

SW Engineering CSC648/848 Spring 2019

SimpleWrestling

Team 06

Michael David: Team Lead/Document Master

Email: mdavid2@mail.sfsu.edu

Michael Swanson: Front End Lead

Huy Nguyen: Back End Lead

Heewon (Sarah) Han: Github Tournament Admin

Alexander Nunez: Developer

Tuan Le: Developer

Milestone 1

3/14/2019

## **1. Executive Summary**

The purpose of this website is to solve an ongoing issue that the wrestling community is facing with outdated technologies. Our group has noticed a trend that if your sport is not popular it gets outdated. That is the reason why sports such as Football, Baseball, and soccer get such a strong backing. So a sport such as wrestling is often overlooked.

Our website offers modern technology into a sport that is growing. We are able to offer a modern friendly user interface for our users to easily understand. We also offer the Admin team of a wrestling tournament a clean bracket system making running tournaments easier.

We also plan on launching a prototype of this product to the hands of the wrestling community based on one of members close attachment to the community for a test base during the summer time.

Once we launch we plan on making a simple business plan o the application by making the Admin pay by the match.

Our mission is to just offer a modern spin on a industry that is old and one that no one cares about. We also plan on making a huge positive impact on this sport as it continues to grow.

## **2. Personae and Main Use Cases**

### **Wrestler**

The wrestler has a wide range of age ranging between 6 - 25. However their purpose is for coming to this website is the same. They just want a place to see where they lie in the tournament and to know more about their

upcoming matches. This information all displayed on our website. The user would also like to know the matches they wrestled in the past. The wrestler would like to know who they are wrestling in the bracket and who they would possibly face.

### **Tournament Admin**

The Tournament Admin is the group of people in charge the tournament. They are typically coaches or are heavily involved in the wrestling community. They can vary but are typically only doing a wrestling tournament to fund raise for their team. They are not paid (most the time) to do this it is of their free will and for their love of the sport. The Tournament Admins of a tournament are also very stressed during tournaments.

### **Table Worker**

The table workers are typically volunteers who are not paid for working the tables. They have a basic job to do which is just to keep track of the score of the tournament. They typically make a lot of mistakes being that many are not familiar with the sport of wrestling. So have a hard time understanding what is happening.

### **Coach**

The coach is only coaching wrestling because he loves the sport. There is no money in this industry. He is typically there just for the love of the sport or to make a difference in youth's lives. They come from very different backgrounds and places, but have one common goal of aiming to win.

### **Visitor**

The visitor is any user who does not qualify under the 4 prior personae. This can extend to either family members of wrestlers or recruiters surveying competition results for locating talent.

## **3. List of Main Data Items and Entities**

**Wrestlers** - One of our main users of interest. Wrestlers are used to populate the data of a tournament.

**Weight** - Attribute of **Wrestlers**. Weight is used to categorize wrestlers.

**Coaches** - Entities that **Wrestlers** belong to. Coaches are used to organize teams of wrestlers to compete in a tournament.

**Teams** - Entities that **Wrestlers** and **Coaches** belong to. Teams are used to categorize groups in tournaments.

**Tournaments** - Entities that are created by an **Tournament Admin**, comprised of **Brackets** and **Teams**. Tournaments is platform that allows all data to follow together connecting all our data sets.

**Dates** - Attribute of **Tournament**.

**Brackets** - Sub-entities of **Tournaments**, comprised of **Matches**. The Brackets are used to display the winner of the match to have relevant information to update the bracket.

**Matches** - Sub-entities of **Brackets**, Matches contain 1 or 2 **Wrestlers**, will contain a flag **Bye** and a **Score**. The matches are used to display score of two wrestlers to update the bracket,

**Mats** - Entities that contain **Matches** in an ordered sequence. Mats are used to make sure the wrestlers have a place to compete and they need to compete in order to update the brackets.

**Score** - Attributes of **Wrestlers**, and **Matches**, created by **Scorecard**. The score is to determine which wrestler wins.

**Scorecard** - Entity that displays the connection between **Wrestlers**, **Matches**, and **Mats**. The scoreboard is used to determine the winner of the match and how the wrestlers won. A wrestler can win in any of the following ways: Minor Decision, Major Decision, Tech Fall, Pin Fall, Overtime, Bye Injury default and Forfeit.

#### **4. Functional Requirements**

- 1. Tournament Admins** can create new **Tournaments**
- 2. Coaches** can sign up **Teams** to **Tournaments**
- 3. Coaches** can sign-up **Wrestlers** to **Teams**
- 4. Tournament Admins** can create **Brackets** within **Tournaments** based on **Weight Pools**
- 5. Tournament Admins** can assign **Wrestlers** to **Brackets** based on the Wrestler's **Weight** and the Bracket's **Weight Pool**
- 6. Assigning Wrestlers to Brackets** will generate **Matches** automatically.
- 7. Tournament Admins** can assign **Matches** to **Mats**.
- 8. Each Mat** will have one **Scorecard**
- 9. Table Workers** can calculate **Score** on **Scorecard**.

10. **Tournament Admins** can print visuals of **Brackets**
11. **Tournament Admins** can review and edit **Scores** of **Matches**
12. **Tournaments** can be monitored by one or more **Tournament Admins**
13. **Coaches** can track which **Mats** their **Wrestlers** need to go to next.
14. **Tournament Admins, Coaches, and Wrestlers** can login to their respective **Tournaments** to view relevant information to their level.
15. **Visitors** can search tournaments by **Date, Team, and Wrestler**.
16. **Visitors** can subscribe to a **Wrestler** or **Team** to receive updates about **Tournaments** that wrestlers or teams are signed up for.

