

FPT UNIVERSITY

Capstone Project Document

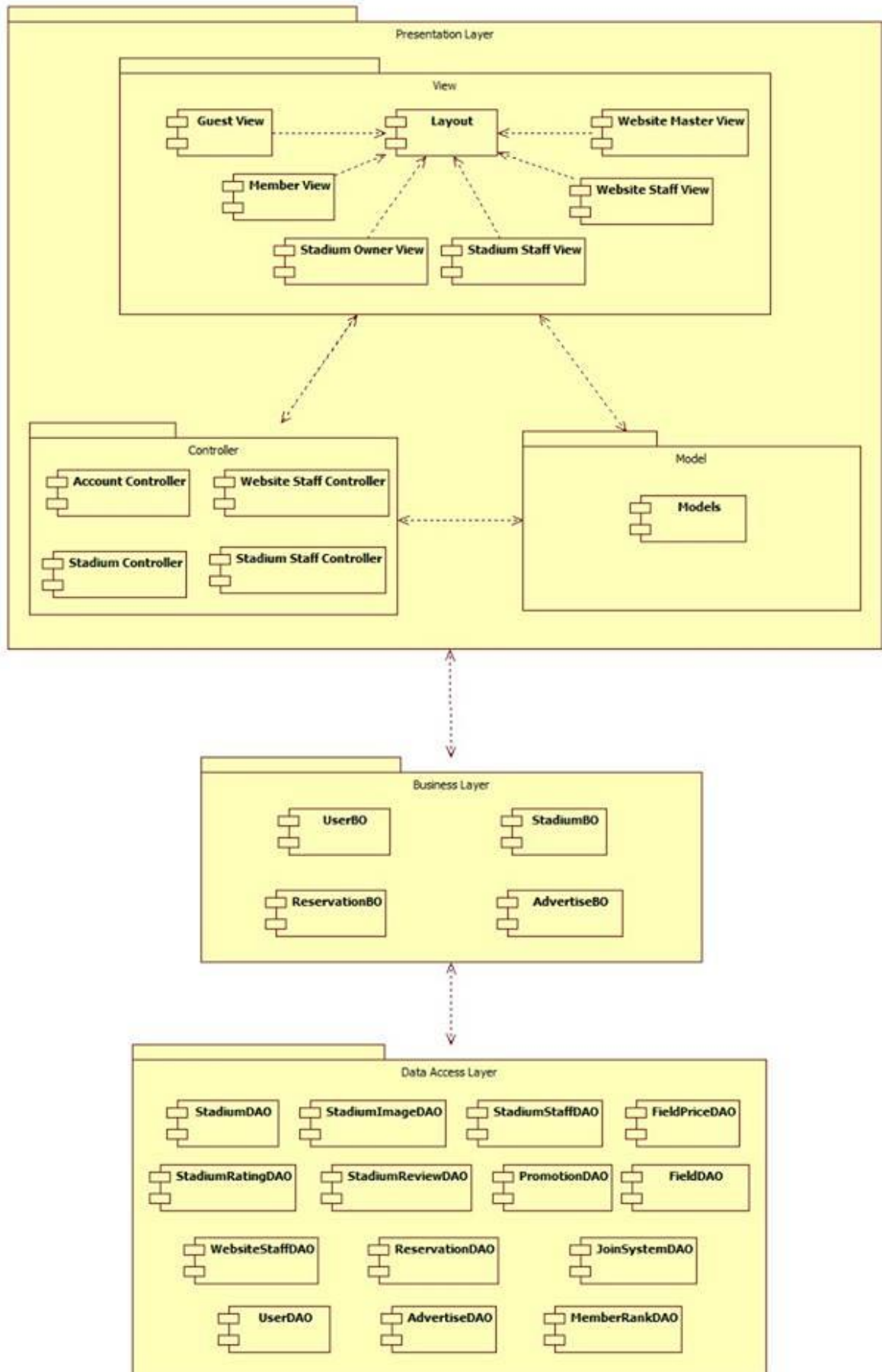
Football Pitches Booking

Group 10	
Group Members	Nguyễn Duy Phương – SE60761 – phuongndse60761@fpt.edu.vn Nguyễn Hữu Hoàng Giang – SE60606 – giangnhhse60606@fpt.edu.vn Nguyễn Đức Thịnh – 60398 – thinhnd60398@fpt.edu.vn Nguyễn Quốc Khánh – 60556 – khanhng60556@fpt.edu.vn
Supervisor	Lại Đức Hùng
Ext Supervisor	
Capstone Project code	FPB

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Definitions, Acronyms, and Abbreviations

No.	Keyword	Definition
1	B2B2C	Stand for Business to business to customer. In this system, first business is the organization that provides stadium owner to register their stadiums. The second business is stadium owner, who provides hire stadium service, and customer is the user, who want to hire field by this system.
2		
3		
4		
5		

Report No.4: System Design Description (SDD)

4.1. Design Overview

- This document describes the technical and UI design of the FPB system. It includes the architectural design and the detailed design of common functions and business functions. It also includes the design of database model.
- The architectural design describes the overall architecture of the system, and the architecture of each main component and subsystem. It will describe the patterns being used, the role of each component and the role of the system in the working environment.
- The detailed design describes static and dynamic structure for each component and function. It includes class diagrams, class explanations, and sequence diagrams of the main use cases. The detailed design uses notations of .NET framework 4.0 and C#, as they are the framework and language for developing this system.
- The database design describes the relationship between entities, and details of each entity. It uses notations of SQL Server 2008 R2 as it is the database server for developing the system.
- The user interface design describes the layout of the system, and some design for the screens

4.2. System Architectural Design

4.2.1. Choice of System Architecture

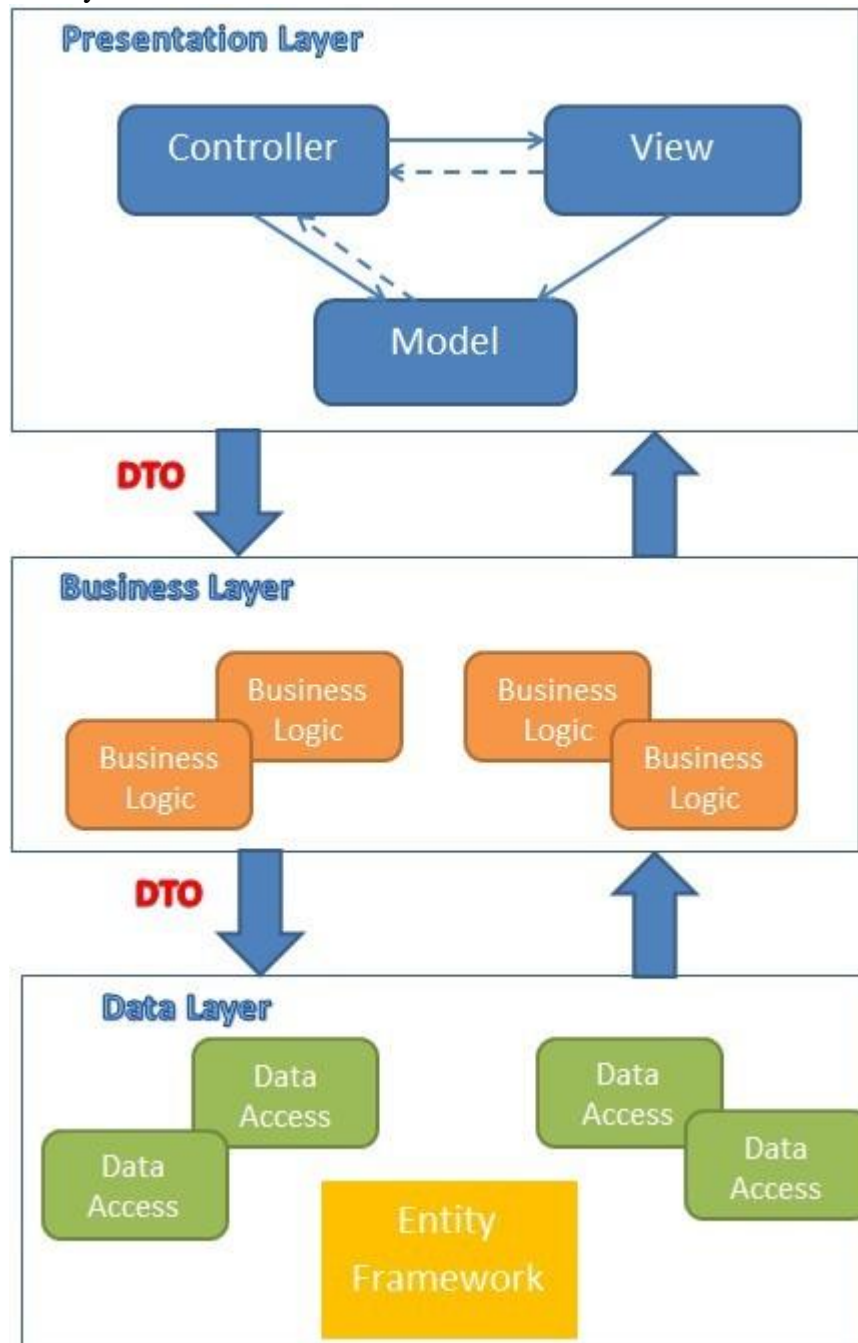


Figure 1: MVC implemented in a three-layer architecture

The above diagram is explained as the following:

Model: Used to prepare data for view

View: The view displays the data and also takes input from user. It renders the model data into a form, such as graphics, buttons, and tables, and so on to display to the user.

Controller: The controller handles all requests coming from the view or user interface. The data flows to whole application are controlled by controller.

Business Logic: This layer coordinates the application, processes commands, makes logical decisions and evaluations, and performs calculations. It also moves and processes data between the two surrounding layers.

Data Access: Here information is stored and retrieved from a database or file system. The information is then passed back to the logic tier for processing, and then eventually back to the user.

