

Assignment 1: Ontology Design

(Theory and Application of Ontologies)

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Ontology Design for Event Management System in IIT Madras

IIT Madras is one of the premiere engineering institutions of India. Like any engineering college, it also organises a lot of events. Our group in this assignment is trying to design an Ontological knowledge base for the various events organised in the college.

We have broadly divided the events in three categories.

1. Shaastra and Saarang
2. Sports Events
3. Leisure time Activities

We have chosen this topic for our Ontology Design as it is very diverse and challenging involving various design verticals to be considered while designing our TBox and ABox.

1 Concept Names

The Concept Names used in this assignment for the Ontological design has been listed as follows :-

1. Activity
2. Venue
3. Time
4. Duration
5. Field
6. Person
7. Money
8. Fest
9. Student
10. Organization
11. Advertisement
12. Event
13. EventWebpage
14. SocialMediaWebpage
15. Sponsor
16. Volunteer
17. Club
18. Committee
19. SpecialGuest
20. CampusAmbassador
21. SpotlightLectureSeries

22. SpotlightSpeaker
23. Hackathon
24. Robowars
25. SocialInitiative
26. Workshop
27. PUBGWars
28. Contest
29. MegaContest
30. MiniContest
31. OnlineContest
32. OnlinePlatform
33. Campaign
34. AwarenessPosters
35. Hashtags
36. Concert
37. PrimeShow
38. LiteraryEvent
39. Literature
40. Games
41. TeamEvent
42. LongCompetition
43. AccomodationTeam
44. PRTeam
45. PublicRelation
46. DayCelebration

- 47. GiftsandprizesTeam
- 48. Giftsandprizes
- 49. MoneyEvent
- 50. Poster
- 51. EventPromotion
- 52. SocialMessage
- 53. EducationalMessage
- 54. EntertainmentMessage
- 55. SocialMedia
- 56. OnlineTrends
- 57. Form
- 58. GoogleForm
- 59. Participation
- 60. Polling
- 61. ContestWinner
- 62. ContestLoser
- 63. ShowStopper
- 64. Band
- 65. Faculty
- 66. OneDayEvent
- 67. MultipleDayEvent
- 68. SportsName
- 69. QuizTeam
- 70. DeclamationTeam
- 71. Topic

- 72. AcademicTopic
- 73. NonAcademicTopic
- 74. GuestSpeaker
- 75. Talk
- 76. Team
- 77. IITName
- 78. DeptName
- 79. Captain
- 80. Staff
- 81. Day
- 82. Points
- 83. Coach

2 Role Names

The Role Names used in this assignment for the Ontological design has been listed as follows :-

1. scheduledAt
2. hasStartTime
3. hasEndTime
4. assists
5. comprisesOf
6. affiliatedWith
7. hasPrize
8. participatedBy
9. organizedBy
10. organizes
11. hasMembers
12. givenBy
13. attendedBy
14. attends
15. invites
16. specializesIn
17. donates
18. purpose
19. manages
20. managedBy
21. hasPartner

- 22. interestedIn
- 23. hasTeams
- 24. promotes
- 25. hostedIn
- 26. isAdvertisedBy
- 27. hasPrizesAndGifts
- 28. isCampaignedBy
- 29. hasMotive
- 30. usedFor
- 31. usedIn
- 32. recognisedBy
- 33. hasEntryFee
- 34. plays
- 35. hasQuizTeam
- 36. hasDelamationTeam
- 37. Topic
- 38. hasEvent
- 39. hasSpeaker
- 40. hasPractical
- 41. hasSportsName
- 42. hasSportsTeam
- 43. hasContestWinner
- 44. hasContestLoser
- 45. hasPlayer
- 46. hasCaptain

- 47. hasCoach
- 48. awarded
- 49. hasCategory
- 50. playedFor
- 51. hasWon
- 52. hasLost
- 53. hasPlayed
- 54. heldOn

3 Concept Description(TBoxes)

3.1 Shaastra and Saarang

Shaastra and Saarang are the annual technical and Cultural festivals of IIT Madras. The TBox description for them are as follows:-

