Activities” option within the Admin home page. | |
| **Post-Conditions** | The activity is either added to the CheckPoint database or rejected. The user/sponsor who sent the request is notified of the outcome. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |
| **Alternate Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| A0300 | View Members | |
| **Primary Business Actors** | | **Other participating Actors** |
| All | |  |
| **Description** | Admin allocates points to suggested activities. | |
| **Pre-Conditions** | The Admin is logged in. | |
| **Triggers** | Called by A0200. | |
| **Post-Conditions** | Points are allocated to an activity. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

### Package B: Partnering

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| B0100 | Manage Partnering | |
| **Primary Business Actors** | | **Other participating Actors** |
| Chair, Vice, IV | |  |
| **Description** | Users can create a new bucket list to which they will be able to add activities to complete. | |
| **Pre-Conditions** | The user must have an account. | |
| **Triggers** | The user selects the “Create Bucket List”/ (“+”) option from the home screen. | |
| **Post-Conditions** | A new empty bucket list is set up and available for the user to add activities. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| B0200 | View Partnering | |
| **Primary Business Actors** | | **Other participating Actors** |
| All | |  |
| **Description** | The user can add an activity to one of the bucket lists. | |
| **Pre-Conditions** | The user must have created at least one bucket list. | |
| **Triggers** | User selects “Add Activity” option of a bucket list. Or called by B0100. | |
| **Post-Conditions** | An activity is added to the user’s chosen bucket list, which they may subsequently complete. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

### Package C: Contact Persons

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| C0100 | Manage Contact Persons | |
| **Primary Business Actors** | | **Other participating Actors** |
| Chair, Vice, Events | | Admin |
| **Description** | To complete an activity and acquire activity points, the user should submit a photo or unique code. | |
| **Pre-Conditions** | The user should have a bucket list, populated with at least one activity. | |
| **Triggers** | The user selects the option to “Complete Activity” within the user home page. | |
| **Post-Conditions** | In the case of a verification code, an activity verification code is saved onto the database and awaits verification from a sponsor. Where Photo/Video evidence is submitted, the admin is notified of activity completion. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |
| **Alternate Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| C0200 | View Contact Persons | |
| **Primary Business Actors** | | **Other participating Actors** |
| All | | User |
| **Description** | Admin receives evidence of activity completion and should reject or verify completion of that activity. A sponsor verifies an activity by providing an activity completion code. Once this code has been entered, all users who have used this code to complete an activity, will be awarded points. Once an activity has been verified, points are awarded to the user. | |
| **Pre-Conditions** | Admin has received notification of evidence that a user has completed an activity. Sponsor has shared the verification code with users who have completed their activity. | |
| **Triggers** | Admin/sponsor selects “Verify Activity Completion” within the admin/sponsor home page. | |
| **Post-Conditions** | Activity evidence/verification code is either accepted, in which case points are allocated to a user, or rejected, in which case no points are allocated. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |
| **Alternate Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

### Package D: Stock

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| D0100 | Manage Stock | |
| **Primary Business Actors** | | **Other participating Actors** |
| Tech | |  |
| **Description** | Enables a person to create an account on CheckPoint, in order to use the functionalities of a user. | |
| **Pre-Conditions** | App must have been downloaded. | |
| **Triggers** | Person selects “Register as User” on CheckPoint home page. | |
| **Post-Conditions** | Person is registered as a user and can make use of the CheckPoint ‘User’ functionalities. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| D0200 | Count Stock | |
| **Primary Business Actors** | | **Other participating Actors** |
| Tech | |  |
| **Description** | Enables a company to create an account on CheckPoint in order to use the functionalities of a sponsor. | |
| **Pre-Conditions** | App must have been downloaded. | |
| **Triggers** | Company selects “Register as Sponsor” on CheckPoint home page. | |
| **Post-Conditions** | Company is registered as a sponsor and can make use of the CheckPoint ‘Sponsor’ functionalities. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| D0300 | Hire Stock | |
| **Primary Business Actors** | | **Other participating Actors** |
| Tech | |  |
| **Description** | A user adds another user as a ‘Friend’. This enables the user to use friend functionalities. | |
| **Pre-Conditions** | The user is registered. | |
| **Triggers** | The user selects “Add Friend” option within the user home page. | |
| **Post-Conditions** | The user has a new friend. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| D0400 | View Stock List | |
| **Primary Business Actors** | | **Other participating Actors** |
| All | |  |
| **Description** | Enables user/admin/sponsor to update account details or delete their account. | |
| **Pre-Conditions** | User/admin/sponsor is registered. | |
| **Triggers** | User/admin/sponsor selects “Manage Account” from the home page. | |
| **Post-Conditions** | User/admin/sponsor account is updated or deleted. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |
| **Alternate Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