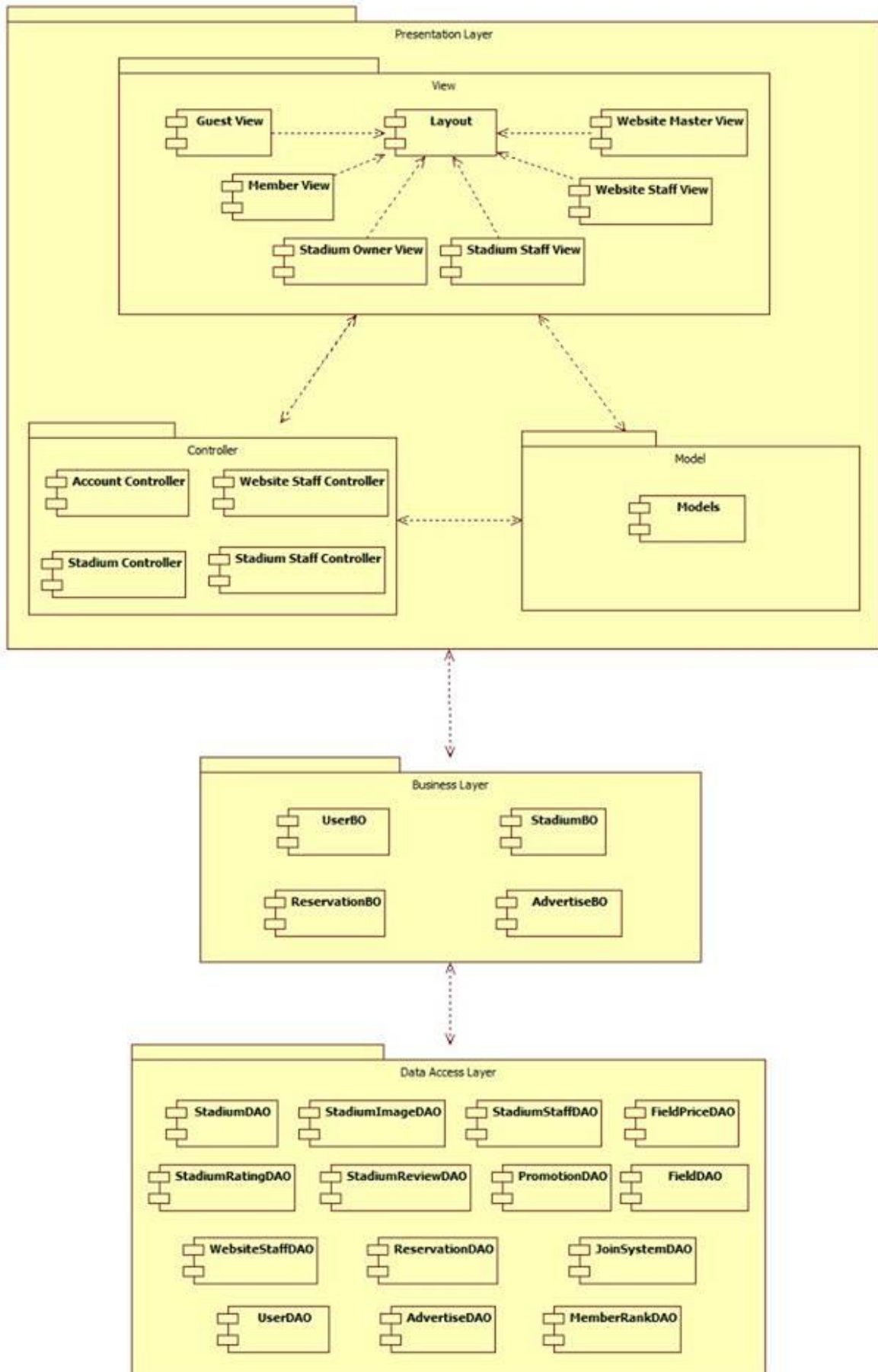
4.2.2. Discussion of Alternative Designs

N/A

4.2.3. Description of System Interface

N/A

4.3. Component Diagram



4.4. Detailed Description of Components

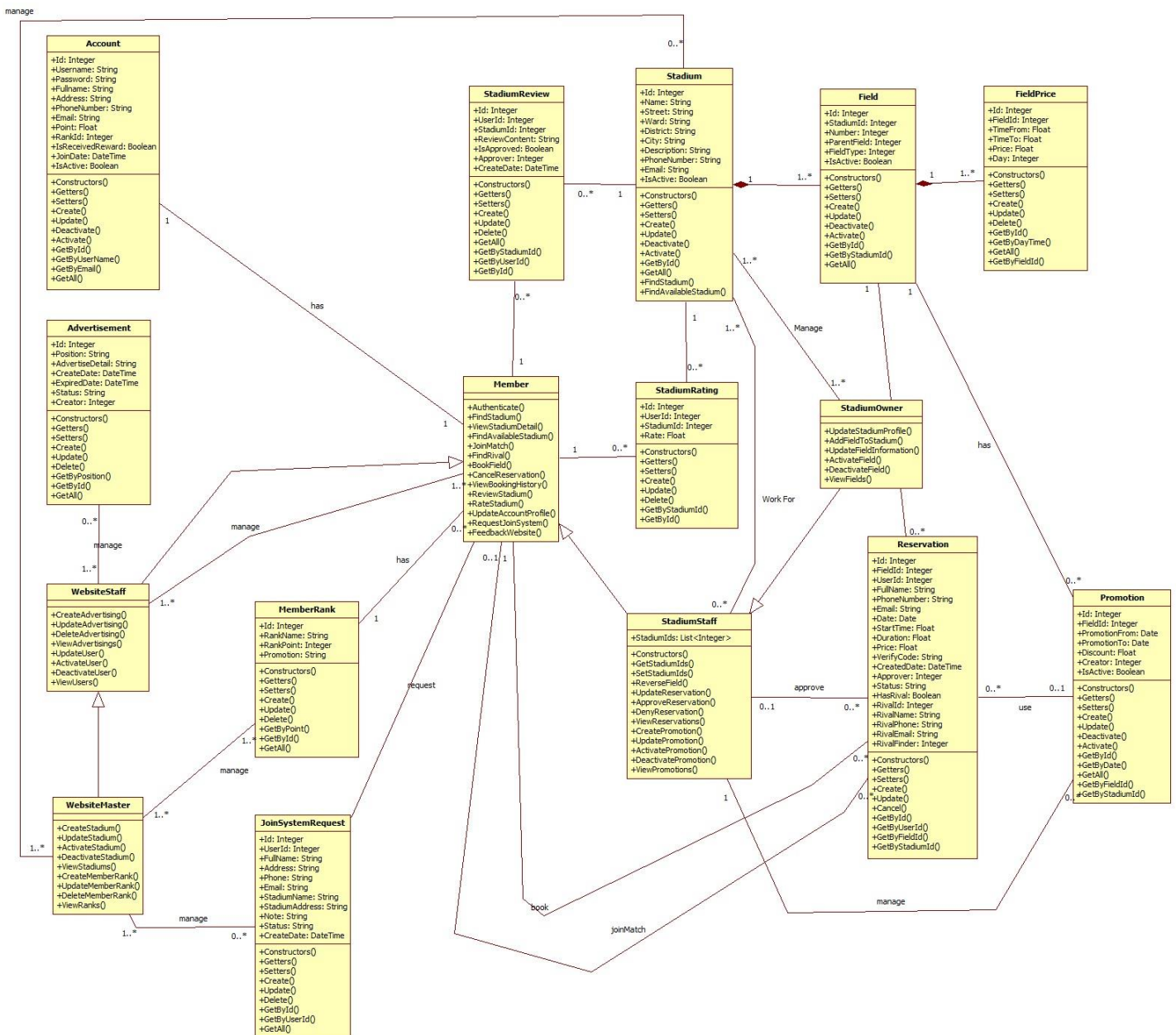


Figure 2: General Class Diagram

4.4.1. Class Diagram Explanation

	Role
Chairman	Mr. J. Edgar Hoover
Vice Chairman	Mr. Clegg
Members	Mr. Glavin Mr. Ladd Mr. Nichols Mr. Rosen Mr. Tracy Mr. Carson Mr. Egan Mr. Gurnea Mr. Hendon Mr. Pennington Mr. Quinn Tamm Mr. Nease Mr. Winterrowd

- **Attributes**

Name	Type	Description
Id	Integer	Id of Role
Role	String	Role

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	Account	Initialize a role with value (optional)

Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute
Create	All of attribute of class Role	Integer	Create a role and save it to database
Update	- Role	Integer	Update information of an existing role in database

Account

- Attributes

Name	Type	Description
Id	Integer	Id of an user in system
Username	String	Name of account, it is unique in system
Password	String	Password of account
FullName	String	Full name of user
Address	String	Address of user
PhoneNumber	String	Phone number of user
Email	String	Email of user
Point	Float	Point of user, it is used to calculate rank of account
RankId	Integer	Rank of account
IsReceivedReward	Boolean	Every time the rank grow up, account may receive a reward, this field is used to tracking whether account received reward or not
JoinDate	Date	The date when user join this system
IsActive	Boolean	Is this account active
Role	Integer	Id of role

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	Account	Initialize an account with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute

Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute
Create	All of attribute of class Account	Integer	Create an account and save it to database
Update	<ul style="list-style-type: none"> - Password - FullName - Address - PhoneNumber - Email - Point - RankId - IsReceivedReward - Role 	Integer	Update information of an existing account in database
Deactivate	N/A	Integer	De-active an account
Activate	N/A	Integer	Activate an account
GetById	- Id	Account	Get an account instance by Id of account from database
GetByUserName	- UserName	Account	Get an account instance by UserName of account from database
GetByEmail	- Email	Account	Get an account instance by Email of account from database
GetAll	N/A	List<Account>	Get all account from database

Stadium

- Attributes

Name	Type	Description
Id	Integer	Id of stadium
Name	String	Name of stadium
Street	String	Name of street that stadium located
Ward	String	Name of ward that stadium located
District	String	Name of district that stadium located
City	String	Name of city or province that stadium located
Description	String	Description of stadium

PhoneNumber	String	Phone number of stadium
Email	String	Email of stadium
IsActive	Boolean	Is the stadium active

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	Stadium	Initialize an Stadium with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute
Create	All of attribute of class Stadium	Integer	Create a stadium and save it to database
Update	<ul style="list-style-type: none"> - Name - Street - Ward - District - City - Description - PhoneNumber - Email 	Integer	Update information of an existing stadium in database
Deactivate	N/A	Integer	De-active a stadium
Activate	N/A	Integer	Activate a stadium
GetById	<ul style="list-style-type: none"> - Id 	Stadium	Get an stadium instance by Id of stadium from database
GetAll	N/A	List<Stadium>	Get all account from database
FindStadium	<ul style="list-style-type: none"> - Name - Address - FieldType 	List<Stadium>	Get all stadiums correspond with filter

FindAvailableStadium	<ul style="list-style-type: none"> - Address - FieldType - Date - StartTime - Duration 	List<Stadium>	Get all stadiums those are available with request date, time, location
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Field

- Attributes

Name	Type	Description
Id	Integer	Id of field
StadiumId	Integer	Id of stadium that contain this field
Number	Integer	Number of field in stadium
ParentField	Integer	Id of another field that contain this field
FieldType	Integer	Type of field
IsActive	Boolean	Is this field active

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	Field	Initialize an Field with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute
Create	All of attribute of class Field	Integer	Create a field and save it to database
Update	<ul style="list-style-type: none"> - Name - Street - Ward - District - City - Description - PhoneNumber - Email 	Integer	Update information of an existing field in database
Deactivate	N/A	Integer	De-active a field
Activate	N/A	Integer	Activate a field
GetById	- Id	Field	Get a field instance by Id

			of field from database
GetByStadiumId	- StadiumId	List<Field>	Get all field of the stadium that has corresponding id
GetAll	N/A	List<Field>	Get all field from database

FieldPrice

- Attributes

Name	Type	Description
Id	Integer	Id of field price
FieldId	Integer	Id of field that has this price
TimeFrom	Float	Start time in day that use this price
TimeTo	Float	End time in day that use this price
Price	Float	Price
Day	Integer	Day in week that use this price Start with Sunday is 0, Monday is 1, ...