1. $\text{Event} \equiv \text{Activity} \sqcap \exists \text{ scheduledAt.Venue} \sqcap \exists \text{ hasStartTime.Time} \sqcap \exists \text{ hasEndTime.Time}$
Explanation : Event is an activity that is scheduled at a venue and has start time and end time.
2. $\text{OneDayEvent} \equiv \text{Event} \sqcap = 1 \text{ heldOn.Day}$
Explanation: One Day Event is a event which is concluded in a single day.
3. $\text{MultipleDayEvent} \equiv \text{Event} \sqcap \geq 1 \text{ heldOn.Day}$
Explanation: Multiple Day Event is a event which is concluded in at least two days.
4. $\text{Fest} \equiv \geq 50 \text{ comprisesof. Event} \sqcap \geq 50 \text{ managedBy.Club}$
Explanation : Fest is a collection of many events which are managed by a committee. It can be either technical or cultural and is managed by many clubs together.
5. $\text{Volunteer} \equiv \text{Student} \sqcap \exists \text{ assists.Event}$
Explanation : Volunteer is a student who assists in at least one event.
Motivation/Example: These are students who assist in many events in festivals.
6. $\text{Contest} \equiv \text{Event} \sqcap \exists \text{ hasWinner.ContestWinner} \sqcap \exists \text{ hasLoser.ContestLoser} \sqcap \exists \text{ hasPrizesAndGifts.Money}$
Explanation: Contests are events which have at least one winner. Some contests have prize money while others have gifts.
Motivation/Example: Without competitive spirit, the events become boring. Hence having quite a few contests and prize money increases interest.
7. $\text{MoneyEvent} \equiv \text{Event} \sqcap \exists \text{ hasEntryFee.Money}$
Explanation: Money-events are events which have entry fee and which have start as well as end time.

Motivation/Example: Money-events are required to manage and pay the high profile guests which indeed give the event some shine and credibility.

8. $\text{Team} \sqsubseteq \geq 2 \text{ hasMembers.Person}$

Explanation: Anything which has more than two person as members is a team.

Motivation/Example: This is self explanatory. Teams participate in many events that happen during festivals like Sports, Academic, Cultural events.

9. $\text{Sponsor} \equiv \text{Organization} \sqcap \exists \text{ donates.Money} \sqcap \forall \text{ purpose. Advertisement}$

Explanation: Sponsor is an organization that donates amount for advertisement.

Motivation/Example: Sponsor provide financial support to our festivals in exchange of advertisement. This year Socure was the chief sponsor of Shaastra 2020.

10. $\text{Committee} \equiv \text{Team} \sqcap \forall \text{ manages.Event}$

Explanation: Committee is a team that manages all the events.

Motivation/Example: The committee which is responsible for managing and organizing events in a festival. There is a core committee and various other committees like Marketing, Sponsorship etc.

11. $\text{Club} \equiv \text{Team} \sqcap \geq 1 \text{ interestedIn.Field} \sqcap \exists \text{ organizes.Event}$

Explanation: Club is a team that is interested in at least one field and organizes event.

Motivation/Example: There are various clubs in our college like CFI, SRA, SAE etc.

12. $\text{CampusAmbassador} \equiv \text{Student} \sqcap \exists \text{ affiliatedWith.}\{\neg \text{IITM}\} \sqcap \exists \text{ promotes.Event}$

Explanation: Campus Ambassador is a student who is not affiliated to IIT Madras and promotes event.

Motivation/Example: These are generally students from other colleges who promotes events of our festivals in their respective colleges.

13. $\text{SpotlightLectureSeries} \equiv \text{Event} \sqcap \exists \text{ attendedBy.}\top \sqcap = 1 \text{ givenBy.SpotlightSpeaker}$

Explanation: Spotlight Lecture series is an event that is attended by anyone and is given by exactly one Spotlight speaker.

Motivation/Example: It is a guest lecture series for students which is given by experts.

