

Project Timeout

Design Specifications Document

Revision 2.0
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Revision History

Revision	Date	Explanation
1.0	16.03.2015	Initial design specification document
2.0	23.05.2015	Detailed design specification document

Table of Contents

Revision History	2
Table of Contents.....	3
1. Introduction	5
2. System Design	5
2.1. Software Architecture.....	5
2.2. Software System Components.....	5
2.2.1. Package Diagram.....	5
2.2.2. Class Diagram.....	6
2.2.3. Sequence Diagram.....	7
2.3. Environment	8
3. Detailed Design:	8
3.1. App Package (Backend Part).....	8
3.1.1. Class ActionRestServices.java	8
3.1.2. Class Application.java	9
3.1.3. Class CustomTypeRestServices.java.....	9
3.1.4. Class FriendshipRestServices.java	9
3.1.5. Class MembersRestServices.java	9
3.1.6. Class RecommendationRestServices.java	9
3.1.7. Class SearchRestServices.java	9
3.1.8. Class TrivialRestServices.java	9
3.1.9. Class UserRestServices.java.....	9
3.2. Common Package (Backend Part).....	10
3.2.1. Class BusinessException.java	10
3.2.2. Class DBUtility.java.....	10
3.2.3. Class EntityManagerHolder.java.....	10
3.2.4. Class ErrorMessages.java	10
3.2.5. Class ResponseHeader.java	10
3.3. Dto Package (Backend Part).....	10
3.3.1. Class ActionDTO.java.....	10
3.4. Entity Package (Backend Part)	10
3.4.1. Class Action.java	10
3.4.2. Class ActionInvitation.java	11
3.4.3. Class ActionRecommendation.java.....	11
3.4.4. Class ActionTag.java.....	11
3.4.5. Class ActionUser.java	11
3.4.6. Class Attribute.java	12
3.4.7. Class AttributeValue.java	12
3.4.8. Class Comment.java	12
3.4.9. Class CustomType.java	12
3.4.10. Class Event.java.....	12
3.4.11. Class Friendship.java.....	12
3.4.12. Class Greeting.java.....	13
3.4.13. Class Group.java.....	13
3.4.14. Class Location.java.....	13
3.4.15. Class Notification.java.....	13
3.4.16. Class Post.java	13
3.4.17. Class Role.java	14

3.4.18. Class Session.java.....	14
3.4.19. Class Tag.java.....	14
3.4.20. Class User.java	14
3.4.21. Class UserBasicInfo.java.....	15
3.4.22. Class UserCommInfo.java.....	15
3.4.23. Class UserExtraInfo.java	15
3.4.24. Class UserRecommendation.java	16
3.4.25. Class UserTag.java	16
3.5. Enums Package (Backend Part).....	16
3.5.1. Class ActionType.java.....	16
3.5.2. Class ActionUserStatus.java.....	16
3.5.3. Class FriendshipStatus.java	16
3.5.4. Class PrivacyType.java	16
3.6. Helpers Package (Backend Part)	16
3.6.1. Class ServiceHelper.java	16
3.6.2. Class ValidationHelper.java	17
3.7. Recommendation Package (Backend Part).....	17
3.7.1. Class RecommendationEngine.java	17
3.8. Repository Package (Backend Part)	17
3.8.1. Class ActionRepository.java	17
3.8.2. Class CustomTypeRepository.java.....	17
3.8.3. Class FriendshipRepository.java	18
3.8.4. Class UserRepository.java.....	18
3.9. HTML Files (Frontend Part).....	18
3.10. CSS Files (Frontend Part).....	18
3.11. Javascript Files (Frontend Part).....	18
4. Testing Design	19
5. References	19

1. Introduction

The purpose of the software project is to develop the Timeout Project in Java, to do mainly the following.

1. The system offers a platform for the CMPE society to meet each other, talk about common interests and so know each other better and socialize.
2. The users can create new interest groups or new events, which others can join to.

The design is based on Timeout Project Requirements Specification Document, Version1.0, available on Wiki. The software architecture and overall high-level structure and components, and also the detailed design of the Timeout project in terms of classes of the project are given in Section 2 and design details of all application functions and the user interface in terms of methods of all classes and activity diagrams are given in Section 3 of this document.

2. System Design

2.1. Software Architecture

In this project layered architecture will be used.