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	FieldPrice	Initialize an FieldPrice with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute
Create	All of attribute of class FieldPrice	Integer	Create a price of field and save it to database
Update	- FieldId - TimeFrom - TimeTo - Price - Day	Integer	Update information of an existing field price in database
Delete	- Id	Integer	Delete a field price

GetById	- Id	FieldPrice	Get a field price instance by Id of field price from database
GetByDayTime	- Day - StartTime	FieldPrice	Get Field Price for Day, StartTime
GetAll	N/A	List<FieldPrice>	Get all field price from database
GetByFieldId	- FieldId	List<FieldPrice>	Get All FieldPrice of a field

Promotion

- Attributes

Name	Type	Description
Id	Integer	Id of promotion
FieldId	Integer	Id of field that use this promotion
PromotionFrom	Date	Start date that use this promotion
PromotionTo	Date	Expired date of this promotion
Discount	Float	Discount amount of this promotion
Creator	Integer	Id of staff that create this promotion
IsActive	Boolean	Is this promotion active

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	Promotion	Initialize an Promotion with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute
Create	All of attribute of class Promotion	Integer	Create a promotion and save it to database
Update	- FieldId - PromotionFrom - PromotionTo - Discount	Integer	Update information of an existing

	- Creator		promotion in database
Delete	- Id	Integer	Delete a field price
GetById	- Id	Promotion	Get a Promotion instance by Id from database
GetByDate	- Date	List< Promotion >	Get all Promotion for date
GetAll	N/A	List< Promotion >	Get all Promotion from database
GetByFieldId	- FieldId	List< Promotion >	Get all Promotion of a field
GetByStadiumId	- StadiumId	List<Promotion>	Get all Promotion of a stadium

StadiumReview

- Attributes

Name	Type	Description
Id	Integer	Id of review
UserId	Integer	Id of user create this review
StadiumId	Integer	Id of stadium being reviewed
ReviewContent	Float	Content of this review
IsApproved	Float	Is this review approved
Approver	Integer	Id of stadium staff approve this review
CreateDate	DateTime	The date that this review is created

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	StadiumReview	Initialize an StadiumReview with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute
Create	All of attribute of class StadiumReview	Integer	Create a review of stadium and save it to database

Update	- ReviewContent - IsApproved - TimeTo	Integer	Update information of an existing review in database
Delete	- Id	Integer	Delete a Review
GetById	- Id	StadiumReview	Get a review by Id of StadiumReview from database
GetByUserId	- UserId	List<StadiumReview>	Get all review of an user
GetAll	N/A	List<StadiumReview>	Get all review from database
GetByStadiumId	- StadiumId	List<StadiumReview>	Get all review of a stadium

StadiumRating

- Attributes

Name	Type	Description
Id	Integer	Id of review
UserId	Integer	Id of user create this rate
StadiumId	Integer	Id of stadium being rated
Rate	Float	Rate

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	StadiumRating	Initialize an StadiumRating with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute
Create	All of attribute of class StadiumRating	Integer	Create a rate of stadium and save it to database
Update	- Rate	Integer	Update rate of an existing rate in database
Delete	- Id	Integer	Delete a Rate
GetById	- Id	StadiumRating	Get a review by Id of StadiumRating from database
GetByStadiumId	- StadiumId	List<StadiumRating>	Get all rate of a stadium

Reservation

- Attributes

Name	Type	Description
Id	Integer	Id of Reservation
FieldId	Integer	Id of field that user book
UserId	Integer	Id of user create reservation
FullName	String	Name of person who book the field (booker)
PhoneNumber	String	Phone number of booker
Email	String	Email of booker
Date	Date	Date which booker want to reverse
StartTime	Float	Start time which booker want to start using
Duration	Float	How long booker want to using
Price	Float	Price of this reservation
VerifyCode	String	Verify code of this reservation, booker use this to trade with stadium manager for their approval
CreateDate	DateTime	The time this reservation is created
Approver	Integer	Id of stadium manager who approve this reservation
Status	String	Status of reservation
HasRival	Boolean	False if booker want to get a help for finding a rival True if booker has a rival
RivalId	Integer	Id of an user who join as rival of booker (rival)
RivalName	String	Name of rival
RivalPhone	String	Phone number of rival
RivalEmail	String	Email of rival
RivalFinder	Integer	Id of user who found rival for this reservation It can be Id of booker or stadium manager

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	Reservation	Initialize an Reservation with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute

Create	All of attribute of class Reservation	Integer	Create a reservation and save it to database
Update	<ul style="list-style-type: none"> - FieldId - FullName - PhoneNumber - Email - Date - StartTime - Duration - Price - CreateDate - Approver - Status - HasRival - RivalId - RivalName - RivalPhone - RivalEmail - RivalFinder 	Integer	Update reservation information of an existing reservation in database
Cancel	- Id	Integer	Cancel a Reservation
GetById	- Id	Reservation	Get a reservation by Id from database
GetByUserId	- UserId	List<Reservation>	Get all reservation of an user
GetByFieldId	- FieldId	List<Reservation>	Get all reservation of a field
GetByStadiumId	- StadiumId	List<Reservation>	Get all reservation of a stadium

JoinSystemRequest

- Attributes

Name	Type	Description
Id	Integer	Id of review
UserId	Integer	Id of user submit request (requester)
FullName	String	Full name of requester
Address	String	Address of requester
Phone	String	Phone of requester
Email	String	Email of requester
StadiumName	String	Name of stadium owned by requester
StadiumAddress	String	Address of stadium
Note	String	Note of requester
Status	String	Status of request
CreateDate	DateTime	Create date of request

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	RequestJoinSystem	Initialize an RequestJoinSystem

			with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute
Create	All of attribute of class RequestJoinSystem	Integer	Create a request and save it to database
Update	<ul style="list-style-type: none"> - FullName - Address - Phone - Email - StadiumName - StadiumAddress - Note - Status 	Integer	Update request information of an existing request in database
Delete	<ul style="list-style-type: none"> - Id 	Integer	Delete a RequestJoinSystem
GetById	<ul style="list-style-type: none"> - Id 	RequestJoinSystem	Get a request by Id from database
GetByUserId	<ul style="list-style-type: none"> - UserId 	List<RequestJoinSystem>	Get all request of an user
GetAll	N/A	List<RequestJoinSystem>	Get all request

Member Rank

- Attributes

Name	Type	Description
Id	Integer	Id of rank
RankName	String	Name of rank
RankPoint	Integer	Minimum point to get rank
Promotion	String	Promotion of rank

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	MemberRank	Initialize an MemberRank with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute

Create	All of attribute of class MemberRank	Integer	Create a MemberRank and save it to database
Update	<ul style="list-style-type: none"> - RankName - RankPoint - Promotion 	Integer	Update MemberRank information of an existing MemberRank in database
Delete	<ul style="list-style-type: none"> - Id 	Integer	Delete a MemberRank
GetByPoint	<ul style="list-style-type: none"> - Id 	MemberRank	Get a MemberRank by point
GetById	<ul style="list-style-type: none"> - UserId 	MemberRank	Get a MemberRank by id
GetAll	N/A	List<MemberRank>	Get all MemberRank

Advertisement

- Attributes

Name	Type	Description
Id	Integer	Id of advertisement
Position	String	Position of advertisement
AdvertiseDetail	String	Content of advertisement
CreateDate	DateTime	Create date of advertisement
ExpiredDate	DateTime	Expired date of advertisement
Status	String	Status of advertisement
Creator	Integer	Id of creator

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	Advertisement	Initialize an Advertisement with value (optional)
Getters	N/A	Type of attribute	Get value of an attribute corresponding with getter of attribute
Setters	Value of attribute	Void	Set value for an attribute corresponding with setter of attribute
Create	All of attribute of class Advertisement	Integer	Create an Advertisement and save it to database
Update	<ul style="list-style-type: none"> - Position - AdvertiseDetail - ExpiredDate - Status 	Integer	Update Advertisement information of an existing

			Advertisement in database
Delete	- Id	Integer	Delete an Advertisement
GetByPosition	- Position	Advertisement	Get an Advertisement by position
GetById	- Id	Advertisement	Get an Advertisement by id
GetAll	N/A	List<Advertisement>	Get all Advertisement

Member

Inherit all attributes and methods of class Account

- Methods

Name	Parameter	Return Type	Description
Authenticate	- UserName - Password	Boolean	Authenticate a user with system
FindStadium	- StadiumName - Location - FieldType	List<Stadium>	Find stadium with some option, let a option null to ignore that option when search
ViewStadiumDetail	- StadiumId	Stadium	View detail of a stadium with member view
FindAvailableStadium	- Location - FieldType - Date - StartTime - Duration	List<Stadium>	Find available stadium with options
FindRival	- Location - FieldType - Date - StartTime - Duration	List<Reservation>	Find list reservation that do not have rival
JoinMatch	- ReservationId	Void	Join a match as rival of booker
BookField	- FieldId - FullName - Address - Phone - Email - Date - StartTime - Duration - HasRival	Boolean	Book a field

CancelReservation	- ReservationId	Void	Cancel a reservation
ViewBookingHistory	- UserId	List<Reservation>	View history of booking with Member view
ReviewStadium	- StadiumId - UserId - ReviewContent	Void	Review a stadium
RateStadium	- StadiumId - UserId - Rate	Void	Rate a stadium
UpdateAccountProfile	- UserId - Password - FullName - Address - PhoneNumber - Email	Void	Update account information
RequestJoinSystem	- UserId - FullName - Address - PhoneNumber - Email - StadiumName - StadiumAddress - Note	Void	Request for joining system of owned stadium
FeedbackWebsite	- Content - FullName - Email	Void	Send feedback content to email

WebsiteStaff

Inherit all attributes and methods of class Member

- Methods

Name	Parameter	Return Type	Description
CreateAdvertising	- Position - AdvertisementDetail - ExpiredDate - Status	Void	Create an advertisement
UpdateAdvertising	- AdvertisementId - Position - AdvertisementDetail - ExpiredDate - Status	Void	Update an advertisement
DeleteAdvertising	- AdvertisementId	Void	Delete an advertisement
ViewAdvertisings	N/A	List<Advertisement>	View all Advertisements with website staff view
UpdateUser	- UserId - Password	Void	Update information of an user with

	<ul style="list-style-type: none"> - Email - Point - IsReceivedReward - IsActive - Role 		website staff permission
ActivateUser	- UserId	Void	Activate an user
DeactivateUser	- UserId	Void	Deactivate an user
ViewUsers	N/A	List<User>	View all users with website staff view

WebsiteMaster

Inherit all attributes and methods of class WebsiteStaff

- Methods

Name	Parameter	Return Type	Description
CreateStadium	<ul style="list-style-type: none"> - Name - Street - Ward - District - City - Description - PhoneNumber - Email - IsActive 	Void	Create a stadium
UpdateStadium	<ul style="list-style-type: none"> - StadiumId - Name - Street - Ward - District - City - Description - PhoneNumber - Email - IsActive 	Void	Update a stadium
ActivateStadium	- StadiumId	Void	Delete an advertisement
DeactivateStadium	- StadiumId		
ViewStadiums	N/A	List<Stadium>	View all Stadium with website master view
CreateMemberRank	<ul style="list-style-type: none"> - RankName - RankPoint - Promotion 	Void	Create a member rank
UpdateMemberRank	<ul style="list-style-type: none"> - MemberRankId - RankName - RankPoint - Promotion 	Void	Update a member rank
DeleteMemberRank	- MemberRankId	Void	Delete a member rank

