2014 Schema.Org Sports Vocab Proposal
Version: 3.0

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

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 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: attendance

property: attendance
      comment: Used for describing the attendance at an event.
      domain: Event
      range: 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
      property: result [CompetitionResult]

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

property: result
      comment: An intangible entity that represents the result of a
      competition event.
      domain: CompetitionEvent
```

range: CompetitionResult

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: SportsTeam[1]

property: awayTeam
        comment: The away team in a sports event.
        domain: SportsEvent
        range: SportsTeam[1]

[1] *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]

property: eventOrderPosition
        comment: In the context of a series of events, the ordered
        position of a specific event in that series. For example, in
        the case where three events took place in a series, the second
        event would have a eventOrderPosition value of '2'.
        domain: OrderedEvent
        range: Number

property: orderedSubEvent

comment: Allows for defining a series of events that take place
        as part of another series of events. For example, one might
        describe the innings of a Major League Baseball game as the
        orderedSubEvents of the World Series (an OrderedEvent).
        domain: OrderedEvent
        range: Number

property: previousEvent
        comment: The previous event in a series of events.
        domain: OrderedEvent
        range: Number

property: nextEvent
        comment: The next event in a series of events.
        domain: OrderedEvent
        range: Number

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

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
        property: rank
        property: decision [CompetitionDecision]

property: rank
        comment: The rank, place, or position achieved by the competitor
        as a result of a competition event.

```
      domain: CompetitionResult
      range: Number

property: decision
      comment: A judgment or decision made relative to a competitor's
      performance in a competition.
      domain: CompetitionResult
      range: CompetitionDecision
```

[3] *For information on the 'statistics' property, see the 'Sports Statistics' section of this proposal*

```
class: CompetitionDecision
      comment: This class defines an enumerated set of potential
      judgments or decisions made relative to a competitor's
      performance in a competition.
      subClassOf: Enumeration

class: WinDecision
      comment: A type of competition decision.
      typeOf: CompetitionDecision

class: LoseDecision
      comment: A type of competition decision.
      typeOf: CompetitionDecision

class: PlaceDecision
      comment: A type of competition decision.
      typeOf: CompetitionDecision

class: DidNotFinishDecision
      comment: A type of competition decision.
      typeOf: CompetitionDecision

class: QualifyDecision
      comment: A type of competition decision.
      typeOf: CompetitionDecision

class: DisqualifyDecision
      comment: A type of competition decision.
      typeOf: CompetitionDecision
```

1.3. Examples

American Football - NFC Championship Game

```
{
  "@context": "http://schema.org",
  "@type": "SportsEvent",
  "name": "NFC Championship 2014",
  "attendance": "35409",
  "homeTeam": "Seattle Seahawks",
  "result": [{
    "@type": "CompetitionResult",
    "competitor": "Seattle Seahawks",
    "decision": "WinDecision"
    },{
    "@type": "CompetitionResult",
    "competitor": "San Francisco 49ers",
    "decision": "LoseDecision"
  }]
}
```

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",
    "decision": "PlaceDecision"
    },{
    "@type": "CompetitionResult",
    "competitor": "Deborah Anthonioz",
    "rank": "2",
    "decision": "PlaceDecision"
    },{
    "@type": "CompetitionResult",
    "competitor": "Jane Doe",
    "decision": "DidNotFinishDecision"
  }]
}
```

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

```
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.
    subClassOf: Organization

property: sport
    comment: The specific sport an organization is involved in.
    domain: SportsOrganization
    range: Text[1]
```

[1] *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, Role]
    property: athlete [Person, Role]

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

```
        range: Person, Role

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, Role
```

2.3. Examples

Seattle Seahawks - American Football Team

```
{
  "@context": "http://schema.org",
  "@type": "SportsTeam",
  "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"]
}
```

** Note that in the above example, the 'coach' and 'player' properties may also have been represented by a Role. An example using this model is illustrate in section (4) which describes sports roles.

3. Sports Statistics

3.1. Overview

Supporting sports statistic descriptions is a tricky proposition.

Statistics are innumerable in nature. Major League Baseball is a great example to help illustrate, where according to wikipedia.org, there are over 110 common statistics maintained about players. This does not include statistics about the teams as a whole.

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). The new Role model gives us the ability to temporally scope a statistical relationship, but it seems a bit overkill given the significant number of potential statistical relationships something might have.

