

Cross Country Terminology

Runner	An individual athlete, with a specific personal record, name, grade, and possibly team level
Race	Used when referring to a runner's personal times in past competitions
Meet	An entire competition that can have 100's of runners within it
Personal Record (PR)	A runner's fastest time

Example

Runner	
Name	Bobby Brian
Grade	11
Level	JV
PR	18:36:02

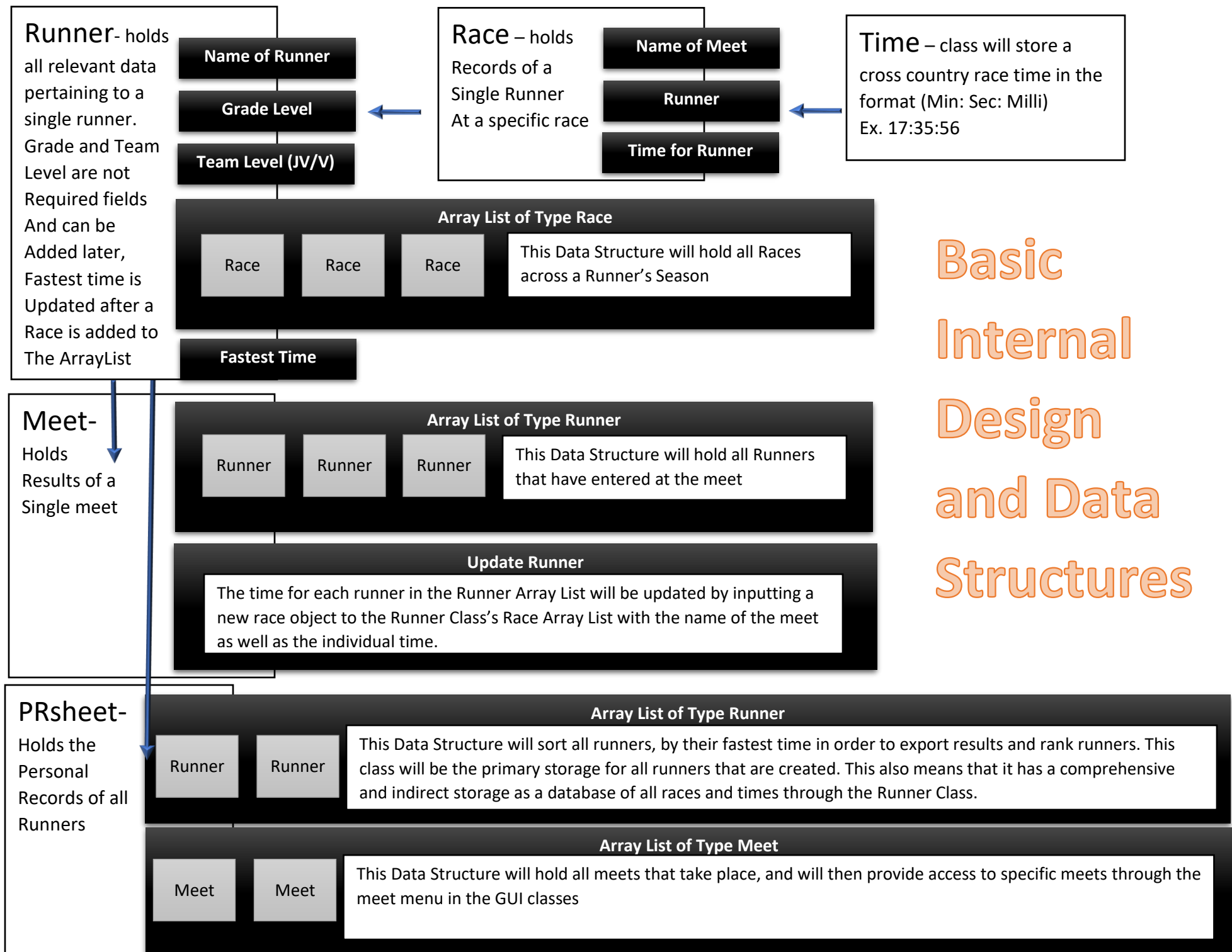
Bobby Brian's Races		
#	Name	Time
1	Pat Hadley Memorial	19:14:05
2	Brea Invitational	18:36:02
3	Sunny Hills Invitational	18:45:11