ViewRanks	N/A	List<MemberRank>	View all member rank with website master view
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StadiumStaff

Inherit all attributes and methods of class Member

- Attributes

Name	Type	Description
StadiumIds	List<Integer>	List ids of stadium those staff work for

- Methods

Name	Parameter	Return Type	Description
Constructors	Optional	StadiumStaff	Initialize a StadiumStaff with value (optional)
GetStadiumIds	N/A	List<Integer>	Get list ids of stadium those staff work for
SetStadiumIds	- StadiumIds	Void	Set list ids of stadium those staff work for
ReverseReservation	- FieldId - FullName - PhoneNumber - Email - Date - StartTime - Duration - HasRival	Void	Create a reservation for a field that staff manage
UpdateReservation	- FieldId - FullName - PhoneNumber - Email - Date - StartTime - Duration - HasRival - RivalName - RivalPhone - RivalEmail	Void	Update a reservation that staff manage
ApproveReservation	- ReservationId	Void	Approve a reservation that staff manage
DenyReservation	- ReservationId	Void	Deny a reservation that staff manage
ViewReservations	N/A	List<Reservation>	View list reservation that staff manage

CreatePromotion	<ul style="list-style-type: none"> - FieldId - PromotionFrom - PromotionTo - Discount - IsActive 	Void	Create a promotion for a field that staff manage
UpdatePromotion	<ul style="list-style-type: none"> - ReservationId - FieldId - PromotionFrom - PromotionTo - Discount - IsActive 	Void	Update a promotion for a field that staff manage
ActivatePromotion	<ul style="list-style-type: none"> - ReservationId 	Void	Activate a promotion that staff manage
DeactivatePromotion	<ul style="list-style-type: none"> - ReservationId 	Void	Deactivate a promotion that staff manage
ViewPromotion	N/A	List<Promotion>	View list promotion that staff manage

StadiumOwner

Inherit all attributes and methods of class StadiumStaff

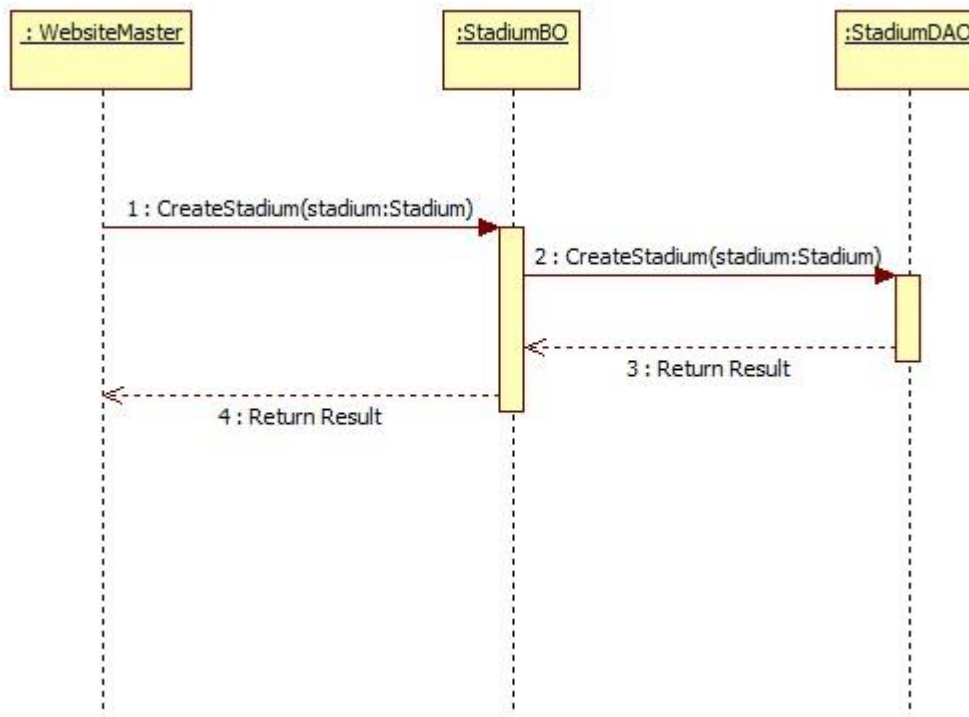
- Methods

Name	Parameter	Return Type	Description
UpdateStadiumProfile	<ul style="list-style-type: none"> - StadiumId - Name - Street - Ward - District - City - Description - PhoneNumber - Email 	Void	Update a stadium of stadium owner
AddFieldToStadium	<ul style="list-style-type: none"> - StadiumId - Number - ParentField - FieldType - IsActive 	Void	Add a field to an owned stadium
UpdateFieldInformation	<ul style="list-style-type: none"> - FieldId - Number - ParentField - FieldType - IsActive 	Void	Update an owned field
ActivateField	<ul style="list-style-type: none"> - FieldId 	Void	Activate an owned field
DeactivateField	<ul style="list-style-type: none"> - FieldId 	Void	Deactivate an owned field

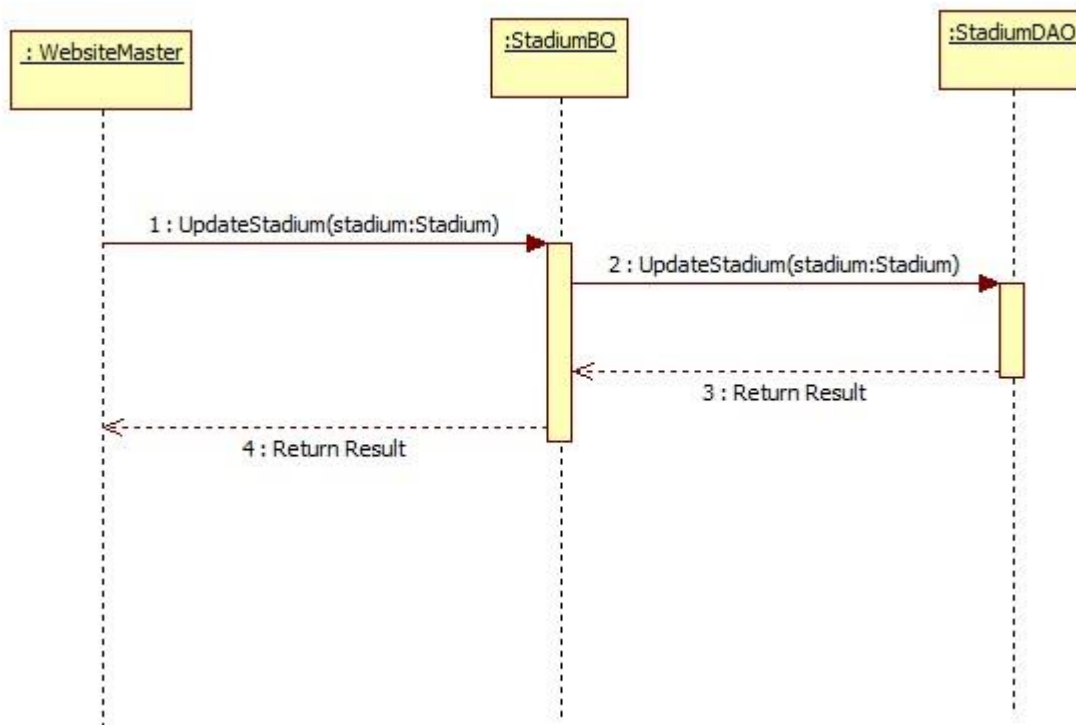
ViewFields	- StadiumId	List<Field>	View list owned fields
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4.5. Sequence Diagram

