This is a simple system that enables rowers of different ages, weight class and genders to compete against each other. It also provides the ability to have different types of boats compete.

The basis of the system is the course record for the Head of the Charles for each class,. There were four classes that I did not find trustworthy course records for, and for those I used 2017, a year with favorable conditions when many course records were set. (60-70 and 70+ both M and F).

To apply the algorithm, the raw time over course is converted to an average pace for the course. Then the competitors % of CRS (Course Record Standard) is calculated as:

% of CRS = 100\*(CompPace / CRPace)

To fully support all the classes from major events (and to attempt to lure in the most competitive rowers), additional fields need to be added to the registration form. These are:

* Add Mixed as a choice for gender
* Add a "Class" with the possible choices of Open, Club, Youth and Master
* Add the ability to register for master events in age brackets younger than chronological age
* Long term enhancements for non-single events
  + Add Mixed as a choice for Gender
  + Calculate avg age for a boat and test all members meet the min age criteria

The results presentation should include raw time and % of CRS. The table should include fields for each of the group variables

* Boat
* Gender
* Weight
* Class
* Age range

Long term, it would be a good idea to enable the creation of CRS tables in a way similar to the creation of courses. Where times could be entered into a table of the different groups. At the time a race is created, the organizer should be able to select the desired CRS table.

Example Table Format

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Boat | Gender | Weight | Class | MinAge | MaxAge | HOCR CR | Pace |
| 1x | F | L | Open | 0 | 120 | 19:00.6 | 02:01.3 |
| 1x | F | O | Club | 0 | 120 | 20:25.3 | 02:10.4 |
| 1x | F | O | Youth | 0 | 18 | 19:30.6 | 02:04.5 |
| 1x | F | O | Open | 0 | 120 | 18:33.0 | 01:58.4 |
| 1x | F | O | Master | 30 | 39 | 19:55.2 | 02:07.1 |
| 1x | F | O | Master | 40 | 49 | 20:18.0 | 02:09.6 |
| 1x | F | O | Master | 50 | 59 | 20:35.9 | 02:11.5 |
| 1x | F | O | Master | 60 | 69 | 20:53.9 | 02:13.4 |
| 1x | F | O | Master | 70 | 79 | 23:53.4 | 02:32.5 |
| 1x | M | L | Open | 0 | 120 | 17:24.8 | 01:51.1 |
| 1x | M | O | Club | 0 | 120 | 18:00.2 | 01:54.9 |
| 1x | M | O | Youth | 0 | 18 | 18:37.5 | 01:58.9 |
| 1x | M | O | Open | 0 | 120 | 17:11.6 | 01:49.7 |
| 1x | M | O | Master | 30 | 39 | 18:13.6 | 01:56.3 |
| 1x | M | O | Master | 40 | 49 | 18:19.8 | 01:57.0 |
| 1x | M | O | Master | 50 | 59 | 18:15.2 | 01:56.5 |
| 1x | M | O | Master | 60 | 69 | 19:33.5 | 02:04.8 |
| 1x | M | O | Master | 70 | 79 | 20:35.2 | 02:11.4 |