Pat Hadley Memorial Meet				
#	Time	Runner Grade	Runner Level	Runner Name
1	17:04:78	12	V	Calvin Kors
2	19:12:12	10	JV	Michael Klein
3	19:14:05	11	JV	Bobby Brian
...				
100	23:11:34	9	Frosh/Soph	Debro Willie

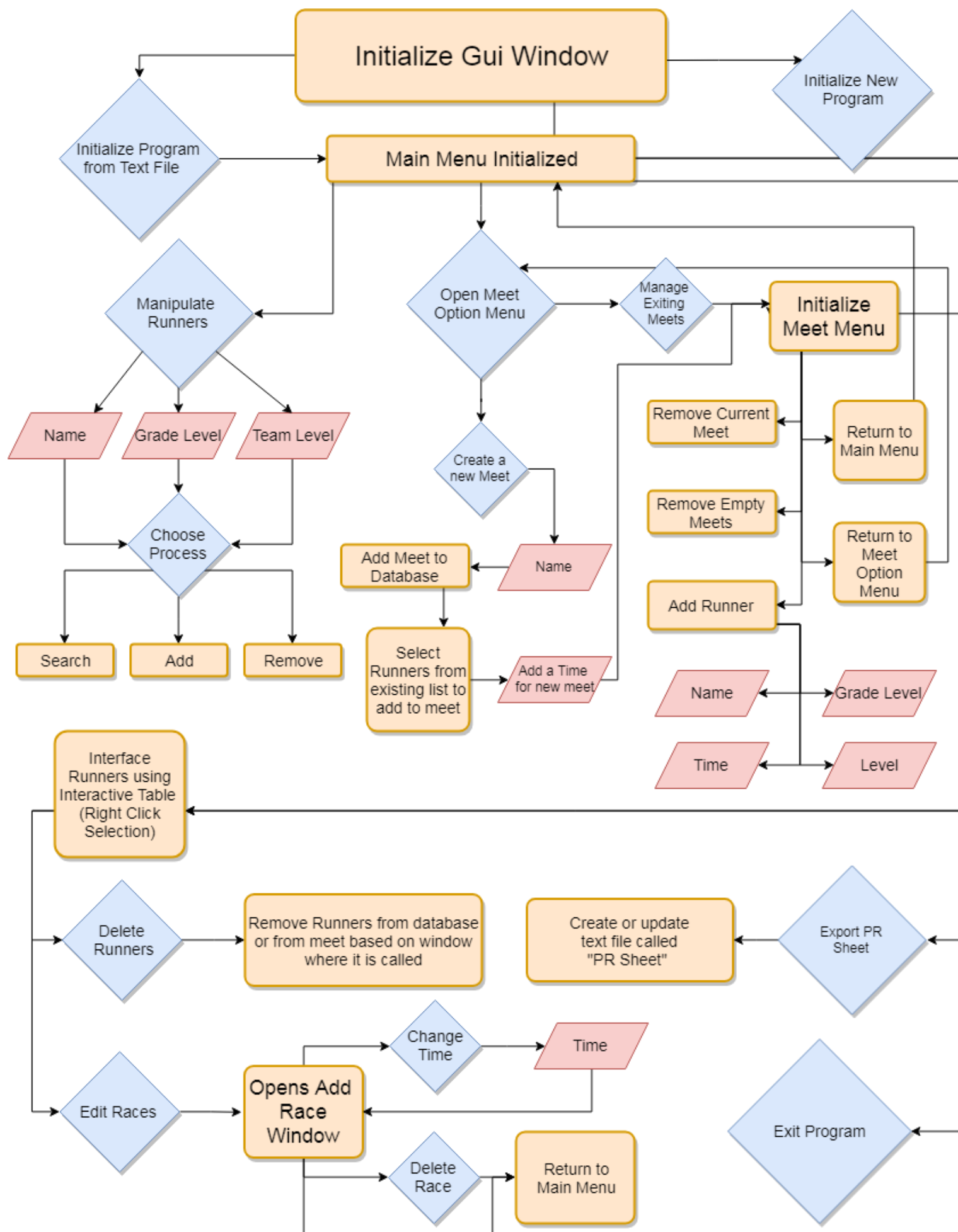
*Essentially the data is intertwined between three different structures