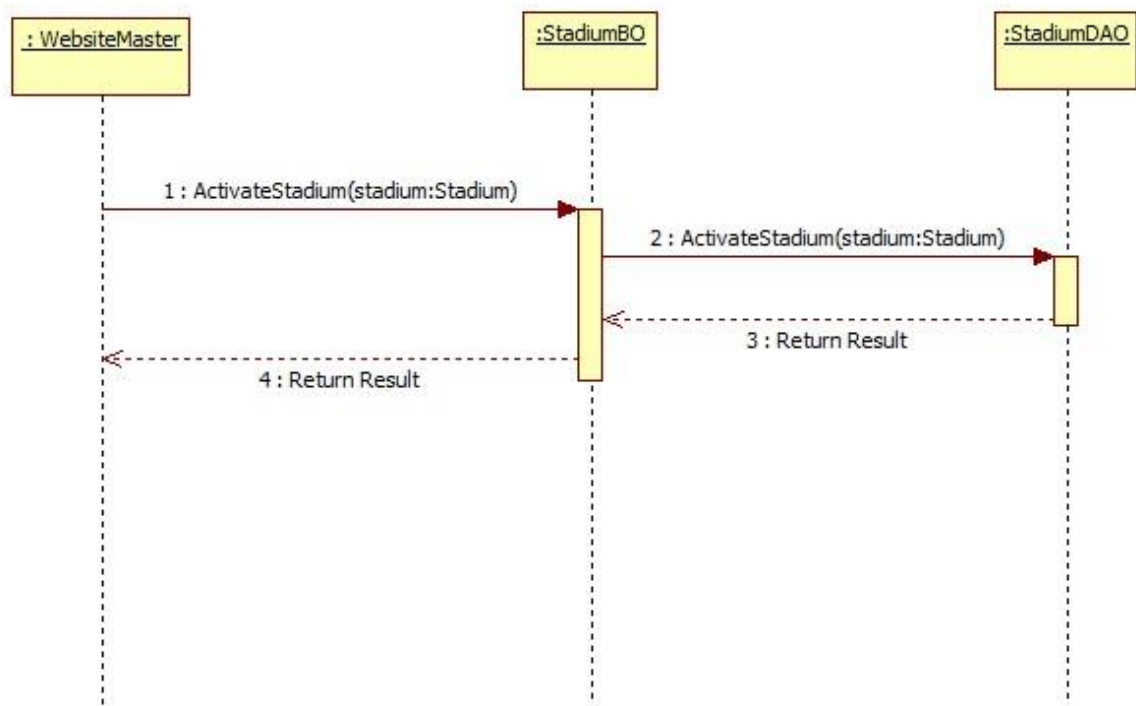
4.5.1. Create Stadium



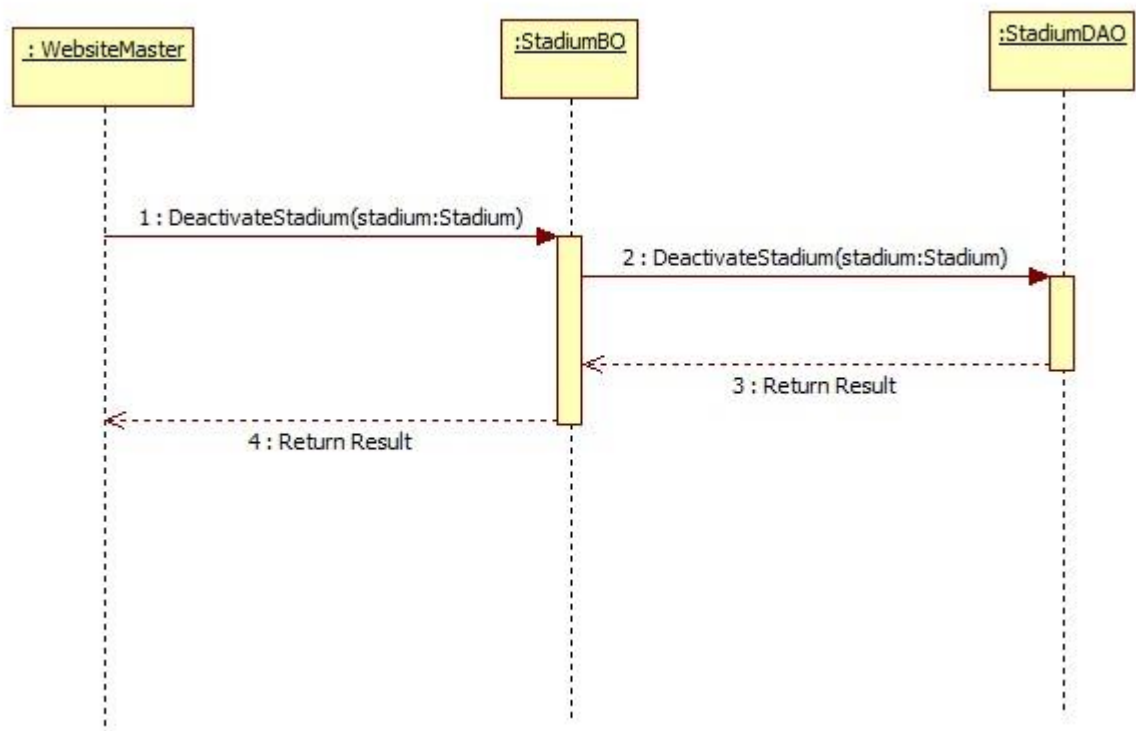
4.5.2. Update Stadium



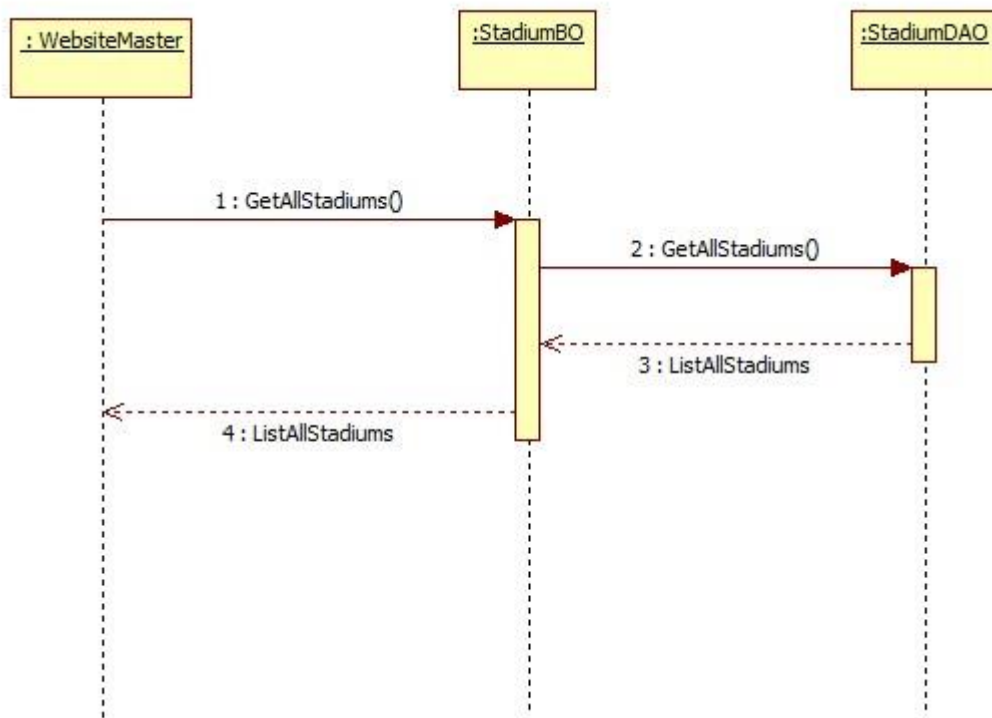
4.5.3. Activate Stadium



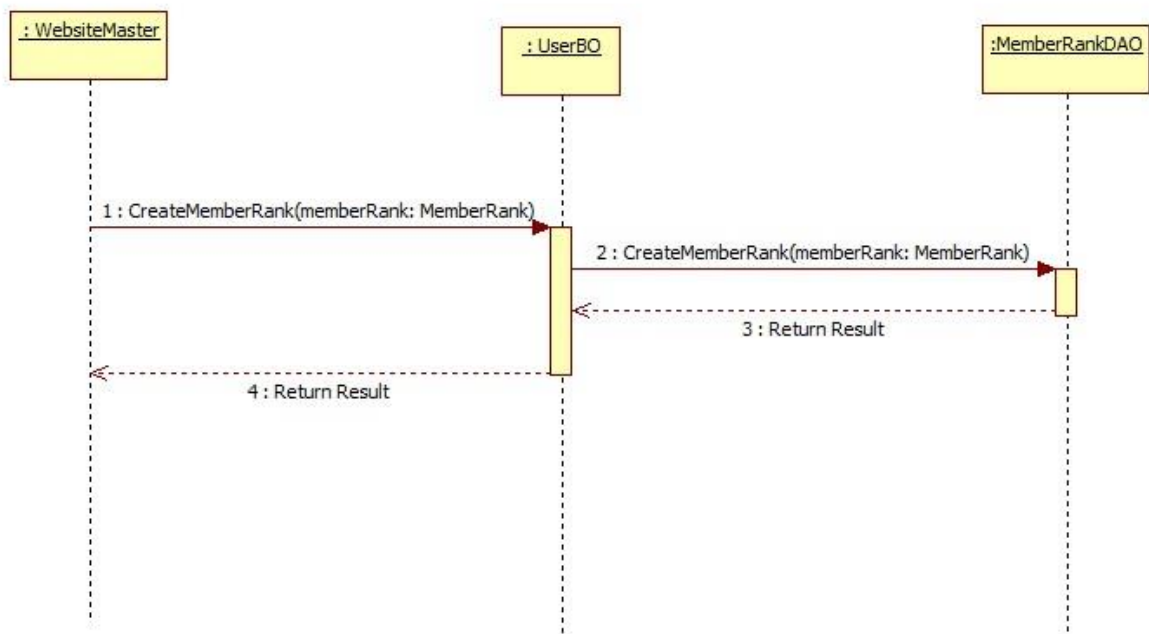
4.5.4. Deactivate Stadium



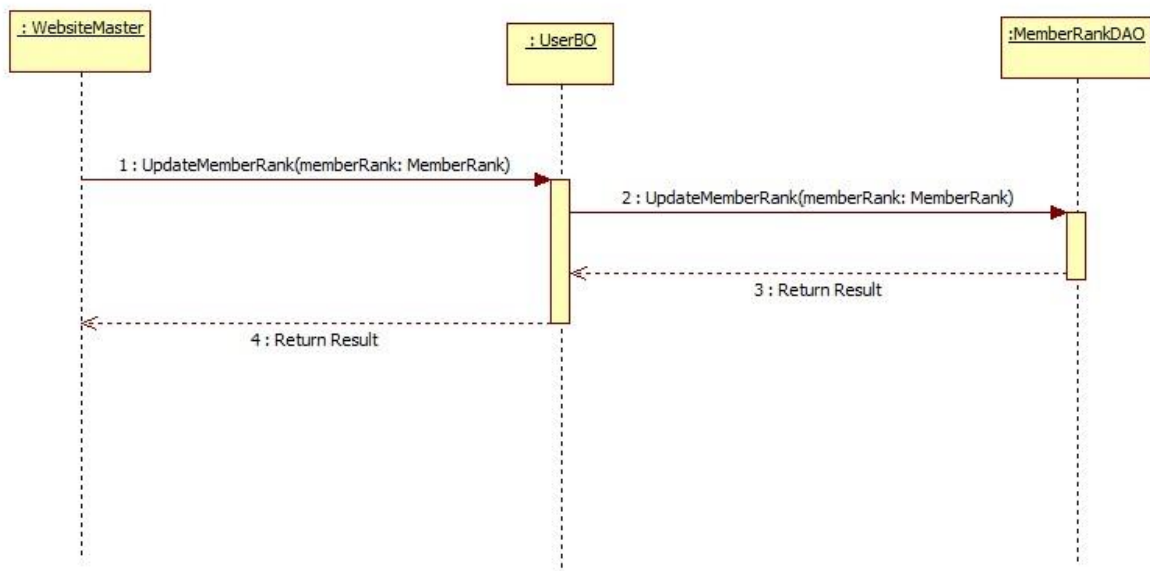
4.5.5. View Stadiums



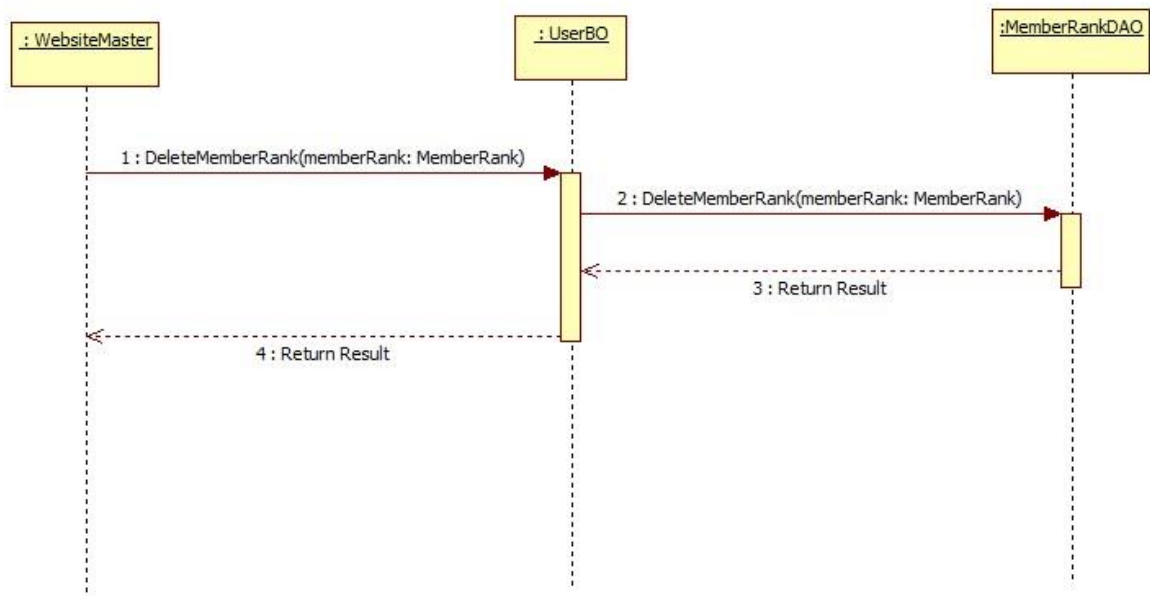
4.5.6. Create Member Rank



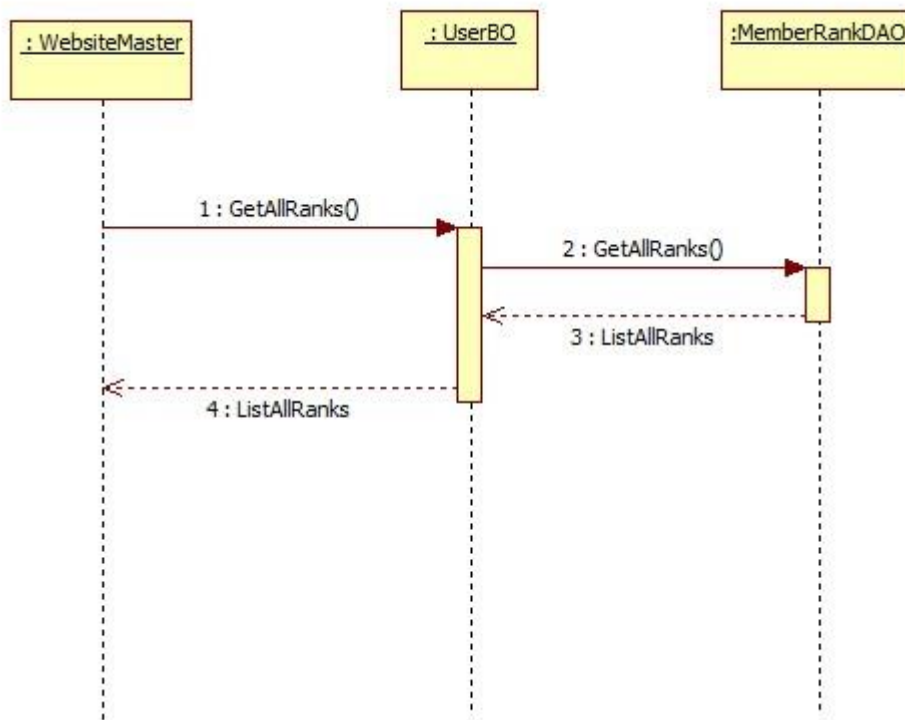
