

## 2014 Schema.Org Sports Extension Proposal

Version: 1.0

### Overview

The purpose of this proposal is to extend support for describing sports content within the Schema.Org vocabulary.

### Contributors

Alice Swanberg (Yahoo)  
Jennifer Cooper (Microsoft)  
Jason Johnson (Microsoft)  
Markus Renstrom (Yahoo)  
Paul Kelly (XML Team / IPTC)  
Tom Grahame (BBC)  
Vicki Tardif Holland (Google)

### Principals

The approach taken for this proposal included the following principles:

- Extend the existing vocabulary within Schema.Org, adding and updating only where needed
- Leverage the existing work done by BBC, SportsML, and ESPN in the area of sports vocabularies
- Focus on supporting the 'head' of sports vocabularies while keeping in mind the 'body' and 'tail'
- Think globally

### Targeted Sports

The collaborators of the proposal jointly landed on the following sports as initial targets for support:

- Professional Sports
  - Team Sports
    - Baseball
    - American Football
    - Association Football
    - Basketball
    - Rugby

- Cricket
    - Hockey
  - Individual Sports
    - Tennis
    - Golf
    - Nascar
    - Horseracing
    - Boxing
- Olympic Sports (additive)
  - Summer
    - Team
      - Volleyball
    - Individual
      - Swimming
      - Track
      - Gymnastics
  - Winter
    - Individual
      - Skiing
      - Snowboarding

## Background

Members of the collaboration team have researched the target sports and shared the results of their research in the form of recommendations for classes and properties required to support their associated description. These recommendations were reviewed by the other collaborators and further revised and updated as needed. The latest versions for this sports research can be found in the appendix of this document.

As a result of this research and review, the group identified the need to broadly established the concepts of sports **organizations**, **people**, **events** and **statistics**. Once these primary concepts were identified, the group then developed the associated set of classes and properties required to define them, leveraging the prior sports research to make sure primary description scenarios would be supported.

# Proposal

## 1. Sports Events

### 1.1. Overview

The extension to Sports Events leverages the existing 'Event' and 'SportsEvent' classes and extends them with a few new classes and properties to introduce the concept of event competitors and results.

### 1.2. Schema Definition

```
class: Event
```

```
comment: The existing 'Event' class as defined today with the addition of a new 'attendance' property'
```

```
property: organizingBody [Organization]
```

```
property: attendance [Number]
```

```
class: CompetitionEvent
```

```
comment: This class is being introduced as an intermediate class between the existing 'Event' and 'SportsEvent' classes. Its purpose is to support competition events that are not traditionally in the form of a 'sport' (e.g. beauty contests) and serves as the initial container for the new 'competitor' property.
```

```
subClassOf: Event
```

```
property: competitor [Person, Organization]1
```

```
property: result [CompetitionResult]
```

<sup>1</sup> *In the scenarios we evaluated and targeted, the competitors in the event could always be represented by persons or organizations.*

```
class: SportsEvent
```

```
comment: The existing 'SportsEvent' class as defined today with the addition of new properties to support defining the home and away team for a sports event.
```

```
subClassOf: CompetitionEvent
```

```
property: homeTeam [SportsTeam]1
```

```
property: awayTeam [SportsTeam]1
```

<sup>1</sup> *There may be a valid usage scenario in which something other than a sports team is considered the 'home' and 'away' but none come to mind. If valid scenarios exists, we can*

*consider making these properties more encompassing by using the term 'competitor' instead of 'team' (i.e. property: homeCompetitor [Thing]).*

```
class: OrderedEvent
  comment: This class is added as a way to defined ordered
  sub-events (e.g. world series games)
  subclassOf: Event
  property: eventOrderPosition [Number]
  property: orderedSubEvent [Event]
  property: previousEvent [Event]
  property: nextEvent [Event]

class: EventStatusType
  comment: 'EventStatusType' already exists as a class of
  enumerations and we are introducing three new enumeration
  subclasses
  subclass: EventInProgress
  subclass: EventDelayed
  subclass: EventCompleted

class: CompetitionResult
  comment: This class allows for defining the results of a
  competition event. In most cases each competitor in the event
  would have their own CompetitionResult defined.
  subclassOf: Intangible
  property: competitor [Person, Organization]1
  property: rank [Number]2
  property: statistics [Statistics]3
  property: resultType [ResultType]
```

<sup>1</sup> *'competitor' would exist in both CompetitionResult and CompetitionEvent by way of 'domainIncludes'*

<sup>2</sup> *'rank' in this scope we be synonymous with 'place' or 'position'*

<sup>3</sup> *For information on the 'statistics' property, see the 'Sports Statistics' section of this proposal*

```
class: ResultType
  comment: This class defines a class of enumerations associated
  with describing the results of an event relative to a specific
  competitor.
  subclassOf: Enumeration
  subclass: Winner
  subclass: Loser
```

```
subClass: Placed
subClass: DidNotFinish
subClass: Qualified
subClass: Disqualified
```

