

# **Software Requirements Specification**

**for**

# **Project Codename Olympia**

**Version 4.0 approved**

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## Revision History

Name	Date	Reason For Changes	Version
Landen Marchand	02/28/2018	Added sections [1.1-1.4 , 2.2]	1.0
Landen Marchand	03/14/2018	Added sections [2.1, Appendix A]	2.0
Landen Marchand	03/30/2018	Added Header Title. Edited 2.1 and 2.2. Added Appendix A and B, Section 1.5	3.0
Landen Marchand	04/15/2018	Added sections [2.4-2.7,][3,4,5 ALL], Edited [2.1, Appendix A,B]	4.0

## 1. Introduction

### 1.1 Purpose

The purpose of *Project Codename Olympia* (**PCO**) is to have a fully automated system for the various skating events in the *Winter Olympics* (**WO**) . This automated system takes care of registration for each team, also known as country, scoring for each team and individual, and general record keeping of the events, times, and teams.

### 1.2 Document Conventions

Major titles, such as the project name and the event itself are first written out completely and in italics. From there, they will be denoted by their respective acronym, which is provided immediately after the full name in bold.

### 1.3 Intended Audience and Reading Suggestions

The intended audience for this documentation comprises the following entities: the *Olympic League* (**OL**) which oversees and organizes all of the **WO** skating events, and the software development team constructing **PCO**. There are no special reading suggestions as of version 1.0 and should be read in a straightforward manner.

### 1.4 Product Scope

**PCO** manages the registration of individuals and teams, scheduling of events, allocation of qualified judges, and manages a running database of scores and standings for the **WO** skating events which, in turn, provides a fully automated system for the **OL**.

### 1.5 References

**Appendix A:** Documentation for Data Dictionary / Class Specifications

**Appendix B:** Visual of Class Diagrams / Use Cases and Use Case Diagram

## 2. Overall Description

### 2.1 Product Perspective

**PCO** is a replacement of humans to manually coordinate the **WO** skating events. This system will be self-contained automating the registration, scheduling, allocation of judges, and statistics of the **WO** skating events. **PCO** will contain subsystems consisting of registration, scheduling athletes/judges/events, events, and a database for an aggregation of information. The definitions of these subsystems can be found in the Data Dictionary file.

### 2.2 Product Functions

- Register countries as teams and individuals as athletes
- Allocate each event to a specific rink
- Allocate athletes to each event
- Assign judges to each event
- Record scores/times from each event
- Display event information, scores, and current standings

### 2.3 User Classes and Characteristics

#### Officials of the WO

Official Registrant - Registers teams and athletes

Official Scheduler - Handles scheduling of events, judges, and athletes

Official Judge - Verifies and processes scores

General Official - Display current information of the WO

### 2.4 Operating Environment

This system is meant to be used on a Windows OS to easily manage the database and GUI. Please use Windows 7 or higher for the best performance or Windows Server 2003 or higher. SQLite library and C# compiler are needed. Visual Studio 2015 or 2017 is preferred for maintenance.

## **2.5 Design and Implementation Constraints**

This system is meant to be used on a Windows OS to easily manage the database and GUI. The system is solely in American English language and would have to be modified if other languages were needed. All modifications to this system once purchased must be maintained by the **WO** committee. They are free to manipulate the system as desired.

## **2.6 User Documentation**

**PCO** has been designed to be a very easy-to-use and undemanding system. Upon consideration of purchase for this product, there will be an initial presentation explicitly explaining what the system does and how to utilize said system. Since the system is rather rudimentary, there are no ancillary documentation in regards to operation. JALGroup will be your external source for any and all questions.

The GUI as well as the database has terse, yet ample instructions as well as descriptions. Navigation and entry of data include buttons, drop-down menus, and text boxes. Remember, only officials are utilizing this system, and it is expected that they are knowledgeable as to how to at least operate a program on a computer.

## **2.7 Assumptions and Dependencies**

Please use a Windows OS for correct performance.