4.5.7. Update Member Rank



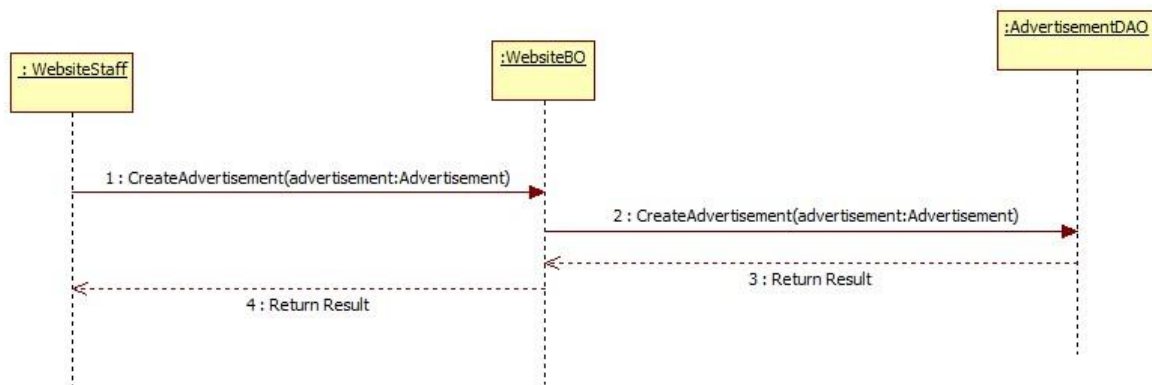
4.5.8. Delete Member Rank



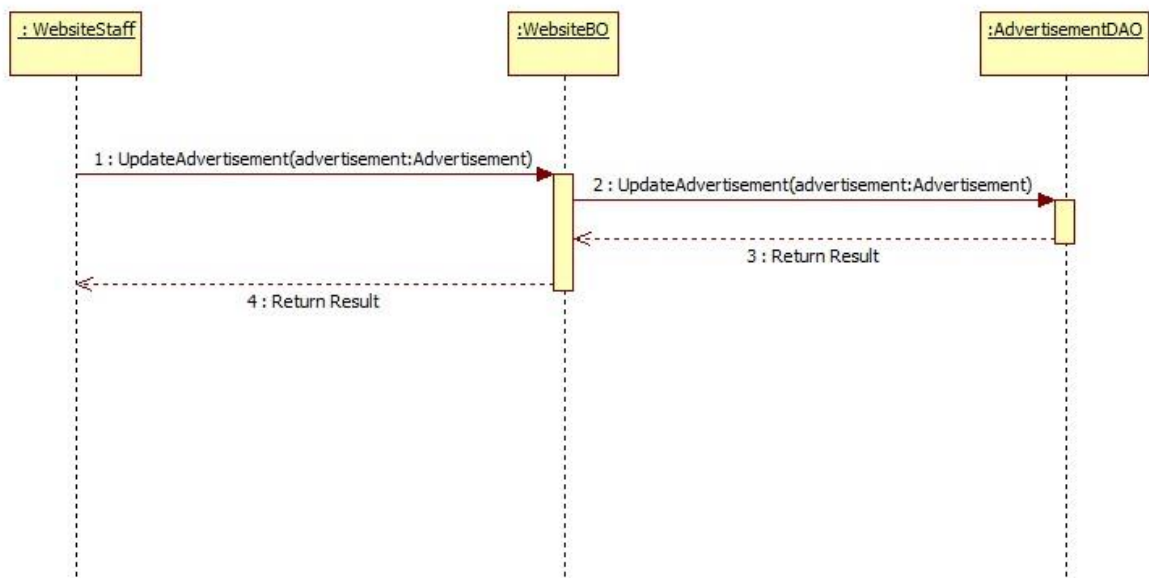
4.5.9. View Member Ranks



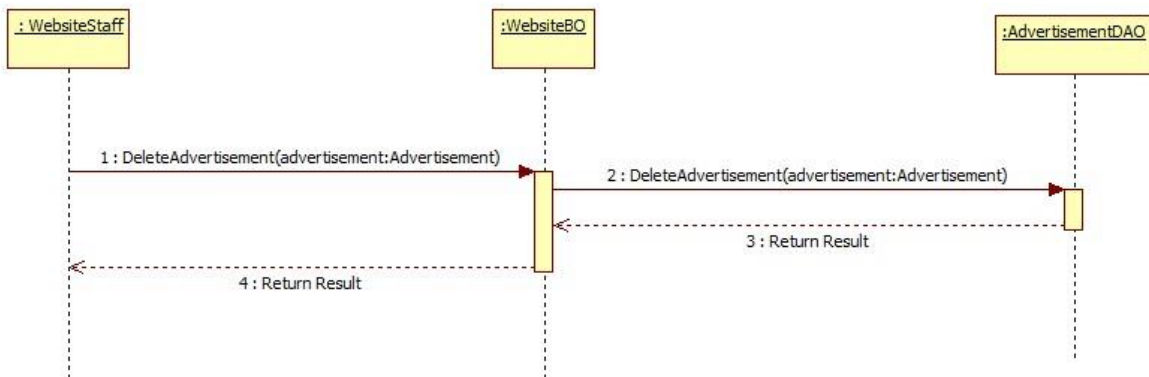
4.5.10. Create Advertising



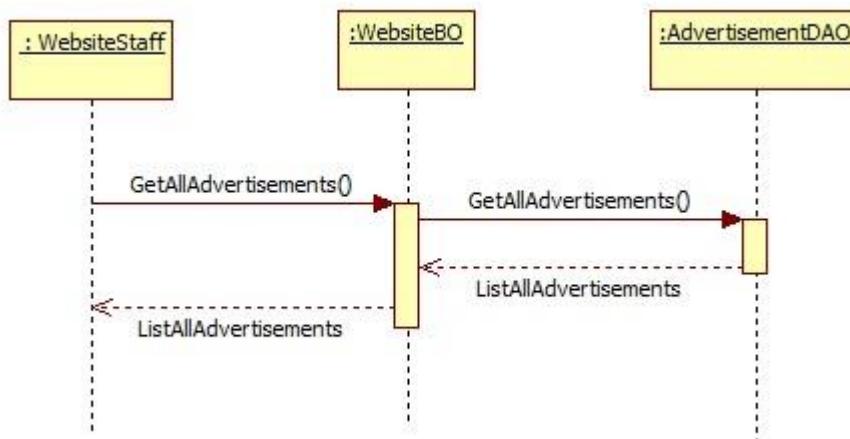
4.5.11. Update Advertising



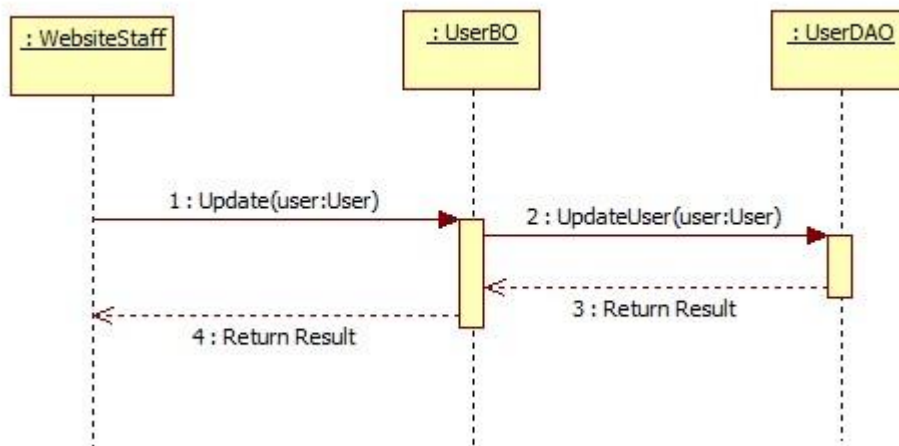
4.5.12. Delete Advertising



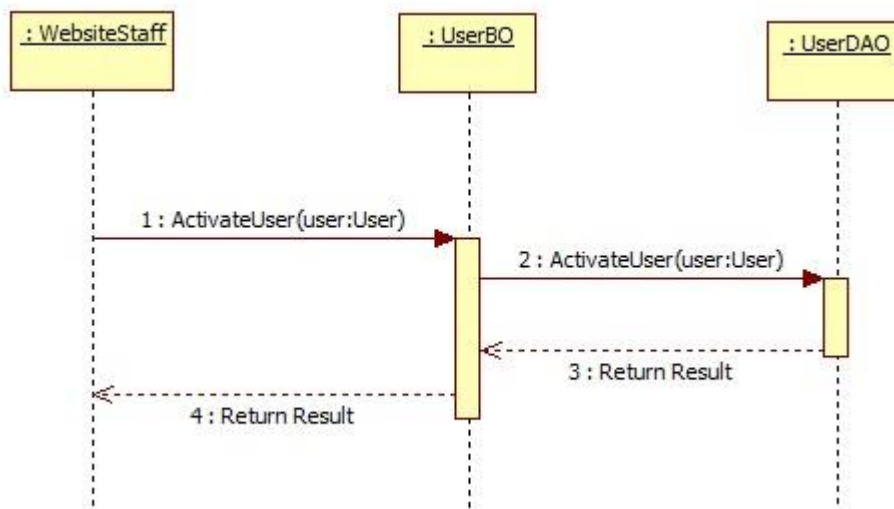