2.2. Software System Components

2.2.1. Package Diagram

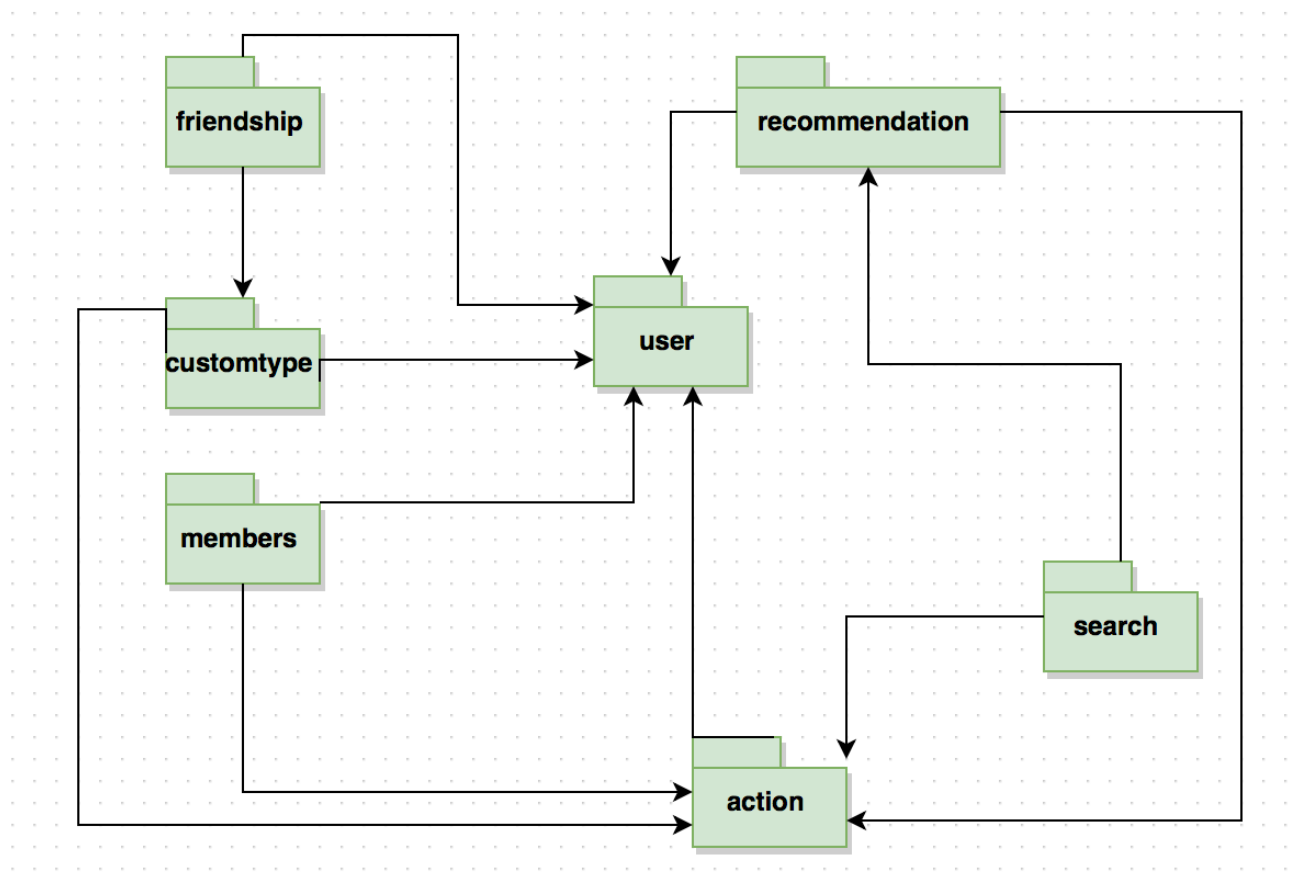


Figure 2: Project Timeout Package Diagram

2.2.2. Class Diagram

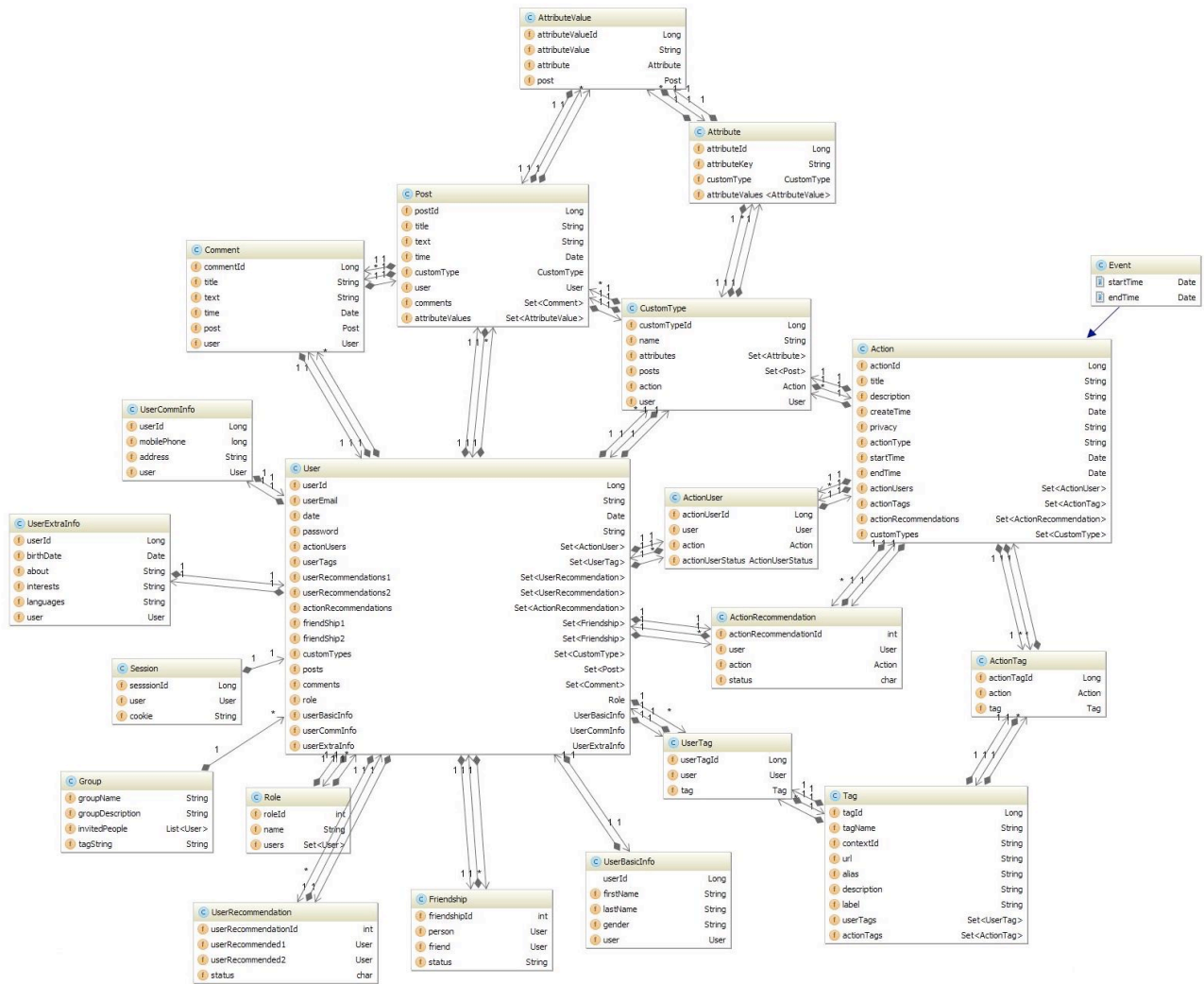


Figure 3: Project Timeout Class Diagram

