

## 2014 Schema.Org Sports Vocab Proposal

Version: 3.2

### Overview

The purpose of this proposal is to introduce an expanded vocabulary for describing sports information within schema.org.

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### 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.

This latest version of the proposal takes advantage of the recently introduced [Role vocabulary](#) as a means for addressing the temporal aspects of many sporting relationships. For example, in Major League Baseball, a given athlete may be a member of multiple teams, playing multiple positions, with each combination being finite and varied in length. Roles enable us to support describing this type of relationship.

# Proposal

## 1. Sports Events and Event Results (Decisions)

A new 'CompetitionEvent' superclass for 'SportsEvent' is added and introduces two new properties for describing the competitors in an event and any decisions made as a result of actions associated with the event.

Although a near innumerable number of decisions may take place over the course of an event, in most cases we expect the most decisions described to be those associated with individual or team competitors winning, losing, or placing in an event.

New properties are also added to 'SportsEvent' to allow for describing the home and away team when applicable to a sporting event.

### 1.1. CompetitionEvent

```
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
  property: resultDecision1
```

<sup>1</sup> We can imagine some point in the future where we want to attach the generic concept of a 'result' at the Event level. At that point, the expectation is that we would update 'resultDecision' to be a subproperty of 'result'. This would be a non-breaking change to the ontology.

```
property: competitor
  comment: A person or organization that competes in an event.
  domain: CompetitionEvent
  range: Person, Organization

property: resultDecision
  comment: An intangible entity that represents the judgment of a
           participant's actions in an event.
```

```

    domain: CompetitionEvent
    range: Decision

// example:
{
  "@context": "http://schema.org",
  "@type": "CompetitionEvent",
  "name": "2013 NFC Championship",
  "competitor": [
    {
      "@type": "SportsTeam",
      "name": "Seattle Seahawks"
    }, {
      "@type": "SportsTeam",
      "name": "San Francisco 49ers"
    }
  ]
}

```

## 1.2. SportsEvent

```

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
  property: awayTeam

```

```

property: homeTeam
  comment: The home team in a sports event.
  domain: SportsEvent
  range: SportsTeam1
  superProperty: competitor

```

```

property: awayTeam
  comment: The away team in a sports event.
  domain: SportsEvent
  range: SportsTeam1
  superProperty: competitor

```

<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]).

```
// example:
{
  "@context": "http://schema.org",
  "@type": "SportsEvent",
  "name": "2013 NFC Championship",
  "homeTeam": {
    "@type": "SportsTeam",
    "name": "Seattle Seahawks"
  },
  "awayTeam": {
    "@type": "SportsTeam",
    "name": "San Francisco 49ers"
  }
}
```

### 1.3. Decision

```
class: Decision
  comment: This represents the most generic type of decision that
  can result from an event or action.
  subclassOf: Intangible
  property: competitor
```

```
class: PlaceDecision
  comment: A more specific type of decision in which a place or
  rank is established as part of a competition decision.
  subclassOf: Decision
  property: place
```

```
property: numberedPosition
  comment: A numerical rank, place, or position. For example, '1'
  would represent 1st place in a competitive event.
  domain: PlaceDecision
  range: Number
```

```
class: WinDecision
  comment: A type of competition decision.
  subclassOf: Decision
```

```
class: LoseDecision
  comment: A type of competition decision.
  subclassOf: Decision
```

```
class: DidNotFinishDecision
  comment: A type of competition decision.
  subclassOf: Decision
```

```
class: QualifyDecision
  comment: A type of competition decision.
  subclassOf: Decision
```

```
class: DisqualifyDecision
  comment: A type of competition decision.
  subclassOf: Decision
```

```

// example:
{
  "@context": "http://schema.org",
  "@type": "SportsEvent",
  "name": "2013 NFC Championship",
  "homeTeam": {
    "@type": "SportsTeam",
    "name": "Seattle Seahawks"
  },
  "awayTeam": {
    "@type": "SportsTeam",
    "name": "San Francisco 49ers"
  },
  resultDecision: [
    {
      "@type": "WinDecision",
      "competitor": {
        "@type": "SportsTeam",
        "name": "Seattle Seahawks"
      }
    }, {
      "@type": "LoseDecision",
      "competitor": {
        "@type": "SportsTeam",
        "name": "San Francisco 49ers"
      }
    }
  ]
}

```

```

// example:
{
  "@context": "http://schema.org",
  "@type": "SportsEvent",
  "name": "2010 Winter Olympics - Snowboarding Finals",
  resultDecision: [
    {
      "@type": "PlaceDecision",
      "place": "1",
      "competitor": {
        "@type": "Person",
        "name": "Maelle Ricker"
      }
    }
  ]
}

```

```

    }, {
      "@type": "PlaceDecision",
      "place": "2",
      "competitor": {
        "@type": "Person",
        "name": "Deborah Anthonioz"
      }
    }, {
      "@type": "DidNotFinishDecision",
      "competitor": {
        "@type": "Person",
        "name": "Jane Doe"
      }
    }
  ]
}

```

## 1.4. EventStatusType Enumerations

**class:** EventInProgress

**comment:** A status indicating that an event has started and has not been delayed, postponed, canceled, or completed.

**typeOf:** EventStatusType

**class:** EventDelayed

**comment:** A status indicating that an event has started but is delayed. It has not yet been postponed, canceled, or completed.