Sports statistics are calculations based on the result of actions of athletes or organizations. A pitch is **thrown**, a batter **swings** his bat, and the result is a **hit**, **strike**, or **foul ball**. Given this, should all sports statistics be described using 'Actions'? You might make this argument about statistics in general.

Finally, it is not clear what the value proposition would be for a publisher in annotating sport statistics. If a user is looking for an athlete's statistics, does showing them those statistics in search results encourage click-through to the publisher site? If a user searches for and is looking for more information on an athlete, does showing those statistics encourage click-through? In a sense, statistics are not a piece of the pie - they are pies in and of themselves.

Acknowledging the above, we might consider a more simple solution and then let publisher adoption and consumption scenarios drive further direction. Our proposed solution would be to model statistics as data points along with a timeframe. A name, label, or key that represents what the data describes, the actual data value itself, and then a timeframe represented by a start and end time or event[1].

[1] *If a statistic is defined within the scope of an Event description as a property of a competitor in that Event, should we infer it's timeframe to be that Event, or do we require an explicit description regardless?*

Given the innumerable nature of statistics, we should not attempt to enumerate them via classes either - we should allow for arbitrary literals (while encouraging standards - and ideally URIs (e.g. http://en.wikipedia.org/wiki/Stolen_base).

3.2. Schema Definition

```
property: hasStatistic
      comment: A numerical data point or statistic associated with a
      person or organization.
      domain: Person, Organization¹
      range: Statistic
```

¹ *Though one might argue statistical descriptions might be made about anything in the world, given our focus on sports statistics, we would focus our sights on persons and organizations.*

```
class: Statistic
      comment: This class allows capturing statistics with a focus on
      those associated with a person or organization, scoped to a
      certain timeframe.  The name and value of the statistic would
      leverage the existing 'name' and 'description' properties of
      Thing.
      subClassOf: Intangible
      property: startTime
      property: endTime
      property: duringEvent

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

3.3. Examples

Seattle Seahawks - American Football Team

```
{
  "@context": "http://schema.org",
  "@type": "SportsTeam",
  "name": "Seattle Seahawks",
  "sport": "American Football",
  "hasStatistic": [
    {
      "@type": "Statistic",
```

```
      "name": "Wins",
      "description": "16",
      "duringEvent": {
        "@type": "Event",
        "name": "2014-2015 Regular Season"
      }
    },{
      "@type": "Statistic",
      "name": "Losses",
      "description": "0",
      "duringEvent": {
        "@type": "Event",
        "name": "2014-2015 Regular Season"
      }
    },{
      "@type": "Statistic",
      "name": "http://en.wikipedia.org/wiki/Interception",
      "description": "32",
      "duringEvent": {
        "@type": "Event",
        "nane": "2014-2015 Regular Season"
      }
    }
  ]
}
```

4. Sports Roles

4.1. Overview
TBD

4.2. Schema Definition

```
class: OrganizationRole
     comment: A subclass of the Role enumeration which introduces
     properties that would describe the various roles associated with
     organizations.
     subClassOf: Role
     property: position [Text]¹

property: position
     comment: The position played or performed by a person during a
     sporting event for a sports team.
     domain: OrganizationRole
     range: Text¹
```

[1] *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.*

4.3. Examples

```
{
  "@context": "http://schema.org/",
  "@type": "OrganizationRole",
  "roleSubject": {
    "@type": "SportsTeam",
    "name": "San Francisco 49ers"
  },
  "roleProperty": {
    "http://schema.org/athlete"
  },
  "roleObject": {
    "@type": "Person",
    "name": "Joe Montana"
  },
  "duringTimeframe": {
    "@type": "Timeframe",
    "startDate":"1979",
```

```
      "endDate": "1992"
    },
    "position": "Quarterback"
}
```

Change Log

<u>1.0.1 - 2014/02/06</u>
- [correction] renamed 'SportsResult' to 'CompetitionResult' within context of defining the domain of the 'statistics' property.

<u>2.0.0 - 2014/02/12</u>
- [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 'CompetionResult' to 'decision'
- [change] renamed 'ResultType' to 'CompetitionDecision' to more accurate reflect the intended semantics
- [change] updated examples to reflect changes to associated schemas

<u>3.0.0 - 2014/04/23</u>
- 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

<u>3.0.1 - 2014/05/09</u>
- changed schema annotation for enums from 'subClassOf' to 'typeOf' to avoid confusion