### Package E: Sponsorship

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| E0100 | Manage Sponsors | |
| **Primary Business Actors** | | **Other participating Actors** |
| Sponsorship | |  |
| **Description** | Enables a person to create an account on CheckPoint, in order to use the functionalities of a user. | |
| **Pre-Conditions** | App must have been downloaded. | |
| **Triggers** | Person selects “Register as User” on CheckPoint home page. | |
| **Post-Conditions** | Person is registered as a user and can make use of the CheckPoint ‘User’ functionalities. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| E0200 | Manage Sponsored Items | |
| **Primary Business Actors** | | **Other participating Actors** |
| Sponsorship | |  |
| **Description** | Enables a person to create an account on CheckPoint, in order to use the functionalities of a user. | |
| **Pre-Conditions** | App must have been downloaded. | |
| **Triggers** | Person selects “Register as User” on CheckPoint home page. | |
| **Post-Conditions** | Person is registered as a user and can make use of the CheckPoint ‘User’ functionalities. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| E0300 | View Sponsors | |
| **Primary Business Actors** | | **Other participating Actors** |
| All | |  |
| **Description** | Enables a person to create an account on CheckPoint, in order to use the functionalities of a user. | |
| **Pre-Conditions** | App must have been downloaded. | |
| **Triggers** | Person selects “Register as User” on CheckPoint home page. | |
| **Post-Conditions** | Person is registered as a user and can make use of the CheckPoint ‘User’ functionalities. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

|  |  |  |
| --- | --- | --- |
| **Use Case ID** | **Use Case Name** | |
| E0400 | View Sponsored Items | |
| **Primary Business Actors** | | **Other participating Actors** |
| All | |  |
| **Description** | Enables a person to create an account on CheckPoint, in order to use the functionalities of a user. | |
| **Pre-Conditions** | App must have been downloaded. | |
| **Triggers** | Person selects “Register as User” on CheckPoint home page. | |
| **Post-Conditions** | Person is registered as a user and can make use of the CheckPoint ‘User’ functionalities. | |
| **Basic Flow of Events** |  | |
| **Alternate Flow of Events** |  | |

# NON-FUNCTIONAL REQUIREMENTS

## Interface Requirements

*Usability goals*: The GUI for this system should be very simple to use, as most people would prefer not to track their goals on the system if it is overly complicated or time-consuming. A user with little experience with technology should be able to use this system. It is needs to be easy to navigate and guide new users, offering prompts and instructions so that it is easy to learn how to interact with the system.

*User experience goals*: A bucket list is typically exciting and adventure-orientated thus the interface should be visually stimulating, fun and encouraging to users who interact with it to complete their goals. The platform should motivate users to add and/or complete goals by offering completion incentives. The interface should affirm the safety of a private user’s profile, securing their passwords and personal information from other users.

*User requirements*: Characteristics required by the users include the ability to use an Android smartphone, download an app and perform basic navigation of an application. There may be different levels of system use. Novice users would be anyone using the system for the first time who is still learning to navigate and use the system and would require prompts and instructions, while more frequent users would be more familiar with the functioning of the app and how to interact with it.

## Performance Requirements

The system should be available at all times for users to be able to log their activity completions and perform other actions, particularly as, if the system is offline at any point, it could prevent users from logging their completed activities timeously.

Most of the user interactions should be processed instantaneously by the system, but certain things would require additional time, such as waiting for a new activity to be approved and added by the administrator or logging the completion of certain activities which require verification.

There should be little to no noticeable delays when opening the application or navigating between different pages within the application.

The application should not be too processing-intensive to accommodate various levels of user device processing power.

## Security Requirements

Users need to have an account in order to access the system. A user may only access his/her own activities and personal details, or activities created or completed by other users who have chosen to make their details public. Users may not remove any public activities from the activities list or otherwise edit the system’s database. Users and sponsors may not add any activities without admin approval. No regular user or sponsor may create an admin account or have administrator-specific privileges.

## Operational Requirements

An Android mobile device using Android API 21 (and higher) will be required to run CheckPoint as it will be developed as an Android mobile application. The device must have networking capabilities to allow access to a SQL Server database.

The data required will be stored on a SQL Server database and a SQL Server Management System will be used to develop and maintain the database.

# Project Matters

## Open Issues

*System environment:* At present, the team members have little experience in programming mobile applications, which could pose a challenge, but we will be expanding our knowledge of this throughout the course of this year.

*Achievement levels:* In addition to the base project described in this document, we have ideas to expand our scope in various ways. In order to make the application more interesting, users could receive achievements when reaching a certain number of points. In this way, users can ‘level-up’ within the application, and unlock exciting, more difficult activities or even receive further benefits such as discounts on sponsored activities.

*Barcode verification:* Furthermore, the scope could be expanded to include a barcode option whereby each user has a unique barcode, which can be scanned at sponsored events or by companies hosting activities. This would serve as a more efficient way of automating the awarding of points.

*Rate the activity*: Another feature is the opportunity for a user to rate an activity (1 to 5 inclusive) once they have completed the activity. The result of this is to gather information, in a database, from where statistics can be calculated and displayed to the users. Once viewing these statistics, users may be influenced to partake in a specific activity. The statistics are used by the activity creators to determine which activities are the most popular amongst the users.

*Challenge friend*: Furthermore, users could challenge a friend to an activity. As a user adds an activity to their bucket list, they would have the option to challenge one of their bucket list friends to the same activity. The user who completes the activity in the fastest time, receives double points. Users encourage one another to complete the activities that they have placed on their bucket list with the reward of earning more points.