### 1.3. Examples

#### American Football - NFC Championship Game

```
"@context": "http://schema.org",
"@type": "SportsEvent",
"name": "NFC Championship 2014",
"attendance": "35,409",
"homeTeam": "Seattle Seahawks",
"result": [{
  "@type": "CompetitionResult",
  "competitor": "Seattle Seahawks",
  "resultType": "Winner"
},{
  "@type": "CompetitionResult",
  "competitor": "San Francisco 49ers",
  "resultType": "Loser"
}]
```

#### 2010 Winter Olympics - Snowboarding Finals

```
"@context": "http://schema.org",
"@type": "SportsEvent",
"name": "2010 Winter Olympics - Snowboarding Finals",
"result": [{
  "@type": "CompetitionResult",
  "competitor": "Maelle Ricker",
  "rank": "1",
  "resultType": "Placed"
},{
  "@type": "CompetitionResult",
  "competitor": "Deborah Anthonioz",
  "rank": "2",
  "resultType": "Placed"
},{
  "@type": "CompetitionResult",
  "competitor": "Jane Doe",
  "resultType": "DidNotFinish"
}]
```

```
}}
```

## 2013 MLB World Series, Game 1, and Game 2

```
// World Series Event
"@context": "http://schema.org",
"@type": "SportsEvent",
"name": "2013 World Series",
"subEvent": {
  "@type": "OrderedEvent",
  "@id": "http://mlb.com/ws2013g1",
  "name": "Game 1",
  "eventOrderPosition": "1",
  "nextEvent": "http://mlb.com/ws2013g2"
}

// Game 1 of the World Series
"@context": "http://schema.org",
"@type": "OrderedEvent",
"superEvent": "2013 World Series",
"@id": "http://mlb.com/ws2013g1",
"name": "Game 1",
"eventOrderPosition": "1",
"nextEvent": "http://mlb.com/ws2013g2"

// Game 2 of the World Series
"@context": "http://schema.org",
"@type": "OrderedEvent",
"superEvent": "2013 World Series",
"@id": "http://mlb.com/ws2013g2",
"name": "Game 2",
"eventOrderPosition": "2",
"previousEvent": "http://mlb.com/ws2013g1",
"nextEvent": "http://mlb.com/ws2013g3"
```

## 2. Sports Organizations

### 2.1. Overview

TBD

## 2.2. Schema Definition

```
class: Organization
  comment: In order to support mapping sports teams to the
  conferences, leagues, and divisions they are members of, we are
  extending the domain of the 'memberOf' property to
  'Organization'.
  property: memberOf [Organization]
```

```
class: SportsOrganization
  comment: An new intermediate class that represents the
  collection of all sports organizations, including sports teams,
  governing bodies, and sports associations.
  subclassOf: Organization
  property: sport [Text]1
```

<sup>1</sup> *TBD whether the value of this property is expected to be simple text value (string) or an enumerated value from some listed of predefined sports.*

```
class: SportsTeam
  comment: This extends the existing 'SportsTeam' class to include
  new properties and restructures it as a subclass of the newly
  proposed 'SportsOrganization' class.
  subclassOf: SportsOrganization
  property: coach [Person]
  property: player [Person]
  property: statistics [Statistics]1
```

<sup>1</sup> *For information on the 'statistics' property, see the 'Sports Statistics' section of this proposal*

```
class: <sport>Team
  comment: For each type of sport, there are a varying set of
  roles associated with a team. For example, in American
  football, there is a 'QuarterBack Coach'. In Major League
  Baseball, there is a 'Batting Coach'. To allow for defining
  these roles and avoid overloading that 'SportsTeam' class with a
  large number of roles, the proposal is to support subclasses of
  'SportsTeam' which describe the structure of different types of
  sports teams. Examples might be 'SoccerTeam', 'BaseballTeam',
  'BasketballTeam', etc.
  subclassOf: SportsTeam
  property: <teamSpecificRole1> [Person]1
```

```
...1  
property: <teamSpecificRoleN> [Person]1
```

<sup>1</sup> Each subclass of *SportsTeam* would be able to define 'n' number of properties that represent the structure (or roles) of that type of sports team. For example, in American football, you might have the properties 'offensiveCoordinator', 'defensiveCoordinator', 'quarterback', and 'runningBack'. Note that as we define these, we need to be cognisant of the names being used across sports like 'fullBack' which describes two different types of roles depending on whether you are referring to American or European (Association) football.