2.2.3. Sequence Diagram

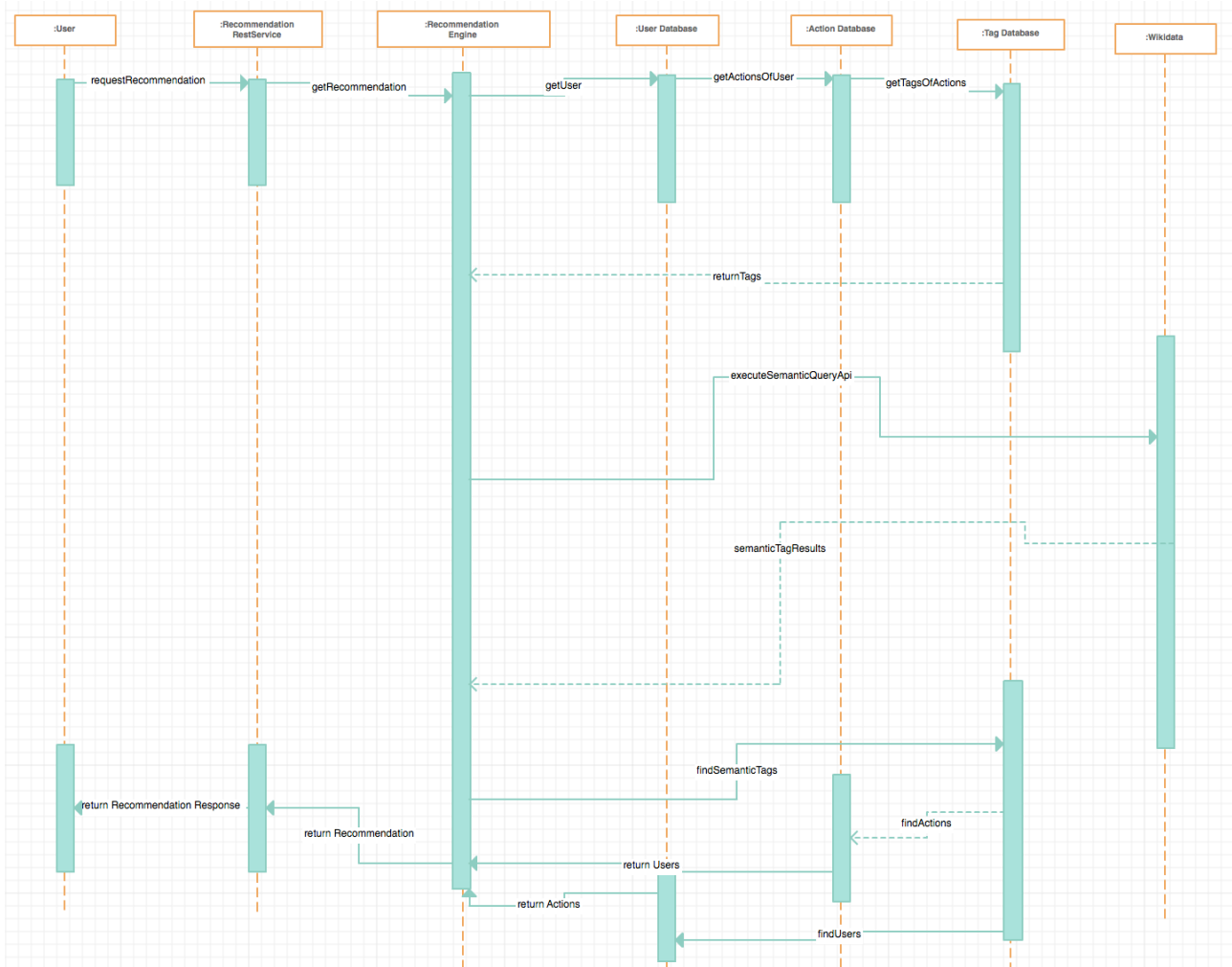


Figure 4: Project Timeout Semantic Search Sequence Diagram

In order to accomplish semantic search algorithm, we need to get semantic data from the user. We collect the data in two different ways.