14. SpotlightSpeaker \equiv Person $\sqcap \exists \text{ specializesIn.Field}$

Explanation: Spotlight speaker is a person who specializes in at least one field.

Motivation/Example: These are people who are an expert in their respective fields like IT, Administration etc and have won accolades.

15. Hackathon \equiv Event $\sqcap \geq 2 \text{ participatedBy.Team} \sqcap \exists \text{ organizedBy.}\{\text{ProgrammingClub}\} \sqcap \exists \text{ hasPrize.Money}$

Explanation: Hackathon is an event that has at least 2 teams participating and is organized by Programming Club and has money prize.

Motivation/Example: This is quite self explanatory and is pretty common nowadays in technical festivals across colleges.

16. Robowars \equiv Event $\sqcap \geq 2 \text{ participatedBy.Team} \sqcap \exists \text{ organizedBy.}\{\text{SRA}\} \sqcap \exists \text{ hasPrize.Money}$

Explanation: Robowars is an event that has at least 2 teams participating and is organized by SRA and has money prize.

Motivation/Example: This is quite self explanatory and is pretty common nowadays in technical festivals across colleges.

17. SocialInitiative \equiv Event $\sqcap \geq 5 \text{ participatedBy.Volunteer} \sqcap \exists \text{ hasPartner.Organization}$

Explanation: Social initiative is an event that is participated by at least five volunteers and has some organization as partner.

Motivation/Example: Social initiatives like teaching the under privileged and cleanliness are undertaken by volunteers.

18. Workshop \equiv Event $\sqcap \exists \text{ attends}^-. \text{Student} \sqcap \exists \text{ organizedBy.Club}$

Explanation: Workshop is an event in which students attend and is organized by some club.

Motivation/Example: Many clubs organizes workshops like 3D printing, AIML, Investment etc. for students.

19. PUBGWars \equiv Event $\sqcap \exists \text{ participatedBy.Team} \sqcap \leq 12 \text{ hasTeams.Team} \sqcap \text{ playedOn.}\{\text{PS4}\} \sqcap \exists \text{ hasPrize.Money}$

Explanation: PUBGWars is an event that is participated by teams and at most 12 teams can participate and has money as prize.

Motivation/Example: Gaming contests are quite common in technical festivals.

20. $\text{MegaContest} \equiv \text{Contest} \sqcap \exists \text{isSponsoredBy.Sponsor} \sqcap \exists \text{hasPrizesAndGifts. Money} \sqcap \geq 50 \text{participatedBy.Person}$
Explanation: Mega Contests are contests which have either prize money. Participation occurs on a large scale and they require special attention.
Motivation/Example: Some are mega contests conducted on a large scale like Treasure Hunt while others are mini contests like stand up comedy.
21. $\text{MiniContest} \equiv \text{Contest} \sqcap \exists \text{isSponsoredBy.Club} \sqcap \leq 50 \text{participatedBy.Person}$
Explanation: Mini Contests are contests in which participation occurs on a small scale. They act as fillers in the complete fests and are special in their own ways.
Motivation/Example: Some are mega contests, like treasure hunt conducted on a large scale while others are mini contests like stand-up comedy.
22. $\text{Campaign} \equiv \text{Event} \sqcap \geq 30 \text{campaignedBy.Person} \sqcap \geq 2 \text{organisedBy.Club}$
Explanation: Campaigns are also event which bring people together for a common cause, which is either social or technical.
Motivation/Example: Campaigns like LEAP Campaign 2020 are important part of the complete event setup.
23. $\text{AwarenessPosters} \equiv \text{Poster} \sqcap \exists \text{isAdvertisedBy.Club} \sqcap \forall \text{hasMotive. SocialMessage} \sqcap \exists \text{preparedBy.Club}$
Explanation: Awareness posters are prepared and advertised by awareness clubs like MITRA. They help in spreading awareness and helps up in a social or medical awareness cause like COVID-19 posters.
Motivation/Example: Global issues like COVID-19 need to be looked into even more seriously which is done by awareness posters.
24. $\text{EventPromotion} \equiv \text{Event} \sqcap \exists \text{promotes.Event}$
Explanation: Event Promotion is an event done for promoting any other event.
Motivation/Example: It is self explanatory.
25. $\text{Hashtags} \equiv \text{EventPromotion} \sqcap \exists \text{usedFor.SocialAdvertisement} \sqcap \forall \text{purpose.OnlineTrends} \sqcap \forall \text{usedIn.SocialMedia}$
Explanation: Hashtags are used in social media for generating mass appeal and used to create online trends.
Motivation/Example: Social media is of huge advertising importance nowadays, and hashtags help in creating social media trend.