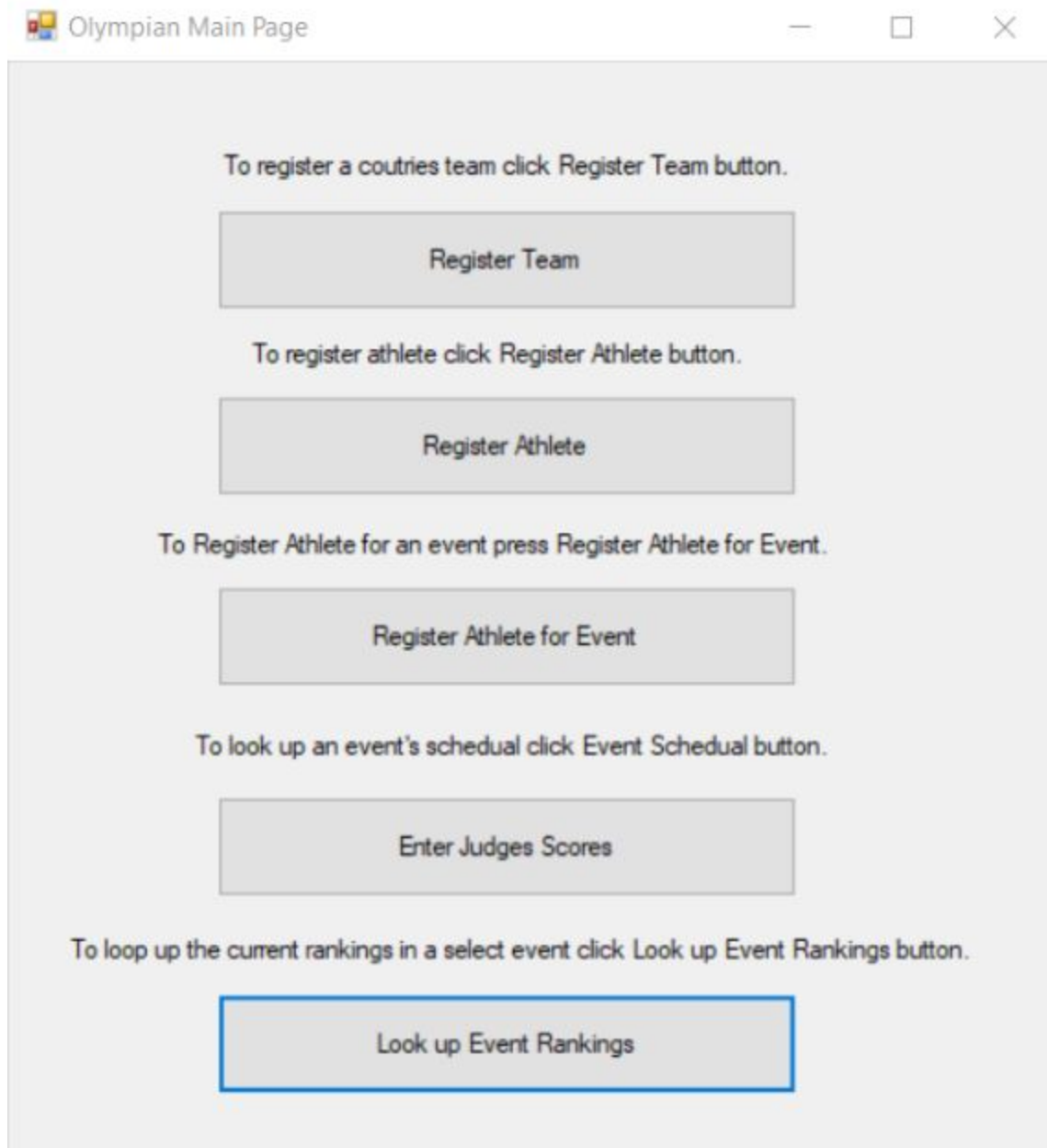
Please use SQL for a database and SQLite for the library.

This is a subsystem of the **WO**, such that officials are already logged in from a larger-scale system.

## 3. External Interface Requirements

### 3.1 User Interfaces

Below is the main page of the GUI. From here, the rest of the system can be accessed via one of the 5 buttons.



Below is the screen to add/remove a team from the **WO**. Current listing of every team is present. Exiting the screen can be done on the bottom-right.

Enter Team name you wish to add to registry and press Register Team.

Register Team

TeamName
Team America
Team Great Brita
Team Norway
Team Germany
Team Canada
Team South Korea
Team China
Team Japan
Team Switzerland
Team Sweden
Team Azerbaijan
Team Bosnia

To delete team select a team from the list and press Remove Team.