- 1) Previous searched items
- 2) Tags and context, which are added while creating groups and events

First Step: The user enters his/her keyword in the “search” field.

Second Step:

The <https://www.wikidata.org/w/api.php?action=wbsearchentities&search=cat&format=json&language=en> is called. In this example, cat is entered as a keyword.

Third Step: Wikidata api returns all the items that contains the word cat in their title with their descriptions. In this example, the API returns the following items.

```
"id": "Q146",
"url": "http://www.wikidata.org/wiki/Q146",
"description": "domesticated species of feline",
"label": "cat"
```

```
"id": "Q300918",
"url": "http://www.wikidata.org/wiki/Q300918",
"description": "Unix utility that concatenates and lists files",
"label": "cat"
```

```
"id": "Q1022892",  
"url": "http://www.wikidata.org/wiki/Q1022892",  
"description": "Wikipedia disambiguation page",  
"label": "Cat"
```

```
"id": "Q607229",  
"url": "http://www.wikidata.org/wiki/Q607229",  
"description": "airliner",  
"label": "An-10 Ukraina"
```

```
"id": "Q5050998",  
"url": "http://www.wikidata.org/wiki/Q5050998",  
"description": "fictional character in Red Dwarf",  
"label": "Cat"
```

```
"id": "Q2961479",  
"url": "http://www.wikidata.org/wiki/Q2961479",  
"description": "cats in heraldry",  
"label": "Cat"
```

```
"id": "Q13564880",  
"url": "http://www.wikidata.org/wiki/Q13564880",  
"description": "Wikimedia set index page",  
"label": "Cat"
```

Fourth Step: When the user selects the meant context, tag is kept in database with this item id, url, description and label as context.

Fifth Step: In search and recommendation functions semantic search query will be executed based on the context id's. The context id's will be searched upon the previously saved group or event tags. If a group has a tag with context id Q146 (cat - Q146 : domesticated species of feline) user gets this group in results.

Sixth Step: For semantic search query, use(366) and subclass of(31) properties are used to find the related tags of the given tag. In data tree, root and child properties are returned and used for semantic search in the project.

2.3. Environment

- The program will be developed in Java SE 8 [1.8.0_11].
- Eclipse Java EE IDE for Web Developers (Version: Luna Service Release 1 (4.4.1)) and IntelliJ IDEA 14.0.2 will be used for implementation and debugging.
- Draw.io and IntelliJ will be used for UML Diagrams.

3. Detailed Design:

3.1. App Package (Backend Part)

3.1.1. Class ActionRestServices.java

```
app.ActionRestServices.createEvent(String, String, String, String, String, String, String, String, String, HttpServletResponse)  
app.ActionRestServices.createGroup(String, String, String, String, String, String, String, HttpServletResponse)  
app.ActionRestServices.getCreatedEvents(String, HttpServletResponse)  
app.ActionRestServices.getCreatedGroups(String, HttpServletResponse)  
app.ActionRestServices.getEventById(String, Long, HttpServletResponse)  
app.ActionRestServices.getGroupById(String, Long, HttpServletResponse)  
app.ActionRestServices.getInvitedEvents(String, HttpServletResponse)  
app.ActionRestServices.getInvitedGroups(String, HttpServletResponse)  
app.ActionRestServices.getMyEvents(String, HttpServletResponse)  
app.ActionRestServices.getMyGroups(String, HttpServletResponse)
```


3.1.2. Class Application.java

```
app.Application.main(String[])
```

3.1.3. Class CustomTypeRestServices.java

```
app.CustomTypeRestServices.createCustomType(String, Long, String, String, HttpServletResponse)
app.CustomTypeRestServices.createPost(String, Long, String, String, String, HttpServletResponse)
app.CustomTypeRestServices.editCustomType(String, Long, String, HttpServletResponse)
app.CustomTypeRestServices.getAttributeListByCustomTypeId(String, Long, HttpServletResponse)
app.CustomTypeRestServices.getCustomTypeById(String, Long, HttpServletResponse)
app.CustomTypeRestServices.getCustomTypeListByActionId(String, Long, HttpServletResponse)
app.CustomTypeRestServices.getPostById(String, Long, HttpServletResponse)
app.CustomTypeRestServices.getPostListByCustomTypeId(String, Long, HttpServletResponse)
```

3.1.4. Class FriendshipRestServices.java

```
app.FriendshipRestServices.acceptFriends(String, String, HttpServletResponse)
app.FriendshipRestServices.getMyFriends(String, HttpServletResponse)
app.FriendshipRestServices.inviteFriends(String, String, HttpServletResponse)
app.FriendshipRestServices.rejectFriends(String, String, HttpServletResponse)
```

3.1.5. Class MembersRestServices.java

```
app.MembersRestServices.acceptInviteToGroup(String, Integer, HttpServletResponse)
app.MembersRestServices.eventMembers(String, Integer, HttpServletResponse)
app.MembersRestServices.groupMembers(String, Integer, HttpServletResponse)
app.MembersRestServices.inviteToEvent(String, Integer, String, HttpServletResponse)
app.MembersRestServices.inviteToGroup(String, Integer, String, HttpServletResponse)
```