26. $\text{Concert} \equiv \text{MoneyEvents} \sqcap \exists \text{ givenBy.Bands} \sqcap \forall \text{ purpose.Entertainment} \sqcap \geq 100 \text{ attendedBy.Person}$
Explanation: Concerts are events which are given by bands and attended by people for entertainment purpose.
Motivation/Example: Concerts are the heart of the musical shows, which form an important part in any cultural fest.
27. $\text{PrimeShow} \equiv \text{MoneyEvent} \sqcap \forall \text{ givenBy.ShowStopper} \sqcap \forall \text{ purpose.Entertainment} \sqcap \geq 500 \text{ attendedBy.Person}$
Explanation: Prime show is generally the final event given by the show-stopper who is the main celebrity guest, who may be a big singer and its attended by at least 500 people.
Motivation/Example: Prime show is the main reason the fests or events become more famous.
28. $\text{ShowStopper} \equiv \text{Person} \sqcap \exists \text{ specialisesIn.Field} \sqcap \geq_{\text{million}} \text{ recognisedBy.Person}$
Explanation: Show-stopper is a person who specialises in any genre and is famous and known my millions in the country or globe.
Motivation/Example: Show-stoppers are the heart of any big and famous event.
29. $\text{AccomodationTeam} \equiv \text{Committee} \sqcap \forall \text{ purpose.Accomodation}$
Explanation: Accommodation teams are people from management team who provide accommodation.
Motivation/Example: Accommodation is required to be managed for the people who come from different colleges from india.
30. $\text{GiftsandprizesTeam} \equiv \text{Committee} \sqcap \forall \text{ purpose.Giftsandprizes}$
Explanation: Gifts and prizes team is a team of people from management team who arrange for gifts and prizes for competition winners.
Motivation/Example: Gifts and prizes are required for extra motivation for participants.
31. $\text{PublicRelation} \equiv \text{Activity} \sqcap \exists \text{ manages.}(\text{EventWebpage} \sqcap \text{SocialMediaWebpage}) \sqcap \forall \text{ promote.Event} \sqcap \forall \text{ invites.}(\text{Specialguest} \sqcap \text{ShowStopper}) \sqcap \exists \text{ hasMotive.OnlineTrends}$
Explanation: Public Relation involves managing event as well as social media web page of event and promoting events. It also involves bringing in eminent guests of honor and show-stopper.
Motivation/Example: Public Relation is useful for event to reach out to wider audience.