Remove Team

Exit Team Registry

Below is the registration process for each athlete and their attributes. The current listing of each athlete in their respective team is present. There is also the listing of each team registered akin to the above screen.

Athlete Registration

Enter athletes first name here.

Enter athletes last name here.

Select gender.

☐ Male
 ☐ Female

Select Team of the athlete.

TeamName

Team America

Team Great Britain

Team Norway

Team Germany

Team Canada

Team South Korea

Team China

Team Japan

Team Switzerland

Team Sweden

Press Add Athlete to enter athlete into registry.

Add Athlete

TeamName	AthleteFirstName	AthleteLastName	Gender
Team Bosnia	Dave	Mathews	Male
Team Bosnia	Dr.	Dre	Male
Team Norway	Emil	Svendsen	Male
Team America	LeBron	James	Male
Team Germany	Alex	Boldko	Female
Team Canada	Alexis	Sved	Female
Team Germany	Oystein	Braaten	Male
Team Norway	Lars	Hauger	Male
Team Bosnia	Lewis	Jones	Male
Team America	Jamelle	Hill	Female
Team Great Britain	Jerry	Williams	Male
Team America	Kev	Douglas	Male
Team South Korea	Len	Mo	Female
Team Germany	Anna	Johnsonberg	Female
Team Canada	Hannah	King	Female
Team Great Britain	Bo	Kittles	Male
Team Norway	Joe	Lewist	Male
Team Norway	Joseph	Unger	Male
Team China	Jackie	Chan	Male
Team China	Donna	Cheng	Female
Team Switzerland	Kate	Wagner	Female
Team Canada	Morris	Morrison	Male
Team Canada	Laurie	Johns	Female

To remove an athlete select them from the list and press Remove Athlete.

Remove Athlete



Below is the registration/deregistration of each athlete to their respective event. Each athlete is available to be chosen along with a skating event. These choices are also displayed in the Event Registration List.

Register Athlete for an event

Select Athlete from list to be register for the event.

TeamName	AthleteFirstName
Team Bosnia	Dave
Team Bosnia	Dr.
Team Norway	Emil
Team America	LeBron
Team Germany	Alex
Team Canada	Alexis
Team Germany	Oystein
Team Norway	Lars
Team Bosnia	Lewis
Team America	Jamelle
Team Great Britain	Jerry
Team America	Kev

Select an event from the list to register athlete.

Mens 500m Speed Skating, Monday, 12:00pm, Rink 1
Womens 500m Speed Skating, Monday, 12:00pm Rink 2
Mens 1000m Speed Skating, Tuesday, 12:00pm, Rink 1
Womens 1000m Speed Skating, Tuesday, 12:00pm, Rink 2
Mens 1500m Speed Skating, Wednesday, 12:00pm, Rink 1
Womens 1500m Speed Skating, Wednesday, 12:00pm, Rink 2
Single Skating Mens, Monday, 11:00am, Rink 3

Press Register Athlete when you have selected the athletes name and event.

Register Athlete


To remove athlete from event select the athlete from the event registry and press Remove Athlete

Remove Athlete

Event Registration List

Event Name	Team Name	Athlete First Name	Athlete Last Name	Event_Time	Event Day
Mens 500m Spee...	Team Bosnia	Dr.	Dre	12:00pm	Monday
Mens 1000m Spe...	Team America	LeBron	James	12:00pm	Tuesday
Mens 1000m Spe...	Team Norway	Lars	Hauger	12:00pm	Tuesday
Mens 500m Spee...	Team Germany	Alex	Bokko	12:00pm	Monday
Mens 500m Spee...	Team Germany	Oystein	Braaten	12:00pm	Monday
Mens 500m Spee...	Team Norway	Lars	Hauger	12:00pm	Monday
Mens 500m Spee...	Team America	Jamelle	Hill	12:00pm	Monday
Mens 500m Spee...	Team America	Don	Lewis	12:00pm	Monday
Womens 500m S...	Team America	LeBron	James	12:00pm	Monday
Mens 1000m Spe...	Team Germany	Alex	Bokko	12:00pm	Tuesday
Womens 1000m ...	Team Canada	Alexis	Sved	12:00pm	Tuesday
Womens 1000m ...	Team America	Jamelle	Hill	12:00pm	Tuesday
Mens 1500m Spe...	Team Great Britain	Jerry	Williams	12:00pm	Wednesday
Mens 1500m Spe...	Team Canada	Hannah	King	12:00pm	Wednesday
Womens 1500m ...	Team Great Britain	Bo	Kittles	12:00pm	Wednesday
Single Skating M...	Team Norway	Joe	Lewist	11:00am	Monday
Womens 500m S...	Team Norway	Lars	Hauger	12:00pm	Monday
Single Skating M...	Team Norway	Lars	Hauger	11:00am	Monday
Single Skating W...	Team Great Britain	Bo	Kittles	11:00am	Monday