Product Assumptions based on Cross Country Norms

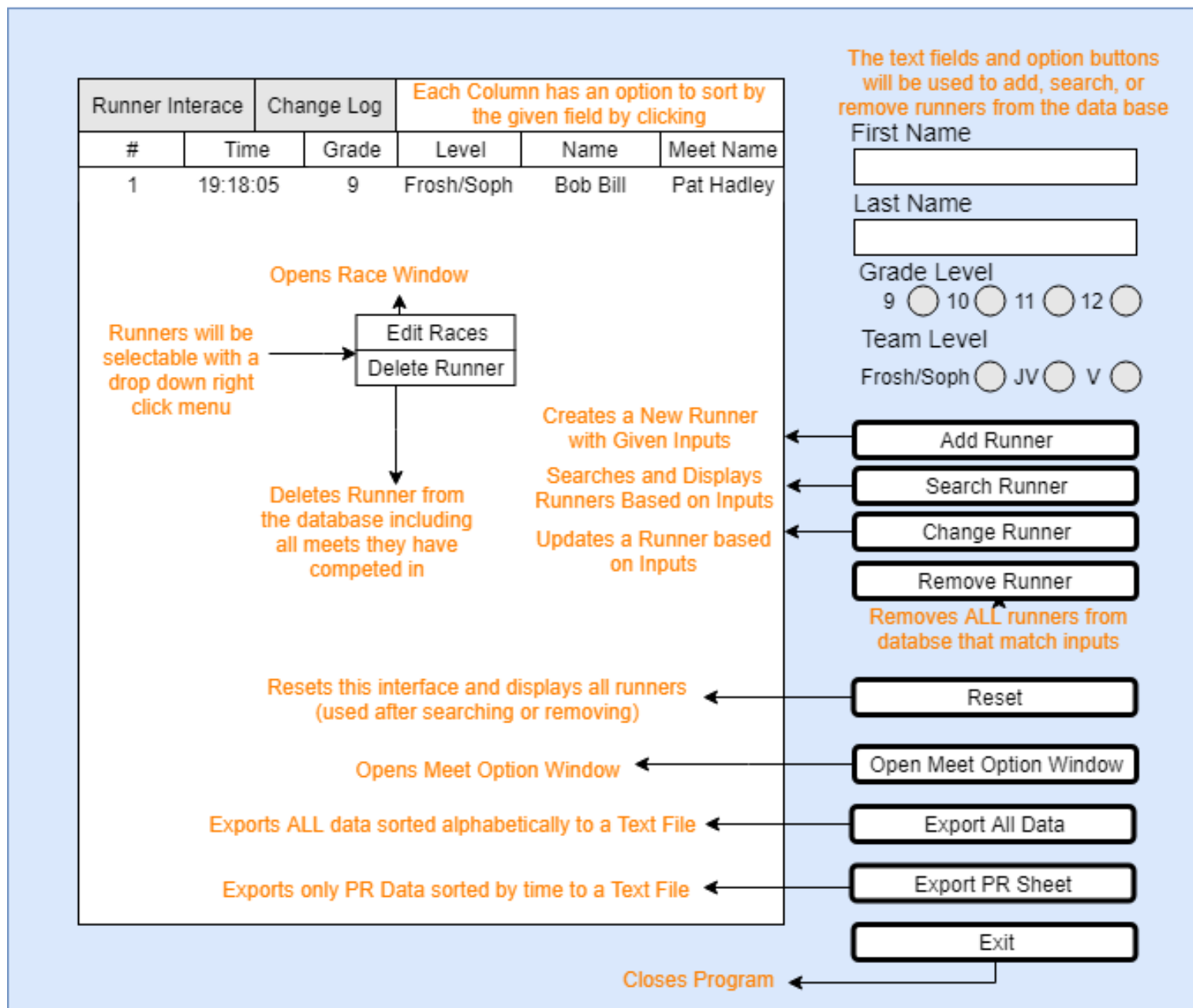
- A new runner can't be added to an existing meet (already taken place)
- Each Meet object in program will not account for runners from different schools as only Valencia students are recorded in this database
- **A race object cannot be added to a runner**
 - o High school runners do not run alone and the only way to add a race to a runner is to **initialize a new meet and add all competing runners**
 - o When managing races, they can only be deleted or modified
- A Frosh/Soph Runner must be in grade 9 or 10
- All Times are formatted as (minutes : seconds : milliseconds)