32. $PRTeam \equiv Committee \sqcap \forall purpose.PublicRelation \sqcap \forall promotes.Sponsors$
Explanation: PR team is a team of people from management team who are involved in public relation.
Motivation/Example: For public relation, a sub-committee needs to be formed since its not trivial.
33. $GoogleForm \equiv Form \sqcap \forall purpose.(Participation \sqcap Polling)$
Explanation: Google forms are used for managing participants as well as collecting their data as well as for polling purposes.
Motivation/Example: Without google forms, participants and teams nowadays become difficult to maintain a list of.
34. $LiteraryEvent \equiv Contest \sqcap \exists relatedTo.Literature \sqcap \exists managedBy.Club$
Explanation: Literary events are managed by some literary clubs and is related to literature and art.
Motivation/Example: Examples of literary events are Creative writing,story tailor, etc. There are quite a few literary events held in fests.
35. $TeamEvent \equiv Event \sqcap \forall participatedBy.Team \sqcap \exists managedBy.Club$
Explanation: Team events are participated by teams only and are managed by clubs.
Motivation/Example: Its important to segregate events as team or individual events, so that we take care of venue to support team events which require a bigger venue.Eg:- Band Hunt.
36. $DayCelebration \equiv Event \sqcap \forall isAdvertisedBy.PRTeam \sqcap \exists hasMotive.OnlineTrends \sqcap \geq 1 comprisesOf.Hashtags \sqcap \geq 2 scheduledAt.SocialMedia$
Explanation: Day Celebration is advertised by PR Team, with setting online trends in mind. It comprises of hashtags in social media.
Motivation/Example: Day Celebration is useful as it indirectly increases no of event followers in social media like Facebook,Instagram, etc. Eg: World LOGO Day.
37. $OnlineContest \equiv Contest \sqcap \exists managedBy.Club \sqcap \forall hostedIn.OnlinePlatform$
Explanation: Online Contests are contests which are held online.
Motivation/Example: Examples are programming contests, which are hosted online.
38. $OnlineGaming \equiv OnlineContest \sqcap \forall affiliatedWith.Game$
Explanation: Online Gaming Contests are online video games man-

aged by clubs.

Motivation/Example: Examples are FIFA-20, DOTA,etc, which attract lots of video game fanatic participants from all around country.

39. $\text{LongCompetition} \equiv \text{Contest} \sqcap \forall \text{participatedBy}.\text{Team} \sqcap \geq 2 \text{ managedBy}.\text{Club} \sqcap \exists \text{hasDuration} . (\text{OneDayEvent} \sqcup \text{MultipleDayEvent})$

Explanation: Long Competitions are contests which are at least one day long and are managed by at least 2 clubs.

Motivation/Example: Long Competitions need special attention and better management. They maintain intrigue and suspense longer than other contests.Eg- Treasure hunt.

40. $\text{ContestWinner} \equiv (\text{Person} \sqcup \text{Team}) \sqcap \exists \text{hasWonContest}$

Explanation: A Winner of contest is a person or a team who won that contest.

Motivation/Example: This is self explanatory.

41. $\text{ContestLoser} \equiv (\text{Person} \sqcup \text{Team}) \sqcap \exists \text{haslostContest}$

Explanation: A loser of contest is a person or a team who lost that contest.

Motivation/Example: This is self explanatory.

3.2 Sports Events

IIT Madras organises a lot of sports events in the institute where each department will be represented by a team in the respective field. The TBox description for them are as follows:-

1. $\text{Player} \sqsubseteq (\text{Student} \sqcup \text{Faculty})$

Explanation: Player can be a student or faculty.

Motivation/Example: This is self explanatory.

2. $\text{Coach} \equiv \text{Person} \sqcap \geq 3 \text{playedFor}.\text{Year} \sqcap \geq 50 \text{hasPlayed}.\text{Match}$

Explanation: Coach is a person who has played at least 50 matches and played for a minimum duration of 3 years .

Motivation/Example: This is self explanatory.

3. $\text{CricketTeam} \sqsubseteq \text{SportsTeam} \sqcap \geq 11 \text{hasPlayer}.\text{Player} \sqcap = 1 \text{hasCoach}.\text{Coach} \sqcap = 1 \text{hasCaptain}.\text{Captain}$

Explanation: Cricket Team comprises of 11 players, a coach and a captain.

Motivation/Example: Cricket Team of Brahmaputra Hostel at IIT Madras.

4. $\text{FootballTeam} \sqsubseteq \text{SportsTeam} \sqcap \geq 11 \text{hasPlayer}.\text{Player} \sqcap = 1 \text{hasCoach}.\text{Coach} \sqcap = 1 \text{hasCaptain}.\text{Captain}$

Explanation: Football Team comprises of 11 players, a coach and a captain.

Motivation/Example: Football Team of Brahmaputra Hostel at IIT Madras.