Below is where the Official Judge enters the scores/times from each event. The event listing is off to the left and the scores/times may be entered toward the bottom. Entering time is straightforward. Entering Figure Skating scores consists of seven different scores which the highest and lowest are thrown out and the rest are averaged automatically.

 Enter athlete scores

Mens 500m Speed Skating  
Womens 500m Speed Skating  
Mens 1000m Speed Skating  
Womens 1000m Speed Skating  
Mens 1500m Speed Skating  
Womens 1500m Speed Skating  
Ice Dance Mens  
Ice Dance Womens  
Single Skating Mens  
Single Skating Womens  
Pair Skating Scores

Select an Event and press Select Event to pull up the list of athletes in that event.  

Select Event

Mens 1000m Speed Skating

	Place	Athlete First Name	Athlete Last Name	Team Name	Times
▶		Derg	Dergle	Team Germany	62
		Chris	Mack	Team China	55
		Alex	Bokko	Team Germany	43
*					

Enter athlete's time and press Enter Time  

62

Enter Time

Below is the standing medal count for each country.



The screenshot shows a window titled "Medal Count" with a standard Windows-style title bar (blue background, minimize, maximize, and close buttons). Inside the window is a table with three columns: an empty column, "Medal Count", and "TeamName". The table contains 15 rows of data. The first row is highlighted in blue. The data is as follows:

	Medal Count	TeamName
▶	6	Team America
	2	Team Great Britain
	7	Team Norway
	2	Team Germany
	1	Team Canada
	2	Team South Korea
	2	Team China
	2	Team Japan
	3	Team Switzerland
	3	Team Sweden
	1	Team Azerbaijan
	1	Team Bosnia
•		

Below the table is a horizontal scrollbar with left and right arrow buttons.

## **3.2 Hardware Interfaces**

The only hardware this system is designed for at the present time is a computer utilizing a Windows Operating system.

## **3.3 Software Interfaces**

The system currently needs access to the SQLITE DB and any required DLLs. These can be handled by having relevant files in the root of the program. The operating system must be Windows with options to expand operations to other operating systems in the future.

## **3.4 Communications Interfaces**

At the present time, there are no Communications Interfaces associated with **PCO**.

## 4. System Features

### 4.1 Register Team

#### 4.1.1 Description and Priority

Ensure that each country participating in the **WO** is registered into the database. High priority.

#### 4.1.2 Stimulus/Response Sequences

Official Registrant logs into the system from outside the skating subsystem. The official then clicks on the button labeled 'Register Team'. From there, the official then views the list of the events and chooses the event at hand. They are able to add/delete athletes as needed. Adding athlete by name, gender, team is present.

#### 4.1.3 Functional Requirements

- REQ-1: Include all the necessary DLLs in the bin/debug directory of the project
- REQ-2: Include the SQLite database file in the bin/debug directory of the project
- REQ-3: TBD: Unique error messages for wrong inputs
- REQ-4: TBD: Unique conformation messages

### 4.2 Register Athlete

#### 4.2.1 Description and Priority

Ensure that each athlete participating in the **WO** is registered into the database as well as registered to the appropriate team. High priority.

#### 4.2.2 Stimulus/Response Sequences

Official Registrant logs into the system from outside the skating subsystem. The official then clicks on the button labeled 'Register Athlete.' From there, the official then views the list of the already-registered athletes. They are able to add/delete athletes as needed. When finished, they are able to exit team registry utilizing the button on the bottom-right.

#### 4.2.3 Functional Requirements

- REQ-1: Include all the necessary DLLs in the bin/debug directory of the project
- REQ-2: Include the SQLite database file in the bin/debug directory of the project
- REQ-3: TBD: Unique error messages for wrong inputs
- REQ-4: TBD: Unique conformation messages

## 4.3 Register Athlete for Event

### 4.3.1 Description and Priority

Ensure that each athlete participating in the **WO** is registered to their respective event(s). High priority.