3.1.6. Class RecommendationRestServices.java

```
app.RecommendationRestServices.editProfile(String, HttpServletResponse)
app.RecommendationRestServices.eventRecommendation(String, HttpServletResponse)
app.RecommendationRestServices.groupRecommendation(String, HttpServletResponse)
app.RecommendationRestServices.userRecommendation(String, HttpServletResponse)
```

3.1.7. Class SearchRestServices.java

```
app.SearchRestServices.findRelatedGroupsforTag(String, String, HttpServletResponse)
app.SearchRestServices.findSemanticTag(String)
app.SearchRestServices.searchTag(String, HttpServletResponse)
app.SearchRestServices.semanticSearch(String, HttpServletResponse)
```

3.1.8. Class TrivialRestServices.java

```
app.TrivialRestServices.test()
```

3.1.9. Class UserRestServices.java

```
demo.UserRestServices.editProfile(String, String, String, Long, String, String, String, String, String, String,
HttpServletResponse)
demo.UserRestServices.emailIsAvailable(String, HttpServletResponse)
demo.UserRestServices.getNewsFeed(String, HttpServletResponse)
demo.UserRestServices.getProfile(String, HttpServletResponse)
demo.UserRestServices.getProfileByEmail(String, String, HttpServletResponse)
demo.UserRestServices.getProfileById(String, Integer, HttpServletResponse)
demo.UserRestServices.login(String, String, HttpServletResponse)
demo.UserRestServices.registerUser(String, String, String, String, String, String, HttpServletResponse)
```

3.2. Common Package (Backend Part)

3.2.1. Class BusinessException.java

```
common.BusinessException.BusinessException(String, String)
common.BusinessException.getCode()
common.BusinessException.setCode(String)
```

3.2.2. Class DBUtility.java

```
common.DBUtility.commitTransaction(EntityManager)
common.DBUtility.createEntityManager()
common.DBUtility.putProperties()
common.DBUtility.rollbackTransaction(EntityManager)
common.DBUtility.startTransaction()
```

3.2.3. Class EntityManagerHolder.java

3.2.4. Class ErrorMessages.java

3.2.5. Class ResponseHeader.java

```
common.ResponseHeader.ResponseHeader()
common.ResponseHeader.ResponseHeader(boolean)
common.ResponseHeader.ResponseHeader(boolean, String)
common.ResponseHeader.ResponseHeader(boolean, String, String)
common.ResponseHeader.ResponseHeader(String)
common.ResponseHeader.getCode()
common.ResponseHeader.getMessage()
common.ResponseHeader.getSessionId()
common.ResponseHeader.getType()
common.ResponseHeader.setCode(String)
common.ResponseHeader.setMessage(String)
common.ResponseHeader.setSessionId(String)
common.ResponseHeader.setType(String)
```

3.3. Dto Package (Backend Part)

3.3.1. Class ActionDTO.java

```
dto.ActionDTO.getActionId()
dto.ActionDTO.getCount()
dto.ActionDTO.getName()
dto.ActionDTO.setActionId(Long)
dto.ActionDTO.setCount(int)
dto.ActionDTO.setName(String)
```

3.4. Entity Package (Backend Part)

3.4.1. Class Action.java

```
entity.Action.Action()
entity.Action.Action(String, String, String)
entity.Action.Action(String, String, String, Date, Date)
entity.Action.Action(User, String, String, String, Date, Date)
entity.Action.getActionDTO()
entity.Action.getActionId()
entity.Action.getActionRecommendations()
```

```
entity.Action.getActionTags()
entity.Action.getActionType()
entity.Action.getActionUsers()
entity.Action.getCreateTime()
entity.Action.getCustomTypes()
entity.Action.getDescription()
entity.Action.getEndTime()
entity.Action.getPrivacy()
entity.Action.getStartTime()
entity.Action.getTitle()
entity.Action.setActionId(Long)
entity.Action.setActionRecommendations(Set<ActionRecommendation>)
entity.Action.setActionTags(Set<ActionTag>)
entity.Action.setActionType(String)
entity.Action.setActionUsers(Set<ActionUser>)
entity.Action.setCreateTime(Date)
entity.Action.setCustomTypes(Set<CustomType>)
entity.Action.setDescription(String)
entity.Action.setEndTime(Date)
entity.Action.setPrivacy(String)
entity.Action.setStartTime(Date)
entity.Action.setTitle(String)
```

3.4.2. Class ActionInvitation.java

```
entity.ActionInvitation.getActionInvitationId()
entity.ActionInvitation.getReceivingUserId()
entity.ActionInvitation.getSendingUserId()
entity.ActionInvitation.getStatus()
entity.ActionInvitation.setActionInvitationId(int)
entity.ActionInvitation.setReceivingUserId(int)
entity.ActionInvitation.setSendingUserId(int)
entity.ActionInvitation.setStatus(char)
```

3.4.3. Class ActionRecommendation.java

```
entity.ActionRecommendation.getAction()
entity.ActionRecommendation.getActionRecommendationId()
entity.ActionRecommendation.getStatus()
entity.ActionRecommendation.getUser()
entity.ActionRecommendation.setAction(Action)
entity.ActionRecommendation.setActionRecommendationId(int)
entity.ActionRecommendation.setStatus(char)
entity.ActionRecommendation.setUser(User)
```