Basic Internal Design and Data Structures

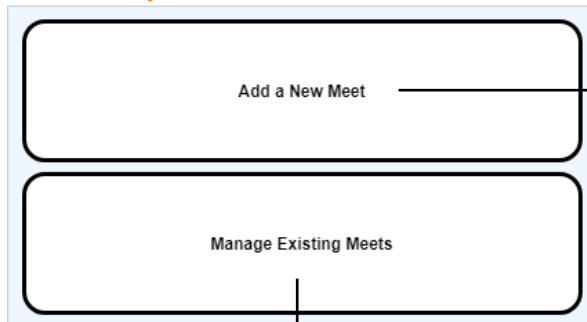


Main Menu

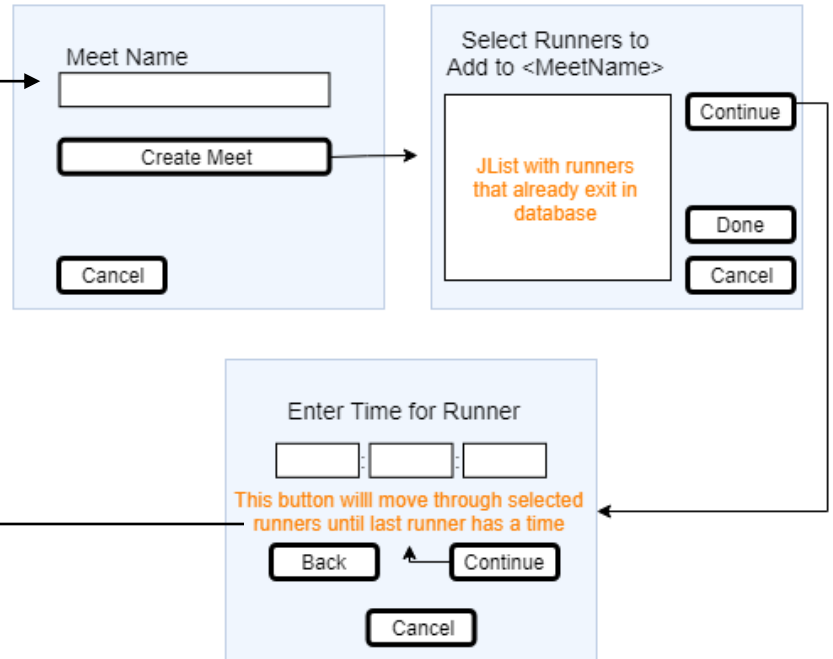


GUI Menu Design

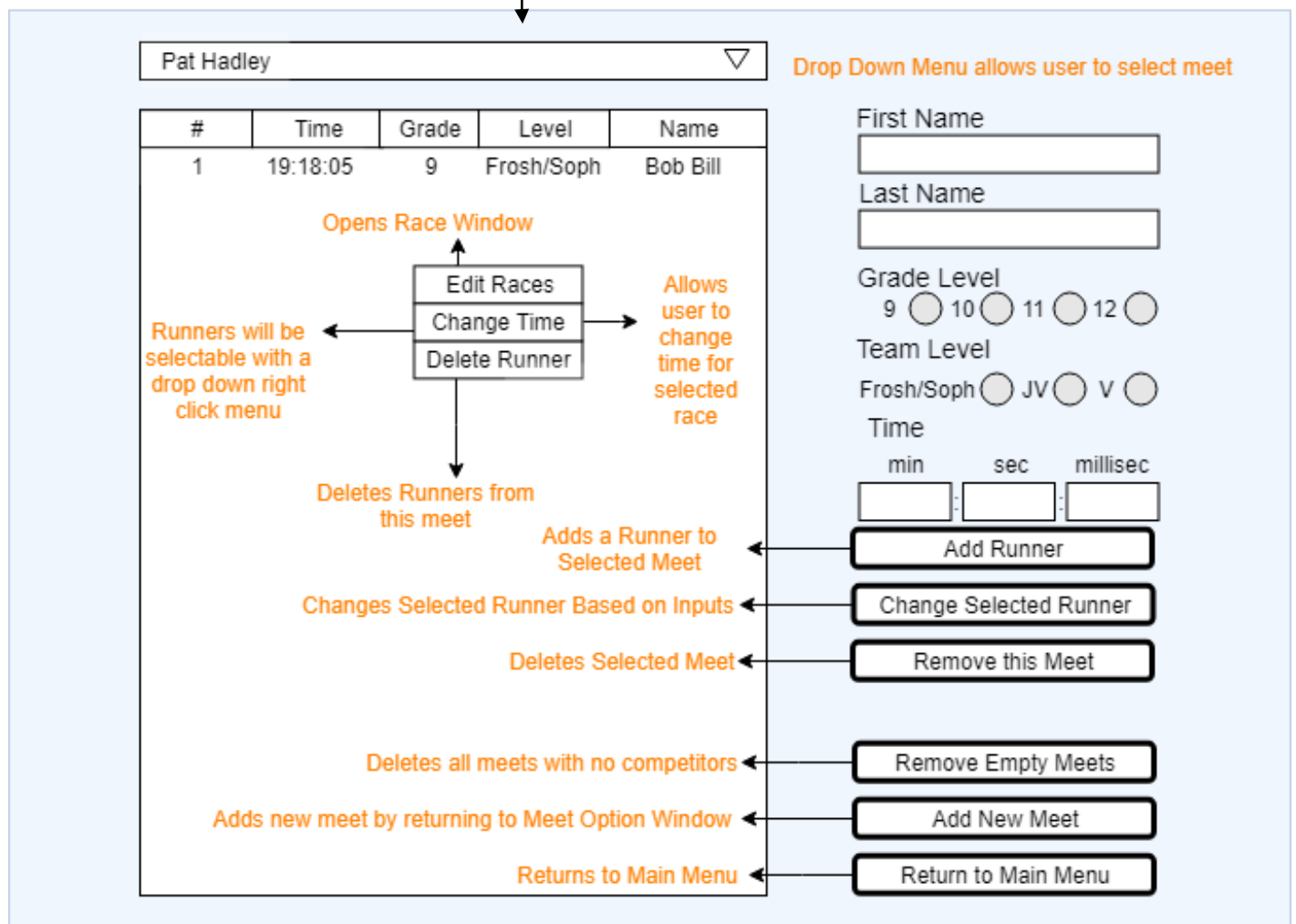
Meet Option Window



Add a New Meet



Meet Menu



Edit Races

#	Meet Name	Time
1	Pat Hadley	19:18:05

All of the selected Runner's race data will be accessible from this table

Runners will be selectable with a drop down right click menu

Allows user to change time for selected race

Change Time
Delete Race

Delete Race from selected runner

Outline Test Plan- Based on Success Criteria introduced in Criterion A

Test Criterion	Method for Testing	Expected Output
<p>Program should be able to read data from a text file in order to create the database. This should create all Runners that are defined in the text file and the Main Menu will have options to create Runners manually as well.</p>	<ul style="list-style-type: none"> - "Initialize Program from Text File" button allows user to pass in a text file with formatted Data - From Main Menu, there are input fields for first name, last name, grade, and level - "Add Runner" button uses inputs to create new runners 	<ul style="list-style-type: none"> - Main Menu initialized with all runners from data file displayed in the runner interface (JTable) - Adding Runner will read inputs and add them to the bottom of the interface as the next runner in the database - The Database will interlink all Meets, Runners, and Races keeping them updated as the program runs
<p>Search and Remove single or multiple Runners by Name, Time, and Level from the Main Menu</p>	<ul style="list-style-type: none"> - Any Combination of Name, level, and Grade inputs can be used as remove or search criteria - "Search Runner" will display all runner that CONTAIN inputted name, and match inputted grade/ level - "Remove Runner" works in