### 4.3.2 Stimulus/Response Sequences

Official Scheduler logs into the system from outside the skating subsystem. The official then clicks on the button labeled 'Register Athlete for Event.' From there, the official then views the list of the already-registered athletes (per event). They are able to add/delete athletes into events as needed. Register athlete confirmation is on the bottom-left while deregister athlete is on the bottom-right.

### 4.3.3 Functional Requirements

- REQ-1: Include all the necessary DLLs in the bin/debug directory of the project
- REQ-2: Include the SQLite database file in the bin/debug directory of the project
- REQ-3: TBD: Unique error messages for wrong inputs
- REQ-4: TBD: Unique conformation messages

## 4.4 Enter Judges Scores

### 4.4.1 Description and Priority

Input scores / times from each event in regards to each athlete in said event. High priority.

### 4.4.2 Stimulus/Response Sequences

Official Judge logs into the system from outside the skating subsystem. The official then clicks on the button labeled 'Enter Judges Scores'. From there, the official then views the list of the events and chooses the event at hand. To confirm the event, the confirmation button is located on the middle-right. They are able to enter scores or times per athlete in the unique event. The confirmation button is located toward the bottom-middle/right.

### 4.4.3 Functional Requirements

- REQ-1: Include all the necessary DLLs in the bin/debug directory of the project
- REQ-2: Include the SQLite database file in the bin/debug directory of the project
- REQ-3: TBD: Unique error messages for wrong inputs
- REQ-4: TBD: Unique conformation messages

## **4.5 Look up Event Rankings**

### **4.5.1 Description and Priority**

Ensure that each country participating in the **WO** has their accumulative medal count from the events displayed. Mid priority.

### **4.5.2 Stimulus/Response Sequences**

Official logs into the system from outside the skating subsystem. The official then clicks on the button labeled 'Look up Event Rankings'. From there, the official then ensures the medal count is correct for display. The medal count is auto-generated from the database.

### **4.5.3 Functional Requirements**

REQ-1: Include all the necessary DLLs in the bin/debug directory of the project

REQ-2: Include the SQLite database file in the bin/debug directory of the project

## **5. Other Nonfunctional Requirements**

### **5.1 Performance Requirements**

There are no performance requirements at the current point in time.

### **5.2 Safety Requirements**

There are no safety requirements at the current point in time.

### **5.3 Security Requirements**

Due to the infancy of this system, there are no security implementations. This system is to be used solely by the officials of the **WO**. Therefore, this system is already embedded within a larger system for the entirety of the **WO**. At the present time, it is assumed the officials have already logged into the main system and accessed the subsystem from there.

### **5.4 Software Quality Attributes**

Since the system comes complete with a GUI and a database, interaction with the system is very simple to use as well as very simple to learn. Maintainability requires only knowledge of C# programming language and SQL. System may be reused for future **WO** events, and events that are not apropos to skating.

### **5.5 Business Rules**

Only the official **WO** committee may utilize and purchase this system through the discretion of Dr. Guercio. Only officials of the **WO** are to operate this system (Registrant, Head Judge, Scheduler, Display Manager). However, the system does have a public display.



## 6. Other Requirements

**PCO** will require a functional database in order to house all of the data accumulated from the **WO**. This includes information from teams, athletes, judges, scores, events, rinks, and medal counts. A GUI is required for an easy use of the system. Both of these are already included in the system package. This extensible system will be able to be reused for any of the other branches of the Olympics as a whole. There are no legal requirements at this point in time.

## Appendix A: Glossary

**PCO** - Project Codename Olympia

**WO** - Winter Olympics

Data\_DictionaryV4.docx

ClassSpecificationsV2.docx

## Appendix B: Analysis Models

ClassDiagramV51Functions.png

ClassDiagramV61Uses.png

ClassDiagramV71Attributes.png

UpdatedClassDiagramV81.png

UseCases2.docx

UseCaseDiagramV4.png

## Appendix C: GitHub

<https://github.com/Tutlegoss/Codename-Project-Olympia>

<https://github.com/Tutlegoss/Codename-Project-Olympia.git>