3.4.4. Class ActionTag.java

```
entity.ActionTag.ActionTag()
entity.ActionTag.getAction()
entity.ActionTag.getActionTagId()
entity.ActionTag.getTag()
entity.ActionTag.setAction(Action)
entity.ActionTag.setActionTagId(Long)
entity.ActionTag.setTag(Tag)
```

3.4.5. Class ActionUser.java

```
entity.ActionUser.getAction()
entity.ActionUser.getActionUserId()
```

```
entity.ActionUser.getActionUserStatus()
entity.ActionUser.getUser()
entity.ActionUser.setAction(Action)
entity.ActionUser.setActionUserId(Long)
entity.ActionUser.setActionUserStatus(ActionUserStatus)
entity.ActionUser.setUser(User)
```

3.4.6. Class Attribute.java

```
entity.Attribute.getAttributeId()
entity.Attribute.getAttributeKey()
entity.Attribute.getCustomType()
entity.Attribute.setAttributeId(Long)
entity.Attribute.setAttributeKey(String)
entity.Attribute.setCustomType(CustomType)
```

3.4.7. Class AttributeValue.java

3.4.8. Class Comment.java

```
entity.Comment.getCommentId()
entity.Comment.getPost()
entity.Comment.getText()
entity.Comment.getTime()
entity.Comment.getTitle()
entity.Comment.getUser()
entity.Comment.setCommentId(Long)
entity.Comment.setPost(Post)
entity.Comment.setText(String)
entity.Comment.setTime(Date)
entity.Comment.setTitle(String)
entity.Comment.setUser(User)
```

3.4.9. Class CustomType.java

```
entity.CustomType.getAction()
entity.CustomType.getAttributes()
entity.CustomType.getCustomTypeId()
entity.CustomType.getName()
entity.CustomType.getPosts()
entity.CustomType.getUser()
entity.CustomType.setAction(Action)
entity.CustomType.setAttributes(Set<Attribute>)
entity.CustomType.setCustomTypeId(Long)
entity.CustomType.setName(String)
entity.CustomType.setPosts(Set<Post>)
entity.CustomType.setUser(User)
```

3.4.10. Class Event.java

```
entity.Event.getEndTime()
entity.Event.getStartTime()
entity.Event.setEndTime(Date)
entity.Event.setStartTime(Date)
```

3.4.11. Class Friendship.java

```
entity.Friendship.getFriend()
entity.Friendship.getFriendshipId()
```

```
entity.Friendship.getPerson()
entity.Friendship.getStatus()
entity.Friendship.setFriend(User)
entity.Friendship.setFriendshipId(int)
entity.Friendship.setPerson(User)
entity.Friendship.setStatus(String)
```

3.4.12. Class Greeting.java

```
entity.Greeting.Greeting()
entity.Greeting.Greeting(String, Date, String)
entity.Greeting.getAuthor()
entity.Greeting.getContent()
entity.Greeting.getDate()
entity.Greeting.getId()
entity.Greeting.setAuthor(String)
entity.Greeting.setContent(String)
entity.Greeting.setDate(Date)
entity.Greeting.setId(Long)
```

3.4.13. Class Group.java

```
entity.Group.getGroupDescription()
entity.Group.getGroupName()
entity.Group.getInvitedPeople()
entity.Group.getTagString()
entity.Group.setGroupDescription(String)
entity.Group.setGroupName(String)
entity.Group.setInvitedPeople(List<User>)
entity.Group.setTagString(String)
```

3.4.14. Class Location.java

Not implemented.

3.4.15. Class Notification.java

```
getDetail()
getNname()
getNotificationId()
setDetail(String)
setNname(String)
setNotificationId(int)
```

3.4.16. Class Post.java

```
entity.Post.getCustomType()
entity.Post.getPostId()
entity.Post.getText()
entity.Post.getTime()
entity.Post.getTitle()
entity.Post.setCustomType(CustomType)
entity.Post.setPostId(Long)
entity.Post.setText(String)
entity.Post.setTime(Date)
entity.Post.setTitle(String)
```

3.4.17. Class Role.java

```
entity.Role.Role()
entity.Role.Role(int, String)
entity.Role.Role(String)
entity.Role.getName()
entity.Role.getRoleId()
entity.Role.getUsers()
entity.Role.setName(String)
entity.Role.setRoleId(int)
entity.Role.setUsers(Set<User>)
```

3.4.18. Class Session.java

```
entity.Session.Session()
entity.Session.Session(User, String)
entity.Session.getCookie()
entity.Session.getUser()
entity.Session.setCookie(String)
entity.Session.setUser(User)
```

3.4.19. Class Tag.java

```
entity.Tag.getActionTags()
entity.Tag.getAlias()
entity.Tag.getContextId()
entity.Tag.getDescription()
entity.Tag.getLabel()
entity.Tag.getTagId()
entity.Tag.getTagName()
entity.Tag.getUrl()
entity.Tag.getUserTags()
entity.Tag.setActionTags(Set<ActionTag>)
entity.Tag.setAlias(String)
entity.Tag.setContextId(String)
entity.Tag.setDescription(String)
entity.Tag.setLabel(String)
entity.Tag.setTagId(Long)
entity.Tag.setTagName(String)
entity.Tag.setUrl(String)
entity.Tag.setUserTags(Set<UserTag>)
```