## **5. Non-Functional Requirements**

### Security:

1. Login shall be mandatory for host and Tournament Admin.
2. Username shall be the user's registered email
3. Password shall be encrypted before saving it in the database
4. User's session shall be ended after 30 minutes of inactivity
5. User's session timeout limit shall be set up by the Tournament Administrator
6. User's session shall only be ended by code design
7. Uploaded content from any part shall be audited by the Tournament Administrator
8. This site shall not accept third party cookies

### Audit:

1. New registrations shall be audited by the Tournament Administrator
2. New registrations shall be approved by the Tournament Administrator
3. The site Tournament Administrator shall be the only person authorized to configure the host interfaces
4. The host shall not be allowed to modify any web configuration files
5. The host shall not be allowed to login into the Tournament Administrator page
6. Users, registered or not, shall not be able to login into host and Tournament Admin pages.
7. Site Tournament Administrator approves restaurant info for posting.

**Performance:**

1. The site loading time shall be less than 1 second for all the screens
2. Search shall be executed in a background thread for improving performance
3. Query shall be executed in a background thread for improving performance

**Capacity:**

1. The total data storage allowed by the web site shall not exceed of 80 % of the server capacity for this site
2. The web site shall be prepared to support scalability for adding future new features

3. The web site shall be capable to handle at least 50 users

**Reliability:**

1. Downtime for maintenance shall be less than 1 hour per month  
2. Downtime for maintenance shall not affect the main functionality of the site

3. In all cases, downtime for maintenance shall be informed to the users either by email

4. In all cases, downtime for maintenance shall be informed to the users by publishing an announcement in a visible place of the main page.

**Recovery:**

1. In a total failure case, the whole site should be put down to revision  
2. If broken, the mean time to recovery shall not excess of one day

**Data Integrity:**

1. Database tables shall be backed up every week  
2. Tournament Administrator shall be able to execute a recovery when needed  
3. Images size shall be limited up to 1 megabytes  
4. Images shall be uploaded in the correct format (jpg or jpeg)  
5. Video content shall be uploaded only by Tournament Admins in a compressed format such as mpg4

**Compatibility:**

1. The site shall be compatible with the last version of Safari browser  
2. The site shall be compatible with the last version of Firefox browser  
3. The site shall be compatible with the last version of Chrome browser  
4. The site shall be compatible with at least an old version of all the browsers listed above  
5. Third party applications shall not be able to modify any content that may affect the site



compatibility

6. The site shall be ready to support with any or minimal changes any other compatibility

that may be added in future versions

7. The site should be compatible to escalate to new databases

### **Conformance with Coding Standards:**

1. Architecture and design standards shall meet all the requirements listed under the High

Level Architecture section of this document

2. Only working code that meets all the code standards shall be submitted to the project repository

3. Any working code shall be tested and debugged before being considered working code

4. Any internal errors or exceptions returned by the code shall be stored in a log

5. Any error that may affect the functionality of the site shall be reported to the user

6. Any error shall be handled in a way that does not affect the functionality of the site.

7. The whole production cycle of this site shall be finished 2 weeks before the delivery date

8. This site shall not be launched without all the priority one featured finished and tested

9. This site shall be tested and debugged as a whole 2 weeks before the delivery due date

### **Look and Feel Standards:**

1. The application and its layouts shall look professional

2. The site shall be enough simple to handle by all the parties involved

3. Elements on screen shall have the correct density to meet the compatibility standard of

the browsers

4. Elements on screen shall have the correct size to meet the compatibility standard with all mobile devices
5. Elements on screen shall have rich and beautiful colors for user delight
6. The site shall be able work correctly without mouse interaction
7. The site shall be able to work correctively without keyboard interaction
8. Elements in screen shall be resized automatically without user interaction when being loaded in all the different platforms supported by the site

**Internationalization / Localization Requirements:**

1. Default language of this site shall be English
2. The site shall support scalability to add more supported languages in future versions
3. The site shall support geolocation to locate tournament addresses in a map.

**6. Competitive Analysis**

Competitors	TrackWrestling	InterMat	FloWrestling	TheOpenMat	Us
Search by Wrestler	-	-	-	-	+
Dynamic Bracket Seeding	+	-	-	-	+
Live tournament Mat Update	-	-	-	-	+
Following Individual	-	-	-	-	+

Wrestlers					
Tournament Maintenance Portal	+	-	-	-	+

## **7. System Architecture and Technologies Used**

Server Host: *Amazon Web Services*

Operating System: *Debian Ubuntu 16.04*

Databases: *MongoDB, PostgreSQL 11.2*

Web Server: *NodeJS 10.13.0*

Server-Side Language: *JavaScript ES6*

Additional Technologies: Web Framework: *React 16.7*

Node Library: *Express 4.16.4*

IDE's: *Sublime, VS code, Atom*

## **8. Team**

- Michael David: Team Lead/Document Master
- Michael Swanson: Front End Lead
- Huy Nguyen: Back End Lead
- Heewon (Sarah) Han: Github Tournament Admin
- Alexander Nunez: Developer
- Tuan Le: Developer

## **9. Checklist**

- Team found a time slot to meet outside of the class  
**ON TRACK**
- Github master chosen  
**DONE**

- Team decided and agreed together on using the listed SW tools and deployment server

**DONE**

- Team ready and able to use the chosen back and front end frameworks and those who need to learn are working on learning and practicing

**ON TRACK**

- Team lead ensured that all team members read the final M1 and agree/understand it before submission

**ON TRACK**

- Github organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.)

**DONE**