Start Document for "Skating Championship"

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Problem Description

> A number of skaters take part in a skating championship. The following distances are skated consecutively: 500 metres, 5000 metres, 1500 metres and 10000 metres. Times are registered precisely to hundredths of seconds. The time achieved for the various distances is converted into points by reducing each time to a 500 metre time. The skater with the lowest total number of points wins the championship. A program must be developed in which the name and times (format mmsshh) can be entered for each consecutive competitor. The points total of each skater must then be calculated and shown, as well as who the winner is.

A speed skating board of juries needs an application that helps to determine a winner in a competition. The programm must track the following things:

1. Times (format hh:mm:ss.hhh) for 500, 5000, 1500, 10000 meter distances
2. Names of the athletes
3. Total number of points

The application must be able to:

1. Register names and times of the athletes
2. Calculate the total number of points per each athlete
3. Determine the winner with lowest number of total points

Additional application requirements:

1. Contain 3 tabs
2. Contain a start-up splash screen
3. Contain an about box
4. Be displayed in the (Quick Launch) toolbar
5. The program contains a context menu, which has the following options: a shortcut to each tab, shortcut to the about box, open and close buttons

Input & Output

In this section the inputs and outputs of the application are described. The tabe below provides all the inputs a user has to introduce to make the application function.

Case	Data Type	Conditions
Skater's name	String	Not empty
500m time	String	`time` in format hh:mm:ss.hhh
5000m time	String	`time` in format hh:mm:ss.hhh
1500m time	String	`time` in format hh:mm:ss.hhh

Case	Data Type	Conditions
10000m time	String	`time` in format hh:mm:ss.hhh

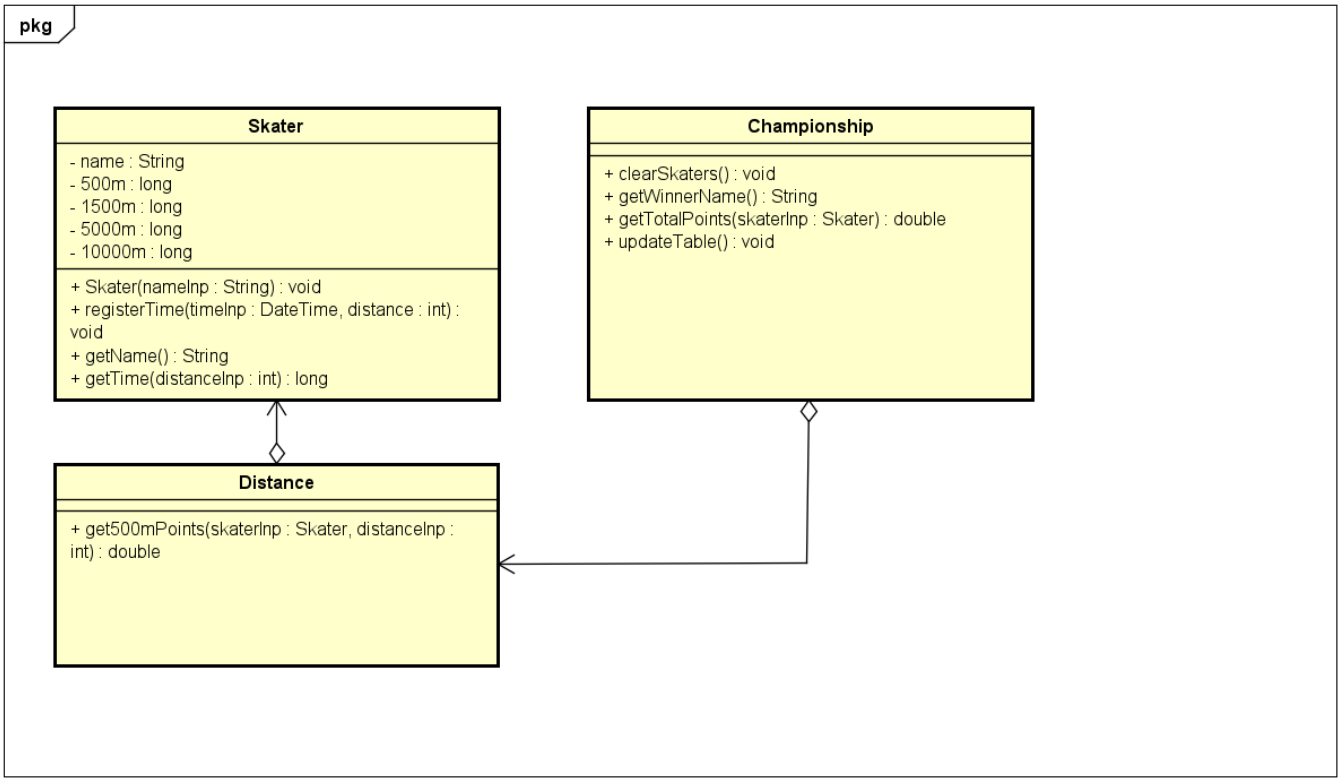
The table below provides all the outputs a user can see.

Case	Data Type
Athletes' names	String
Athletes' total points	Double
Winner's name	String

The tabe below provides all the calculation done by the application.

Case	Calculation
Convert times to a 500m distance	`DateTime converted to integer milliseconds`/(`distance`/500)
Total number of points	Sum of `time` in milliseconds for all distances converted to a 500m distance

Class Diagram



Test Plan

Test Data The tables below provide the data used for testing.