3.4.20. Class User.java

```
entity.User.User()
entity.User.User(String, String)
entity.User.getActionRecommendations()
entity.User.getActionUsers()
entity.User.getComments()
entity.User.getCustomTypes()
entity.User.getDate()
entity.User.getFriendShip1()
entity.User.getFriendShip2()
entity.User.getPassword()
entity.User.getPosts()
entity.User.getRole()
entity.User.getUserBasicInfo()
entity.User.getUserCommInfo()
entity.User.getUserEmail()
entity.User.getUserExtraInfo()
entity.User.getUserId()
```

```

entity.User.getUserRecommendations1()
entity.User.getUserRecommendations2()
entity.User.setActionRecommendations(Set<ActionRecommendation>)
entity.User.setActionUsers(Set<ActionUser>)
entity.User.setComments(Set<Comment>)
entity.User.setCustomTypes(Set<CustomType>)
entity.User.setDate(Date)
entity.User.setFriendShip1(Set<Friendship>)
entity.User.setFriendShip2(Set<Friendship>)
entity.User.setPassword(String)
entity.User.setPosts(Set<Post>)
entity.User.setRole(Role)
entity.User.setUserBasicInfo(UserBasicInfo)
entity.User.setUserCommInfo(UserCommInfo)
entity.User.setUserEmail(String)
entity.User.setUserExtraInfo(UserExtraInfo)
entity.User.setUserId(Long)
entity.User.setUserRecommendations1(Set<UserRecommendation>)
entity.User.setUserRecommendations2(Set<UserRecommendation>)

```

3.4.21. Class UserBasicInfo.java

```

entity.UserBasicInfo.getFirstName()
entity.UserBasicInfo.getGender()
entity.UserBasicInfo.getLastName()
entity.UserBasicInfo.getUser()
entity.UserBasicInfo.getUserId()
entity.UserBasicInfo.setFirstName(String)
entity.UserBasicInfo.setGender(String)
entity.UserBasicInfo.setLastName(String)
entity.UserBasicInfo.setUser(User)
entity.UserBasicInfo.setUserId(Long)

```

3.4.22. Class UserCommInfo.java

```

entity.UserCommInfo.UserCommInfo()
entity.UserCommInfo.UserCommInfo(long, String)
entity.UserCommInfo.getAddress()
entity.UserCommInfo.getMobilePhone()
entity.UserCommInfo.getUser()
entity.UserCommInfo.getUserId()
entity.UserCommInfo.setAddress(String)
entity.UserCommInfo.setMobilePhone(long)
entity.UserCommInfo.setUser(User)
entity.UserCommInfo.setUserId(Long)

```

3.4.23. Class UserExtraInfo.java

```

entity.UserExtraInfo.UserExtraInfo()
entity.UserExtraInfo.UserExtraInfo(Date, String)
entity.UserExtraInfo.getAbout()
entity.UserExtraInfo.getBirthDate()
entity.UserExtraInfo.getInterests()
entity.UserExtraInfo.getLanguages()
entity.UserExtraInfo.getUser()
entity.UserExtraInfo.getUserId()
entity.UserExtraInfo.setAbout(String)
entity.UserExtraInfo.setBirthDate(Date)
entity.UserExtraInfo.setInterests(String)
entity.UserExtraInfo.setLanguages(String)

```

```
entity.UserExtraInfo.setUser(User)
entity.UserExtraInfo.setUserId(Long)
```

3.4.24. Class UserRecommendation.java

```
entity.UserRecommendation.getStatus()
entity.UserRecommendation.getUserRecommendationId()
entity.UserRecommendation.getUserRecommended1()
entity.UserRecommendation.getUserRecommended2()
entity.UserRecommendation.setStatus(char)
entity.UserRecommendation.setUserRecommendationId(int)
entity.UserRecommendation.setUserRecommended1(User)
entity.UserRecommendation.setUserRecommended2(User)
```

3.4.25. Class UserTag.java

```
entity.UserTag.getTag()
entity.UserTag.getUser()
entity.UserTag.getUserTagId()
entity.UserTag.setTag(Tag)
entity.UserTag.setUser(User)
entity.UserTag.setUserTagId(Long)
```

3.5. Enums Package (Backend Part)

3.5.1. Class ActionType.java

```
enums.ActionType.ActionType(String)
enums.ActionType.toString()
```

3.5.2. Class ActionUserStatus.java

```
enums.ActionUserStatus.ActionUserStatus(String)
enums.ActionUserStatus.toString()
```

3.5.3. Class FriendshipStatus.java

```
enums.FriendshipStatus.FriendshipStatus(String)
enums.FriendshipStatus.toString()
```

3.5.4. Class PrivacyType.java

```
enums.PrivacyType.PrivacyType(String)
enums.PrivacyType.toString()
```

3.6. Helpers Package (Backend Part)

3.6.1. Class ServiceHelper.java

```
helpers.ServiceHelper.authorize(User)
helpers.ServiceHelper.businessError(String, String)
helpers.ServiceHelper.dateParser(String)
helpers.ServiceHelper.getSessionUser(EntityManager, String)
helpers.ServiceHelper.initialize(HttpServletResponse)
helpers.ServiceHelper.setResponseHeaders(HttpServletResponse)
```