4.5.13. View Advertisings



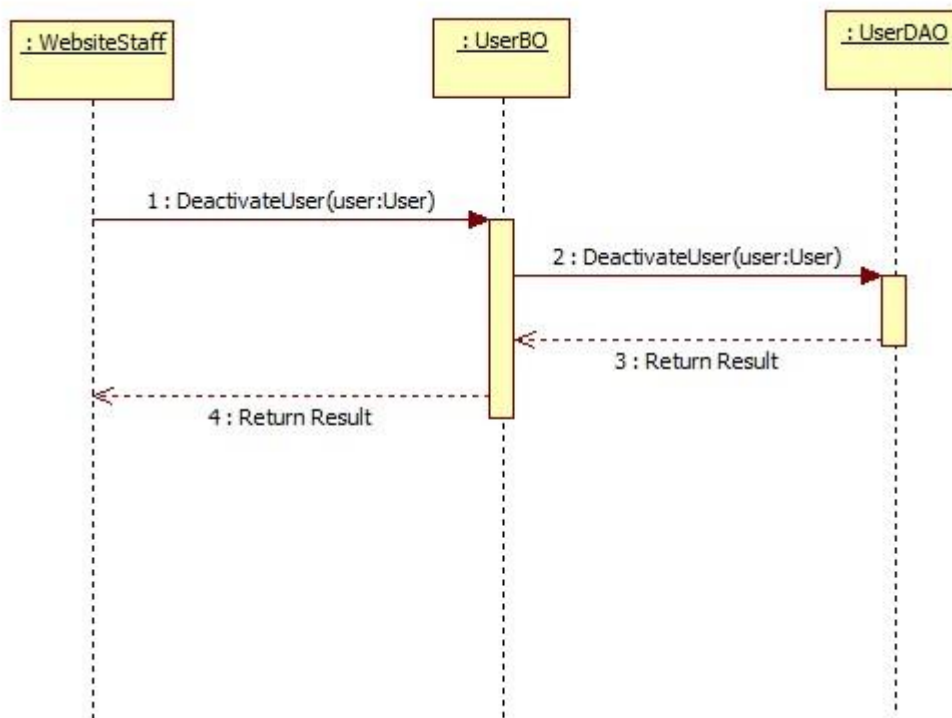
4.5.14. Update User



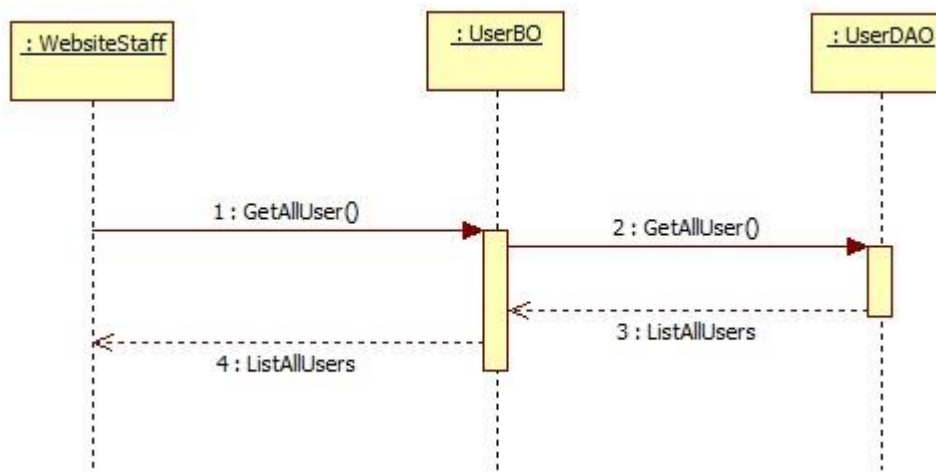
4.5.15. Activate User



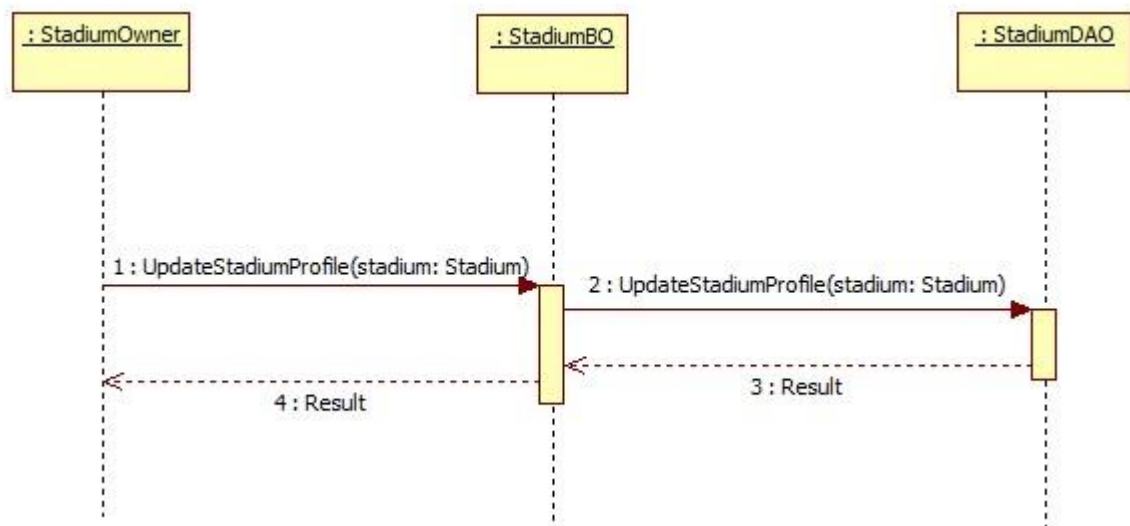
4.5.16. Deactivate User



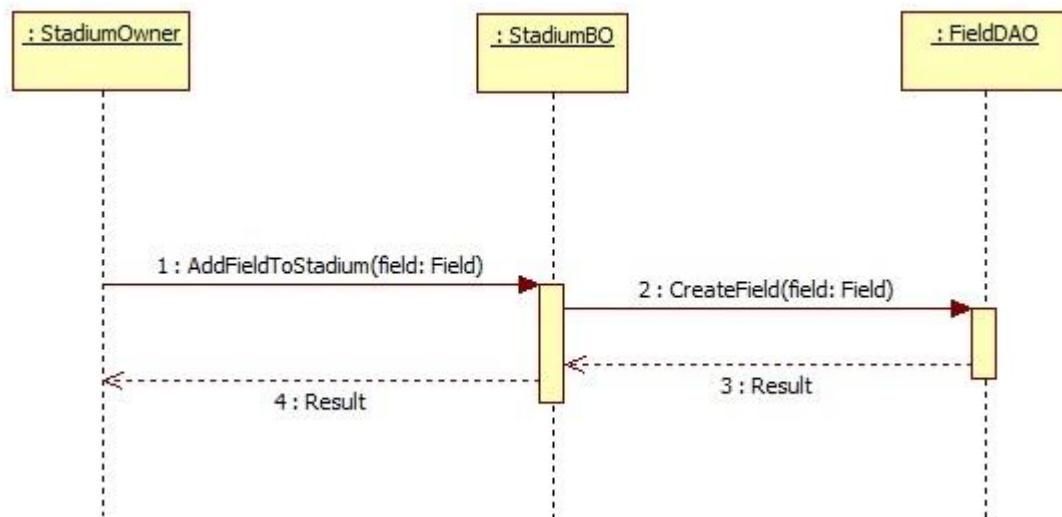
4.5.17. View Users



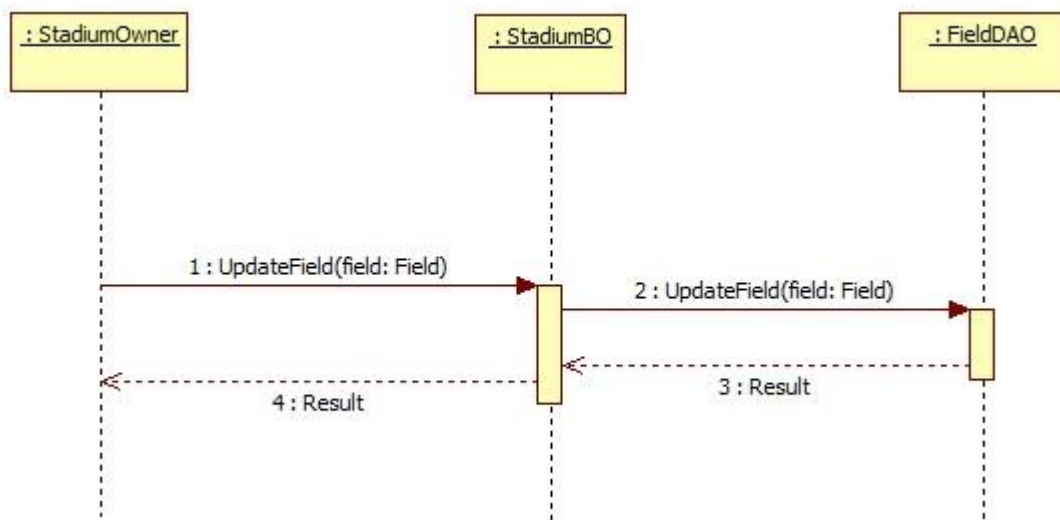
4.5.18. Update Stadium Profile



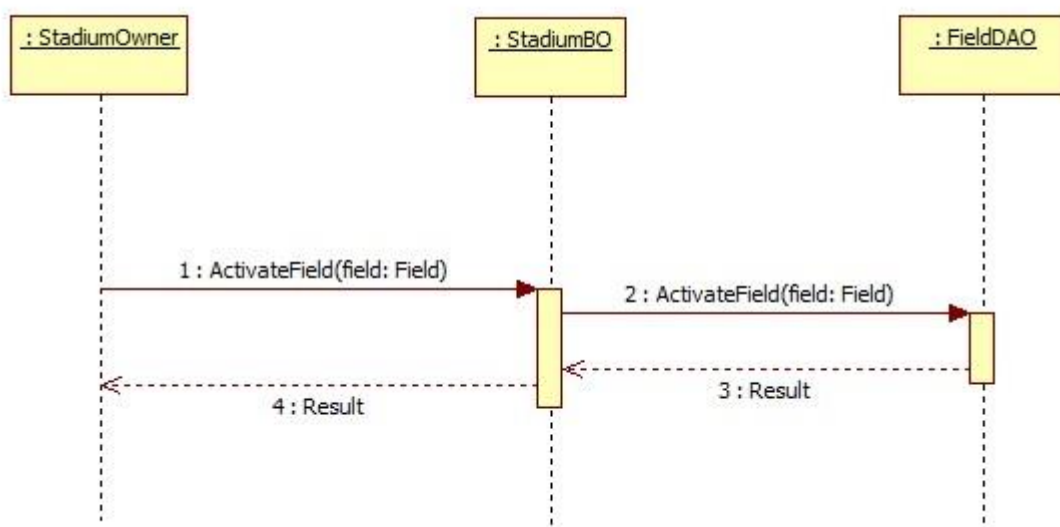