**typeOf:** EventStatusType

**class:** EventCompleted

**comment:** A status indicating that an event has completed.

**typeOf:** EventStatusType

**// example:**

```

{
  "@context": "http://schema.org",
  "@type": "CompetitionEvent",
  "name": "2013 NFC Championship",
  "eventStatus": "http://schema.org/EventCompleted"
}

```



## 2. Sports Organizations

A new superclass of 'SportsTeam' is being introduced to describe organizations in the domain of sports that aren't necessarily teams. New properties for describing the athletes and coaches on a sports team are also being added.

### 2.1. Sports Organization

**property:** memberOf

**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'.

**domain:** Person, Organization

**range:** Organization

**class:** SportsOrganization

**comment:** A new intermediate class that represents the collection of all sports organizations, including sports teams, governing bodies, and sports associations.

**property:** sport

**subClassOf:** Organization

**property:** sport

**comment:** The specific sport an organization is involved in.

**domain:** SportsOrganization

**range:** Text

**// example:**

```
{
  "@context": "http://schema.org",
  "@type": "SportsOrganization",
  "name": "National Football Conference",
  "memberOf": "National Football League",
  "sport": "http://en.wikipedia.org/wiki/American\_football"
}
```

### 2.2. Sports Team

```

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: athlete [Person]

property: coach
  comment: A person that acts in a coaching role for a sports
  team.
  domain: SportsTeam
  range: Person

property: athlete
  comment: A person that acts as performing member of a sports
  team; a player as opposed to a coach.
  domain: SportsTeam
  range: Person

// example:
{
  "@context": "http://schema.org",
  "@type": "SportsTeam",
  "name": "Seattle Seahawks",
  "memberOf": "National Football League",
  "memberOf": "National Football Conference",
  "sport": "http://en.wikipedia.org/wiki/American\_football",
  "coach": {
    "@type": "Person",
    "name": "Steve Carroll"
  },
  "athlete": [
    {
      "@type": "Person",
      "name": "Russell Wilson"
    }, {
      "@type": "Person",
      "name": "Marshawn Lynch"
    }
  ]
}

```

### 3. Sports Statistics

Within the domain of sports, statistics are calculations based on the actions and result of actions performed by athletes or organizations. A pitch is thrown, a batter swings his bat, and the result is a hit, strike, or foul ball. We may count the number of pitches thrown, the number of strikes (decisions), or calculate an earned run average (ERA) based on a combination of these and other counts.

Sports statistics are almost always time or event bound. For example, we may describe the number of hits a player made during a game (event), over the course of a specific month (a time period - to indicate how 'hot' they are), or over the course of their life (time).

Our proposal for statistics attempts to meet the well understood and practical needs of the sports domain while still considering more generic and theoretical future use cases. In doing so, we also aim to make describing statistics as simple as possible. This is especially important because of the innumerable nature of statistics. Major League Baseball is a great example to help illustrate, where [according to wikipedia.org](http://according.to/wikipedia.org), there are over 110 common statistics maintained about players. This does not include statistics about the teams as a whole.

Although it might be argued that most statistics described within the domain of sports would be associated with an event, organization, or person, for simplicity we are adding a 'hasStatistic' property to 'Thing'.

Finally, it is important to note when describing a statistic, an 'event' can serve two roles; the timeframe over which the statistic was calculated or the subject of the statistic itself. For example, if you were describing the attendance at the NFL Superbowl, the subject of that statistic is the event. If you were describing the number of interceptions the Seahawks achieved during the Superbowl, the event would serve as the timeframe with the subject being the Seahawks. When describing a statistic in a preferred markup, it's important to understand in which role you are using it to make sure the 'relationship chain' is maintained. The examples provided in this document should hopefully illustrate this.