3.6.2. Class ValidationHelper.java

```
helpers.ValidationHelper.isNullOrEmpty(String)
helpers.ValidationHelper.isNullOrWhitespace(String)
helpers.ValidationHelper.isWhitespace(String)
helpers.ValidationHelper.validateEmail(String)
helpers.ValidationHelper.validatePassword(String)
```

3.7. Recommendation Package (Backend Part)

3.7.1. Class RecommendationEngine.java

```
recommendation.RecommendationEngine.deleteCurrentRecommendationsOfUser(User)
recommendation.RecommendationEngine.executeSemanticQuery(String)
recommendation.RecommendationEngine.findAllSemanticTagsOfUser(User)
recommendation.RecommendationEngine.findItemNamesOfIds(ArrayList<String>)
recommendation.RecommendationEngine.findRelatedTags(String)
recommendation.RecommendationEngine.findSemanticActionsWithGivenTagIds(List<String>, User, ActionType)
recommendation.RecommendationEngine.findSemanticEventsWithGivenTagId(List<String>, User)
recommendation.RecommendationEngine.findSemanticGroupsWithGivenTagId(List<String>, User)
recommendation.RecommendationEngine.findSemanticTag(String)
recommendation.RecommendationEngine.findSemanticUsersWithGivenTagIds(List<String>, User)
recommendation.RecommendationEngine.findTagId(String)
recommendation.RecommendationEngine.getActionTagsOfUser(User)
recommendation.RecommendationEngine.insertRecommendationsforUser(User)
```

3.8. Repository Package (Backend Part)

3.8.1. Class ActionRepository.java

```
repository.ActionRepository.ActionRepository(EntityManager)
repository.ActionRepository.getActionById(Long, String)
repository.ActionRepository.getMembersOfAction(Action)
repository.ActionRepository.getTagsFromTagNameAndContextId(Tag)
repository.ActionRepository.insertAction(Action)
repository.ActionRepository.insertActionTags(Tag, Action)
repository.ActionRepository.insertCreator(User, Action)
repository.ActionRepository.insertInvitedPeople(String, Action)
repository.ActionRepository.insertTags(String, User, Action)
repository.ActionRepository.insertUserTags(Tag, User)
repository.ActionRepository.prepareActionDTOList(String, Query)
repository.ActionRepository.prepareActionForUser(User, String)
repository.ActionRepository.prepareCreatedActionForUser(User, String)
repository.ActionRepository.prepareInvitedActionForUser(User, String)
```

3.8.2. Class CustomTypeRepository.java

```
repository.CustomTypeRepository.CustomTypeRepository(EntityManager)
repository.CustomTypeRepository.createCustomType(User, Long, String, String)
repository.CustomTypeRepository.createPost(User, Long, String, String, String)
repository.CustomTypeRepository.editCustomType(Long, String)
repository.CustomTypeRepository.getAttributeListByCustomTypeId(Long)
repository.CustomTypeRepository.getCustomTypeById(Long)
repository.CustomTypeRepository.getCustomTypeListByActionId(Long)
repository.CustomTypeRepository.getPostById(Long)
repository.CustomTypeRepository.getPostListByCustomTypeId(Long)
repository.CustomTypeRepository.insertAttributes(String, CustomType, EntityManager)
```

3.8.3. Class FriendshipRepository.java

```
repository.FriendshipRepository.FriendshipRepository(EntityManager)
repository.FriendshipRepository.acceptFriends(User, String)
repository.FriendshipRepository.inviteFriends(User, String)
repository.FriendshipRepository.prepareFriendsForUser(User)
repository.FriendshipRepository.rejectFriends(User, String)
```

3.8.4. Class UserRepository.java

```
repository.UserRepository.UserRepository(EntityManager)
repository.UserRepository.getRoleByName(String)
repository.UserRepository.getUserByEmail(String)
repository.UserRepository.getUserById(Integer)
repository.UserRepository.getUserByUserNumberEmail(String)
repository.UserRepository.insertRole(Role)
repository.UserRepository.insertUser(User)
repository.UserRepository.login(String, String)
```

3.9. HTML Files (Frontend Part)

```
createEvent.html
createGroup.html
eventInvitation.html
groupInvitation.html
home.html
index.html
main.html
myEvents.html
myFriends.html
myGroups.html
newEvents.html
newGroups.html
profileEdit.html
search.html
suggestedEvents.html
suggestedGroups.html
theGroup.html
thePost.html
theUser.html
updateEvent.html
updateGroup.html
```

3.10. CSS Files (Frontend Part)

```
bootstrap-combined.min.css
bootstrap-datetimepicker.min.css
bootstrap.min.css
style.css
```

3.11. Javascript Files (Frontend Part)

```
angucomplete.js
angular-md5.js
angular-route.js
angular-touch.js
angular.js
bootstrap-datetimepicker.min.js
bootstrap-datetimepicker.pt-BR.js
bootstrap.min.js
jquery-2.1.4.min.js
spa.js
```

4. Testing Design

- Necessary test scenarios will be prepared for the following functions.
 - User Sign In
 - User Sign Up
 - Create Event
 - Semantic Search
 - Edit Event
 - Create Group
 - Edit Group
 - Add Comment
 - Delete Invitation
 - Create Tag

5. References

1. GroupTimeout-ProjectTimeout-RSD-2015-05-23-Rev-2.0.docx
2. Bennett, McRobb, Farmer, Object Oriented Systems Analysis and Design Using UML, McGraw-Hill, 2010, 4th Edition.