5. $\text{HockeyTeam} \sqsubseteq \text{SportsTeam} \sqcap \geq 11 \text{hasPlayer}.\text{Player} \sqcap = 1 \text{hasCoach}.\text{Coach} \sqcap = 1 \text{hasCaptain}.\text{Captain}$

Explanation: Hockey Team comprises of 11 players, a coach and a captain.

Motivation/Example: Football Team of Brahmaputra Hostel at IIT Madras.

6. $\text{BasketballTeam} \sqsubseteq \text{SportsTeam} \sqcap \geq 5 \text{hasPlayer}.\text{Player} \sqcap = 1 \text{hasCoach}.\text{Coach} \sqcap = 1 \text{hasCaptain}.\text{Captain}$

Explanation: Basketball Team comprises of 5 players, a coach and a captain.

Motivation/Example: Basketball Team of Brahmaputra Hostel at IIT Madras.

7. $\text{VolleyballTeam} \sqsubseteq \text{SportsTeam} \sqcap \geq 6\text{hasPlayer.Player} \sqcap = 1\text{hasCoach.Coach} \sqcap = 1\text{hasCaptain.Captain}$
Explanation: Volleyball Team comprises of 6 players, a coach and a captain.
Motivation/Example: Volleyball Team of Brahmaputra Hostel at IIT Madras.
8. $\text{TennisTeam} \sqsubseteq \text{SportsTeam} \sqcap \geq 2\text{hasPlayer.Player} \sqcap = 1\text{hasCoach.Coach} \sqcap = 1\text{hasCaptain.Captain}$
Explanation: Tennis Team comprises of 2 players, a coach and a captain.
Motivation/Example: Tennis Team of Brahmaputra Hostel at IIT Madras.
9. $\text{CricketMatch} \equiv \text{Sport} \sqcap = 2\text{participatedBy.CricketTeam} \sqcap \exists\text{hasOutcome} (\text{SportsWinner} \sqcup \text{SportsLoser}) \sqcap \exists\text{heldOn.Day}$
Explanation: Cricket match is an event that is played between two cricket teams at a venue on a specified date. It has either a winner or a loser.
Motivation/Example: A Cricket match played between teams of Brahmaputra Hostel and Tunga Hostel at IIT Madras where Tunga lost and Brahmaputra Hostel won the match.
10. $\text{FootballMatch} \equiv \text{Sport} \sqcap = 2\text{participatedBy.FootballTeam} \sqcap \exists\text{hasOutcome} (\text{SportsWinner} \sqcup \text{SportsLoser}) \sqcap \exists\text{heldOn.Day}$
Explanation: Football match is an event that is played between two football teams at a venue on a specified date. It has either a winner or a loser.
Motivation/Example: A Football match played between teams of Brahmaputra Hostel and Tunga Hostel at IIT Madras where Tunga lost and Brahmaputra Hostel won the match.
11. $\text{HockeyMatch} \equiv \text{Sport} \sqcap = 2\text{participatedBy.HockeyTeam} \sqcap \exists\text{hasOutcome} (\text{SportsWinner} \sqcup \text{SportsLoser}) \sqcap \exists\text{heldOn.Day}$
Explanation: Hockey match is an event that is played between two hockey teams at a venue on a specified date. It has either a winner or a loser.
Motivation/Example: A Hockey match played between teams of Brahmaputra Hostel and Tunga Hostel at IIT Madras where Tunga lost and Brahmaputra Hostel won the match.
12. $\text{BasketballMatch} \equiv \text{Sport} \sqcap = 2\text{participatedBy.BasketballTeam} \sqcap \exists\text{hasOutcome} (\text{SportsWinner} \sqcup \text{SportsLoser}) \sqcap \exists\text{heldOn.Day}$

Explanation: Basketball match is an event that is played between two basketball teams at a venue on a specified date. It has either a winner or a loser.

Motivation/Example: A Basketball match played between teams of Brahmaputra Hostel and Tunga Hostel at IIT Madras where Tunga lost and Brahmaputra Hostel won the match.