#### 3.1. Statistic and hasStatistics

```
property: hasStatistic
  comment: A numerical data point or statistic associated with a
  person or organization.
  domain: Thing
  range: Statistic
```

```
class: Statistic
  comment: This class allows capturing statistics with a focus on
  those associated with a person or organization, scoped to a
  certain timeframe.
  subclassOf: Intangible
  property: thingMeasured
  property: measuredValue
  property: startDate
  property: endDate
  property: duringEvent
```

```
property: thingMeasured
  comment: A 'thing' being measured. For example, in major league
  baseball statistics, examples of these 'things' include 'hits',
  'pitches', and 'runs'.
  domain: Statistic
  range: Thing
```

```
property: measuredValue
  comment: The numerical amount or value resulting from a
  measurement.
  domain: Statistic
  range: Number
```

```
property: duringEvent
  comment: A timeframe represented by an event.
  domain: Statistic
  range: Event
```

```
// example:
{
  "@context": "http://schema.org",
  "@type": "SportsTeam",
  "name": "Seattle Seahawks",
  "hasStatistic": [
    "@type": "Statistic",
    "thingMeasured": "http://en.wikipedia.org/wiki/Interception",
    "measuredValue": "2",
    "duringEvent": {
      "@type": "SportsEvent",
      "name": "2013 NFC Championship"
```

```
    }
  ]
}

// example
// same as above, but within context of the Statistic itself
{
  "@context": "http://schema.org",
  "@type": "Statistic",
  "thingMeasured": "http://en.wikipedia.org/wiki/Interception"
  "measuredValue": "2",
  "duringEvent": {
    "@type": "SportsEvent",
    "name": "2013 NFC Championship"
  },
  "@reverse": {
    "hasStatistic": {
      "@type": "SportsTeam",
      "name": "Seattle Seahawks"
    }
  }
}
```

```

// example
// same as two above, but within context of the event
{
  "@context": "http://schema.org",
  "@type": "SportsEvent",
  "name": "2013 NFC Championship",
  "@reverse": [
    {
      "duringEvent": {
        "@type": "Statistic",
        "thingMeasured": "http://en.wikipedia.org/wiki/Interception",
        "measuredValue": "2",
        "@reverse": {
          "hasStatistic" {
            "@type": "SportsTeam",
            "name": "Seattle Seahawks"
          }
        }
      }
    }, {
      "duringEvent": {
        "@type": "Statistic",
        "thingMeasured": "Touchdown",
        "measuredValue": "7",
        "@reverse": {
          "hasStatistic" {
            "@type": "SportsTeam",
            "name": "Seattle Seahawks"
          }
        }
      }
    }
  ]
}

```

```
// INVALID EXAMPLE
// FAILURE TO BIND EVENT TO STATISTIC
{
  "@context": "http://schema.org",
  "@type": "SportsEvent",
  "name": "2013 NFC Championship",
  "competitor": {
    "@type": "SportsTeam",
    "name": "Seattle Seahawks",
    "hasStatistic": [
      "@type": "Statistic",
      "thingMeasured": "http://en.wikipedia.org/wiki/Interception",
      "measuredValue": "2"
    ]
  }
}
```

# Change Log

## 1.0.1 - 2014/02/06

- [correction] renamed 'SportsResult' to 'CompetitionResult' within context of defining the domain of the 'statistics' property.

## 2.0.0 - 2014/02/12

- [change] removed 'statistics' as a property of 'Person', 'SportsTeam', and 'CompetitionEvent'. It now only resides as a property of 'CompetitionResult'.
- [change] removed 'startDate', 'endDate', and 'duringEvent' properties of Statistics as this temporal information will always be implied due to the new, sole usage of Statistics within the context of 'CompetitionResult' (which in turn is always bound to an event).
- [change] removed the calculated statistic types (e.g. 'gamesBehind')
- [change] renamed 'resultType' in 'CompetitionResult' to 'decision'
- [change] renamed 'ResultType' to 'CompetitionDecision' to more accurately reflect the intended semantics
- [change] updated examples to reflect changes to associated schemas

## 3.0.0 - 2014/04/23

- added additional paragraph to background section describing dependence upon Roles
- [format] expressed properties independently from classes to allow for specific descriptions
- [change] removed section under 'SportsTeam' which define sport-specific subclasses as a way to support the potential large number sport-specific binary properties describing positions in that sport a person might fill
- [change] removed 'organizingBody' as a proposed new property of 'Event'
- [change] removed 'statistic' as a property of 'CompetitionResult'; that relationship will be defined via the proposed, inherited 'datum' property of Thing
- [change] completely re-wrote section on Statistics and removed 'SportsStatistics' class

## 3.0.1 - 2014/05/09

- changed schema annotation for enums from 'subClassOf' to 'typeOf' to avoid confusion

## 3.0.2 - 2014/05/12

- fixed example of Role

## 3.0.3 - 2014/05/13

- removed classes / properties associated with ordered events; these will be handled via the proposed ItemList based model
- updated example for CompetitionEvent



### 3.0.5 - 2014/06/04

- updated Role section to match latest Role design
- removed Role from range of athlete and coach since it will be implied in new data model

### 3.1.0 - 2014/06/05

- remove 'attendance' as a property from this proposal
- updated event model to leverage 'result' / 'resultDecision' concept
- added new 'Decision' model in place of old 'CompetitionDecision' model
- updated Statistic to apply to 'Thing'
- re-wrote almost all examples

### 3.2.0 - 2014/06/06

- remove paragraph re: using URL for value of a text field
- updated Statistic to include 'measuredValue' and 'thingMeasured'
- removed entire Role section; this will be addressed in generic Role proposal