a similar fashion and removes all runners that correspond to inputs - Right Click and select "Delete Runner" to remove a single runner - "Reset" Button will re-display all runners and clear arguments as needed 	<ul style="list-style-type: none"> - Any removing will update the database including meets and races as necessary - Searching will not modify database and only change the display in the Runner Interface
<p>Create Meets through the Meet Class that holds an Array list of type runner. Add runners from database to meet during initialization.</p>	<ul style="list-style-type: none"> - "Add New Meet" Button will take the user through the steps to instantiate a new meet - This includes the "Select Runners" and "Select Times" Panel that allows the user to put runners already in the database inside the new meet and input the times they received 	<ul style="list-style-type: none"> - Meet Menu will contain an additional meet after adding new meet and selecting it will display all - Runners from database with relevant data in the JTable

Client must be able to manage meets through the Meet Menu	<ul style="list-style-type: none"> - “Manage Existing Meets” button will allow user to access Meet Menu - “Remove this Meet” Button will delete the meet from the database and update the races of all the runners that were in this database. - “Remove Empty Meets” Button will delete all meets that no longer contain any runners acting as a filtration system. 	<ul style="list-style-type: none"> - Meet Menu initialized displaying accurate data and meets can be changed using the described buttons.
Runners should be addable, removable, and have editable time in the Meet Menu	<ul style="list-style-type: none"> - “Change Time” button opens the New Time window that prompts user to input a new time for the runner at the selected meet. - This button will also update the database and the runner’s races - Runners can be removed by right clicking and selecting “Delete Runner” which removes them from the meet - “Add runner” button will allow runners to be added to the meet after the meet has been initialized in a similar process as the Main Menu. 	<ul style="list-style-type: none"> - The Meet Menu will be able to interact with the runners through these functions and all changes should automatically update the runner’s races and the database overall.
Runner private data including name, time, and level should be changeable in the Main Menu or the Meet Menu	<ul style="list-style-type: none"> - “Change Runner” Button in both menus will update any combination of name, grade, and level. - 	<ul style="list-style-type: none"> - Changes are displayed in the JTables of either menu - Frosh/Soph Runners must be in 9th or 10th grade
Create Races in the Race Menu that holds a meet name and a time. All Races in the menu should be sorted by time.	<ul style="list-style-type: none"> - The Right Click- “Edit Races” option is available in both the Meet Menu and the Main Menu - This will open a separate Race Menu displaying all the races of a runner sorted by time through a merge sort algorithm - The times are editable and races are removable 	<ul style="list-style-type: none"> - The menu will display all races properly and be updated constantly as runners are changed - Closing the menu will return the user to the appropriate window
Export all data sorted alphabetically or PR Sheet sorted by PR to new Text Files	<ul style="list-style-type: none"> - “Export PR” Button - sorts runners based on PR and creates a new text file - “Export All Data” Button - sorts runners alphabetically and exports them to a new text file 	<ul style="list-style-type: none"> - Project File Path will contain the new text files upon clicking these buttons