13. $\text{VolleyballMatch} \equiv \text{Sport} \sqcap = 2\text{participatedBy.VolleyballTeam} \sqcap \exists \text{hasOutcome} (\text{SportsWinner} \sqcup \text{SportsLoser}) \sqcap \exists \text{heldOn.Day}$

Explanation: Volleyball match is an event that is played between two volleyball teams at a venue on a specified date. It has either a winner or a loser.

Motivation/Example: A Volleyball match played between teams of Brahmaputra Hostel and Tunga Hostel at IIT Madras where Tunga lost and Brahmaputra Hostel won the match.

14. $\text{TennisMatch} \equiv \text{Sport} \sqcap = 2\text{participatedBy.TennisTeam} \sqcap \exists \text{hasOutcome} (\text{SportsWinner} \sqcup \text{SportsLoser}) \sqcap \exists \text{heldOn.Day}$

Explanation: Tennis match is an event that is played between two tennis teams at a venue on a specified date. It has either a winner or a loser.

Motivation/Example: A Tennis match played between teams of Brahmaputra Hostel and Tunga Hostel at IIT Madras where Tunga lost and Brahmaputra Hostel won the match.

15. $\text{SportsTeam} \equiv (\text{CricketTeam} \sqcup \text{FootballTeam} \sqcup \text{HockeyTeam} \sqcup \text{BasketballTeam} \sqcup \text{VolleyballTeam} \sqcup \text{TennisTeam})$

Explanation: All teams of all sports are under one category i.e. Team.

Motivation/Example: This is self explanatory.

16. $\text{SportsWinner} \equiv (\text{Person} \sqcup \text{Team}) \sqcap \exists \text{hasWonSport} \sqcap = 2\text{awarded.Points}$

Explanation: Winner of every match will be awarded 2 points which will contribute towards the sports banner.

Motivation/Example: This is self explanatory.

17. $\text{SportsLoser} \equiv (\text{Person} \sqcup \text{Team}) \sqcap \exists \text{haslostSport} \sqcap = 0\text{awarded.Points}$

Explanation: Loser of every match will be awarded zero points.

Motivation/Example: This is self explanatory.

3.3 Leisure time Activities

Apart from various events and activities being organised by the IIT Madras, our college also organises plethora of leisure time activities like quizzes, debates and declamations. These help in improving the interpersonal skills in terms of public speaking and academic and general awareness. The TBox Descriptions for them are as follows:-

1. $\text{QuizTeam} \sqsubseteq \text{Team} \sqcap = 3\text{hasMembers.Student}$

Explanation: A quiz team will consist of 3 members who are students.

Motivation/Example: There are many clubs and Quiz Team in IIT Madras.

2. $\text{Topic} \equiv \text{AcademicTopic} \sqcup \text{NonAcademicTopic}$

Explanation: Topic can be a academic or a non-academic topic for quizzes and declamations.

Motivation/Example: There are quizzes organised by clubs in IIT Madras.

3. $\text{Quiz} \equiv \text{LeisureTimeActivities} \sqcap \text{OneDayEvent} \sqcap \geq 3\text{hasQuizTeam}.$

$\text{QuizTeam} \sqcap = 1\text{hasTopic.Topic} \sqcap = 1\text{scheduledAt.Venue}$

Explanation: Quiz is a one day competition on academic or non academic topic between more three or more teams.

Motivation/Example: This is self explanatory.

4. $\text{DeclamationTeam} \sqsubseteq \text{Team} \sqcap = 1\text{hasMembers.Student}$

Explanation: Each declamation team consists of one student member only.

Motivation/Example: This is self explanatory.

5. $\text{Declamation} \equiv \text{LeisureTimeActivities} \sqcap \text{OneDayEvent} \sqcap = 1\text{hasTopic.Topic} \sqcap = 1\text{scheduledAt.Venue} \sqcap \geq 2\text{hasDeclamationTeam.DeclamationTeam}$

Explanation: Declamation is a one day competition where in students deliver their views on a particular academic or non academic topic.

Motivation/Example: This is self explanatory.

4 Conclusion

This concludes our Ontological Design for the various events being organised in IIT Madras.