

Chart Toppers

Software Requirement Specification

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1. Introduction

1.1. Purpose

The purpose of this document is to specify the requirements for the sports scoreboard system named Chart Toppers. This Software Requirement Specification will describe the functionality, performance, attributes, and any design constraints on implementation. The intended audiences of this document are the development team members of the project who will be implementing the software product as well as any stakeholders, such as administrators in charge of decisions and requirements involved with adopting the new system.

1.2. Scope

The framework of the system is designed for the purpose of displaying sports team rankings and statistics. The primary intended users of the system are sports fans who are interested in easy to access and current sports data. The system will encompass three types of sports which consist of football, baseball, and basketball. The system will benefit users by providing information access to all three sports in an easy-to-read list of sports teams in a simple manageable interface, thereby saving them time while providing accuracy in communicating data.

Chart Toppers is intended to provide users with optional features for personalization. Users can create a login and to set preferences. The system is also designed to allow comparisons between two sports teams selected by a user.

1.3. Definitions, Acronyms, and Abbreviations

Table I. This document uses the following definitions, acronyms, and abbreviations:

Sport Identifier	NBA, MLB, NFL
Chart Toppers	Name of the application
MVC	Model View Controller: design pattern

1.4. References

The following material was used in creating this document:

[1] IEEE Std. 830-1998, IEEE Recommended Practice for Software Requirements Specifications. <https://standards.ieee.org/findstds/standard/830-1998.html>

1.5. Overview

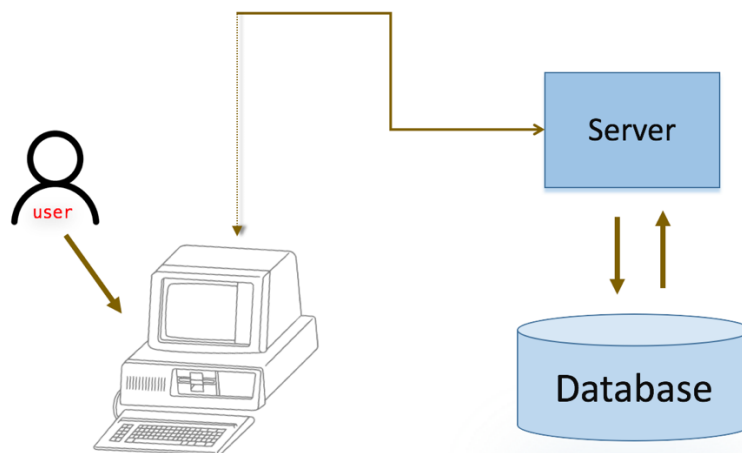
This document is designed to provide information to the technical designers and any clients of the software. There are three sections in this document: Introduction, Overall Description and Specific requirements. Section one is a brief overview of the product. Section two provides a general overall description of the product requirements from the user perspective. Section three describes the specific requirements for technical designers with technical terms and details of the functional and non functional details of the product.

2. Overall Description

2.1. Product Perspective

Chart Toppers is a self contained system and is not necessarily constrained by any specific software or hardware to accomplish the requirements. Any specific software and hardware chosen to implement Chart Toppers are products of design choice rather than system requirements.

Figure 1. System Diagram.



2.2. Product Functions

The primary functionality of the application Chart Toppers is described as follows:

2.2.1. User Login

The user login function allows a user to login and access the system using their username and password.

Rationale: Non-registered users may access and use the system. User login provides a method by which a user may register and login to access additional features (see 2.2.3).

2.2.2. Select Sport

This feature allows a user to choose the sport they wish to view.

Rationale: This provides the user a way to select the sport whose statistics they are interested in viewing. A user may also use Select Sport to switch between sports. For example, to view switch from MLB to NBA.

2.2.3. Set Preferences

It allows a user to save their default preference for sport to view.

Rationale: This provides a method by which the user can see their sport of choice upon login.

2.2.4. View Stats

It allows a user to view sport statistics.