## 2.3. Examples

### Seattle Seahawks - American Football Team

```
"@context": "http://schema.org",  
"@type": "AmericanFootballTeam",  
"name": "Seattle Seahawks",  
"sport": "American Football",  
"memberOf": [  
  "National Football League",  
  "National Football Conference",  
  "NFC West Division"  
]  
"coach": "Pete Carroll",  
"player": ["Russell Wilson", "Percy Harvin", "Golden Tate"]
```

// same example but using more specific semantic role properties

```
"@context": "http://schema.org",  
"@type": "AmericanFootballTeam",  
"name": "Seattle Seahawks",  
"sport": "American Football",  
"memberOf": [  
  "National Football League",  
  "National Football Conference",  
  "NFC West Division"  
]  
"headCoach": "Pete Carroll",  
"quarterback": "Russell Wilson",  
"wideReceiver": "Percy Harvin",  
"wideReceiver": "Golden Tate"
```



## 3. Sports Statistics

### 3.1. Overview

TBD

### 3.2. Schema Definition

`class: Person`

`comment: The existing 'Person' class extended to include a new property that allows attributing statistics to a person.`

`property: statistics [Statistics]`

`class: SportsTeam`

`comment: The existing 'SportsTeam' class extended to include a new property that allows attributing statistics to a person.`

`property: statistics [Statistics]`

`class: SportsResult`

`comment: For details on the 'SportsResult' class see the 'Sports Events' section of this proposal.`

`property: statistics [Statistics]`

`class: Statistics`

`comment: This class allows capturing statistics with a focus on those associated with a person or organization, scoped to a certain timeframe and / or group.`

`subClassOf: Intangible`

`property: startDate [DateTime]`

`property: endDate [DateTime]`

`property: duringEvent [Event]1`

`property: withinGroup [Text]2`

<sup>1</sup> *To make it easier to scope a set of statistics to a sports event we introduce the 'duringEvent' property'. It is expected that either a timeframe (startDate and endDate) or 'duringEvent' property will be used and not both.*

<sup>2</sup> *The 'withinGroup' property is used to support scenarios where a publisher might want to express the statistics of a person or team within the scope of a given class or grouping of teams / people (e.g. division, conference, league, class, etc..)*

`class: SportsStatistics`

`comment: This class extends the base 'Statistic' class to`

introduce a set of high level properties that describe statistics across a large number of head sports.

```
subClassOf: Statistics
property: wins
property: losses
property: draws1
property: rank2
property: points3
property: pointsBonus4
property: pointsDeducted5
property: scoreFor6
property: scoreAgainst7
property: penaltiesAgainst8
property: gamesBack9
property: winStreak
property: lossStreak
property: winPercentage10
property: scoreDifference10
property: gamesPlayed11
```

<sup>1</sup> *Draws == Ties.*

<sup>2</sup> *The rank of the competitor relative to other competitors.*

<sup>3</sup> *The ranking points accumulated by the competitor and used to determine their rank relative to other competitors. In many sports, the result of an event determines points accumulated (e.g. 0 points for loss, 1 point for tie, 3 points for win).*

<sup>4</sup> *The portion of ranking points awarded to a competitor due to special accomplishments (exists in NASCAR and Rugby for example)*

<sup>5</sup> *The ranking points deducted from a competitor - for example due to penalties / fouls / infractions.*

<sup>6</sup> *The points scored by a competitor during games / matches (e.g. goals, touchdowns, field goals, runs, and baskets).*

<sup>7</sup> *The points scored against a competitor during games / matches.*

<sup>8</sup> *The number of fouls / penalties earned by a competitor*

<sup>9</sup> See [http://en.wikipedia.org/wiki/Games\\_behind](http://en.wikipedia.org/wiki/Games_behind) for description

<sup>10</sup> *These numbers can be calculated based on the values of other properties in Statistics.*

<sup>11</sup> *Though this can be calculated for teams by way of combining wins, losses, and draws, in the scope of player statistics, this is not possible and thus the property must be made available.*

```
class: <sport>Statistics
```

```
comment: For each type of sport, there are a varying set of sport specific statistics. To allow for defining these statistics and avoid overloading the 'SportsStatistic', the proposal is to support subclasses of it.
```

```
subClassOf: SportsStatistics
property: <statistics1> [Text]1
...1
property: <statisticsN> [Text]1
```

<sup>1</sup> Each subclass of *SportsStatistics* would be able to define 'n' number of properties that represent the sport-specific statistics of that sport. Note that as we define these, we need to be cognisant of the names being used across sports like 'turnOvers' which is used in both American Football and Basketball.

## 2.3. Examples

### Seattle Seahawks - Season Stats

```
"@context": "http://schema.org",
"@type": "AmericanFootballTeam",
"name": "Seattle Seahawks",
"statistics": {
  "@type": "AmericanFootballStatistics",
  "duringEvent": "2013 Regular Season",
  "wins": "13",
  "losses": "3",
  "avgPassingYardsFor": "202.3",
  "avgPassingYardsForRank": "26",
  "avgPassingYardsAgainst": "172.0",
  "avgPassingYardsAgainstRank": "1"
}
```

### Russell Wilson - Player Stats

```
"@context": "http://schema.org",
"@type": "AmericanFootballTeam",
"name": "Seattle Seahawks",
"statistics": {
  "@type": "AmericanFootballStatistics",
  "startDate": "2013-07-01",
  "endDate": "2014-06-01",
  "passingAttempts": "407",
  "passingCompletions": "257",
  "passingTouchDowns": "26"
}
```