Input	Output

Input					Output
Name	500m	1500m	5000m	10000m	Total Points
Fillipe Mota	00:00:45.126	00:01:45.126	00:33:24.056	01:01:12.128	464180
Jamie Foy	00:01:01.069	00:02:12.244	00:43:24.056	01:33:24.228	645767.3

Test Cases Tables below provide information about test cases. All tests are performed with the test data (described above)

1. **Get Winner**

Step	Input	Action	Expected output
1	Button Click	Press "Update" button on "Winner" page	"Fillipe Mota"
2	Input test data for 3rd skater on "Add+" page	name = "Chris Joslin"	
3	Input test data for 500m	00:00:10.126	
4	Input test data for 1500m	00:00:12.126	
5	Input test data for 5000m	00:00:20.126	
6	Input test data for 10000m	00:00:30.126	
7	Button click	Press "Save" button on "Add+" page	
8	Button Click	Press "Update" button on "Winner" page	"Chris Joslin"

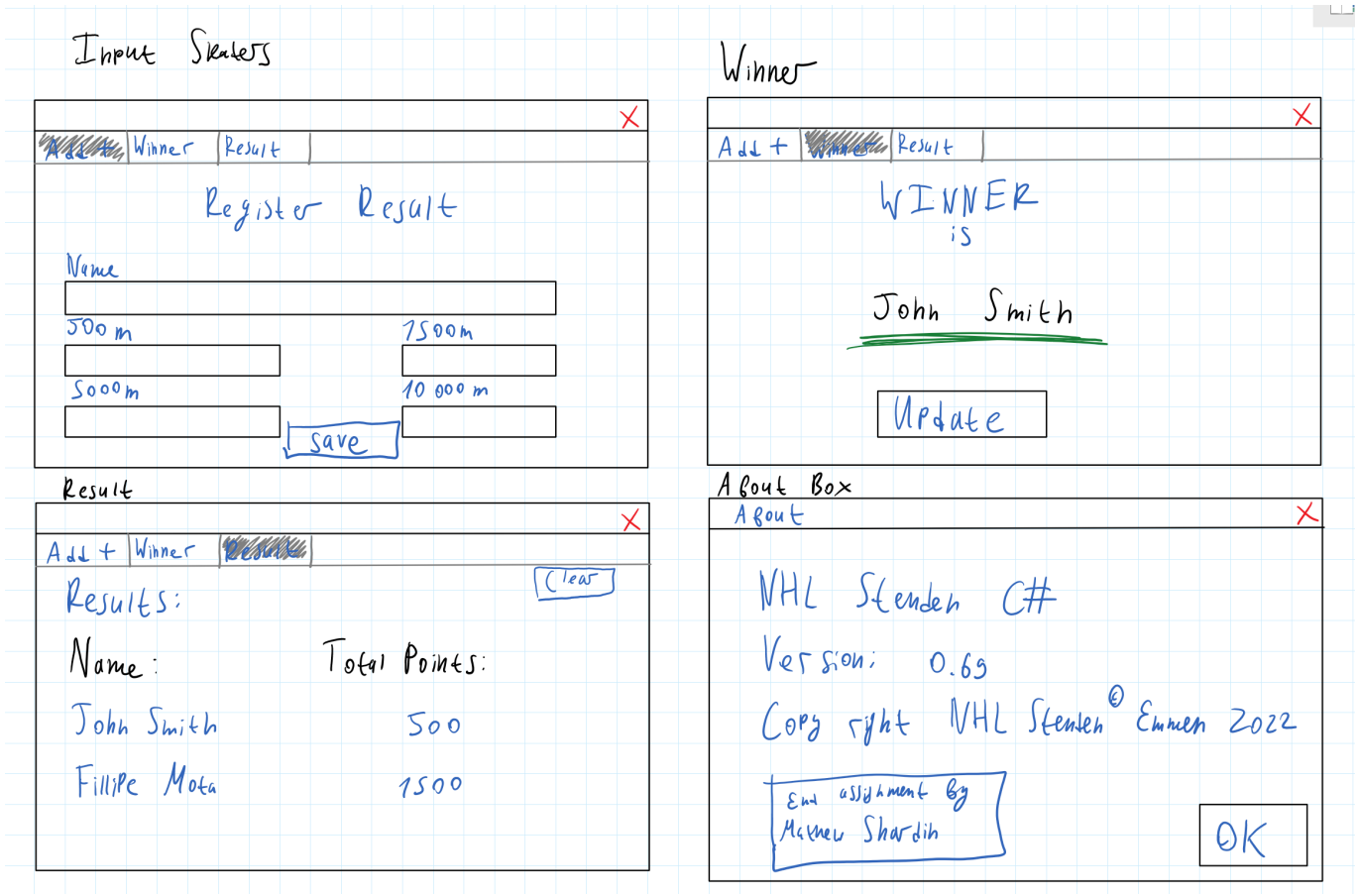
2. **Display Total Points**

Step	Input	Action	Expected output
1	Open "Result" page	Look at "Fillipe Mota" record	464180
2	Open "Result" page	Look at "Jamie Foy" record	645767.3

3. **Clear all results**

Step	Input	Action	Expected output
1	Open "Result" page	Look at "Fillipe Mota" record	464180
2	Open "Result" page	Look at "Jamie Foy" record	645767.3
3	Button click	Press "Clear" button	Empty results table

Graphical User Interface



ERD

Skater
PK name - String
500m - bigint
1500m - bigint
5000m - bigint
10000m - bigint