Rationale: This provides the user the ability to view a current list of sports statistics. These include data from the sports websites as rankings, scores, and wins. A user may choose which stats to view or the default team rankings view.

2.2.5. Compare Teams

It function allows a user to compare stats between teams in the sports rankings list.

Rationale: This provides the user with the ability to view data side-by-side for selected teams.

2.3. User Characteristics

Sports fans are the primary users that interact with the system. However, users are not limited to sports fans and Chart Toppers may be used by non sports fans as well. Users are expected to be computer literate and be able to navigate desktop applications and fill forms.

2.4. Constraints

The system is self contained (see section 2.1), although the system assumes the sports websites are functioning and up-to-date with sports data.

2.5. Assumptions and Dependencies

Since the sports ranking system is only desktop accessible and gets data from sports websites, it is assumed that the end user has a connection to the Internet in order to access the most current statistics. It is also assumed that the user has a web browser able to access the NBA, NFL, and MLB websites (Google Chrome Version 49.X or higher or any other compatible browsers).

3. Specific Requirements

3.1. External Interfaces

Chart Toppers is an independent product and has no external interfaces (see section 2.1).

3.2. Functions

3.2.1.1 User Login

Function	User Login
Description	Logs a user into the system a using username and password.
Inputs	Username, password.
Source	User
Outputs	Logged-in or error message.
Destination	The Chart Toppers interface.
Requires	Correct username and password inputs.
Pre-Condition	The login-page is displayed.
Post-Condition	The system saves the login-state of the user. The Chart Toppers main interface is displayed.
Side-Effects	None

3.2.1.2 Select Sport

Function	Select Sport
Description	Allows a user to specify a sport to view: football, baseball, or basketball.
Inputs	Identifier for sports: specifies sport options.
Source	User
Outputs	The system shall display confirmation of the selection.
Destination	Chart Toppers interface for specified sport.
Requires	User selects sport different from current sport.
Pre-Condition	Select Sport option displayed.

Post-Condition Selected sport interface is shown.

Side-Effects None.

3.2.1.3 Compare Teams

Function Compare Teams

Description Allows a user to select multiple sports teams for comparison.

Inputs At least two sports teams.

Source User selects sports teams from a list of teams in their display.

Outputs The system displays a table of data from the selected teams.

Destination Output displayed to screen.

Requires The sports ranking list is populated with data from at least two teams.

Pre-Condition A list of teams is displayed.

Post-Condition No changes are made to the records; output is displayed.

Side-Effects None

3.2.1.4 Set Preferences

Function Set Preferences

Description Allow a user to edit the default settings for select sport.

Inputs Identifier for sports: specifies sport options.

Source User selects a sport as a default setting from a list of input options.

Outputs None

Destination	Chart Toppers User database
Requires	A valid user to be logged in to the system
Pre-Condition	Editable default settings options are displayed to user.
Post-Condition	The specified changes are made to the user preferences.
Side-Effects	Updated preferences are presented wherever user logs into the system.

3.2.1.5 View Stats

Function	View Stats
Description	Allow a user to select and view a list of statistics.
Inputs	User selected statistic to view: rankings, wins, top teams
Source	User selects a sport as a default setting from a list of input options.
Outputs	Statistics table
Destination	Chart Toppers database
Requires	Database to be populated with the select data.
Pre-Condition	Sport Identifier selected.
Post-Condition	User Interface displays results in a table.
Side-Effects	None

3.3. Performance Requirements

The performance requirements are as follows:

- System login/logout shall take less than 5 seconds.
- Loading lists will take less than 10 seconds.

3.4. Design Constraints

Chart Toppers shall conform to the following design constraints:

- System logs out user after a 30-minute inactivity period.
- Limited to HTTP/HTTPS.

3.5. Software System Attributes

3.5.1. Availability

Chart Toppers will be available to users 24 hours a day, 7 days a week, with the exception of being down for maintenance. If the system crashes, it should be back up within two hours.

3.5.2. Security

Users will be able to access only their own user preferences and not that of other users.

3.5.3. Maintainability

Any updates or troubleshooting will not require any patches by the user.