4.5.19. Add Field To Stadium



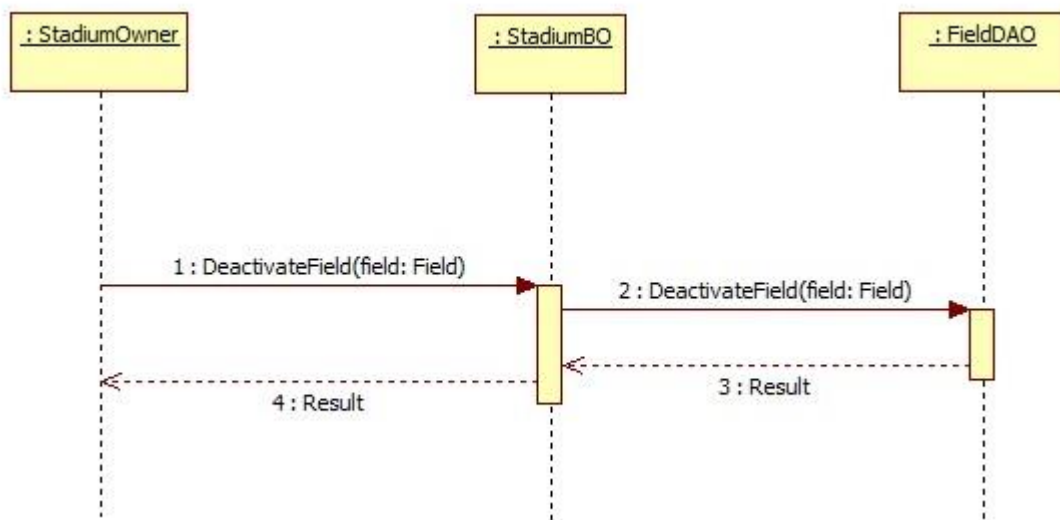
4.5.20. Update Field



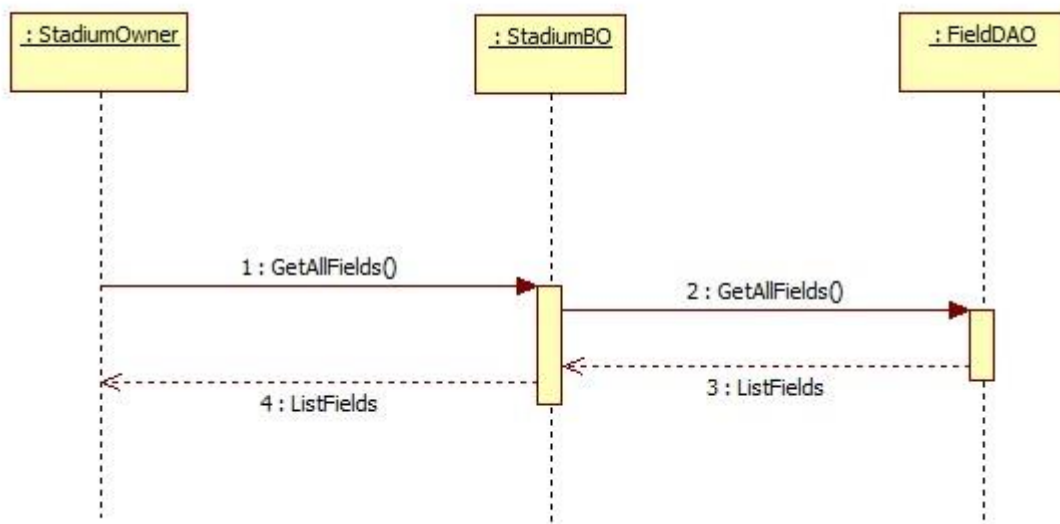
4.5.21. Activate Field



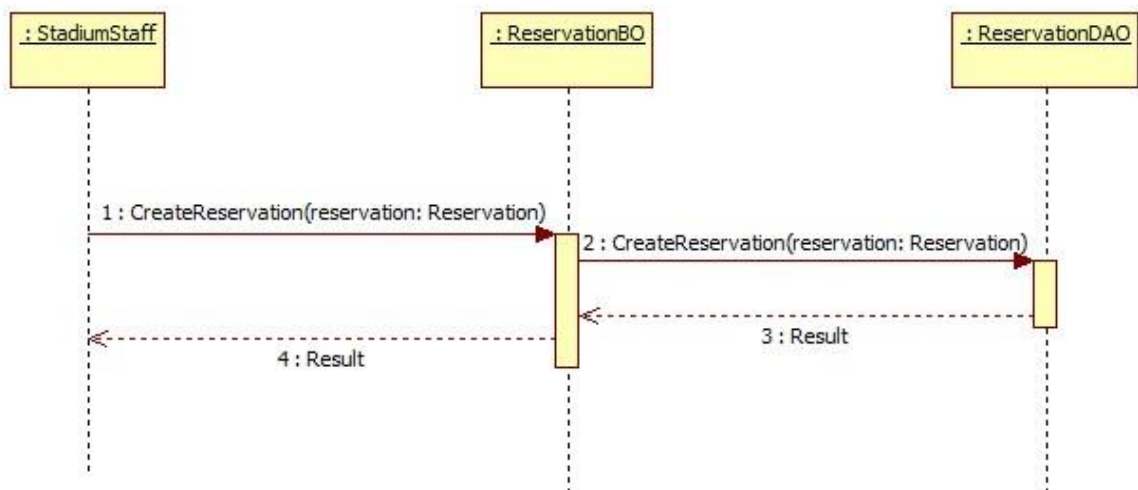
4.5.22. Deactivate Field



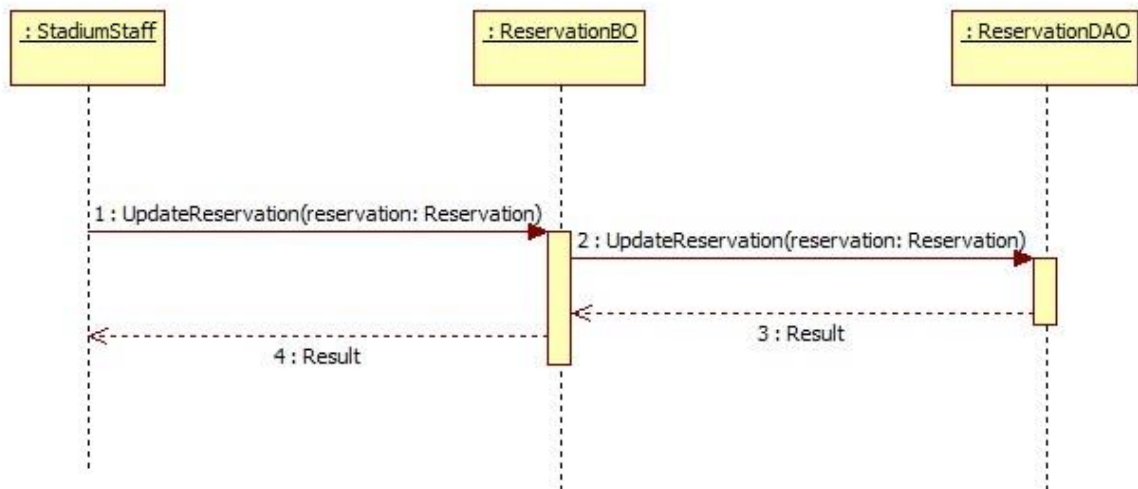
4.5.23. View Fields



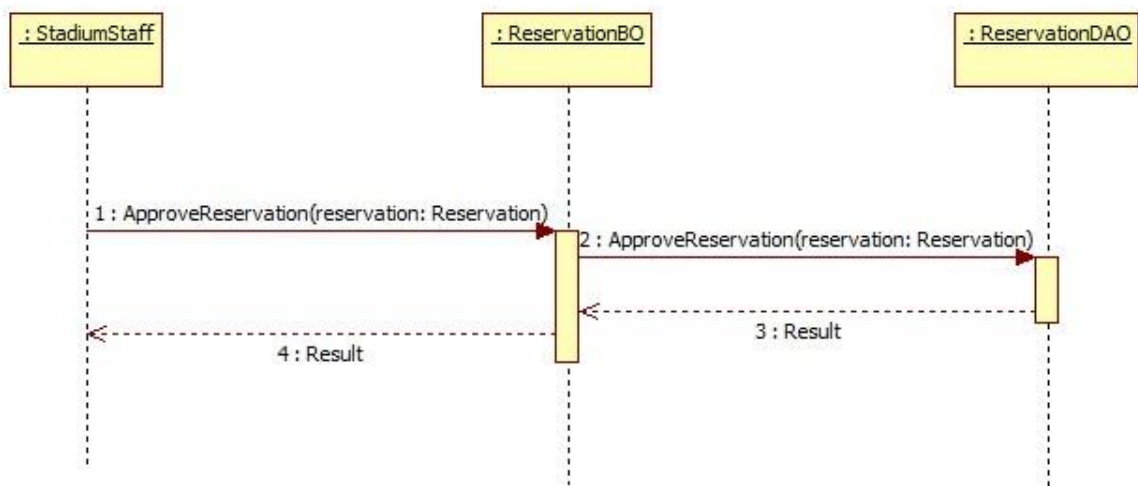
4.5.24. Create Reservation



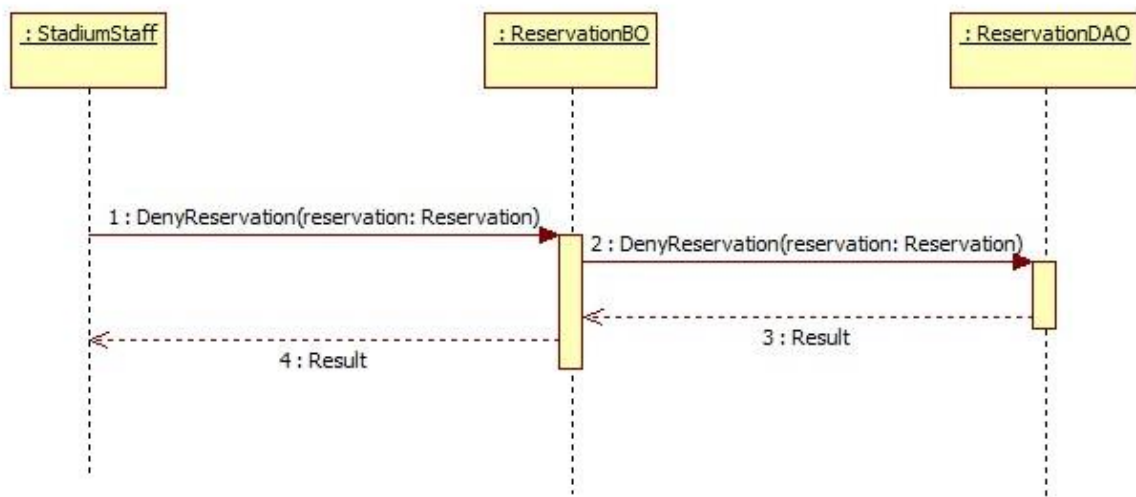
4.5.25. Update Reservation



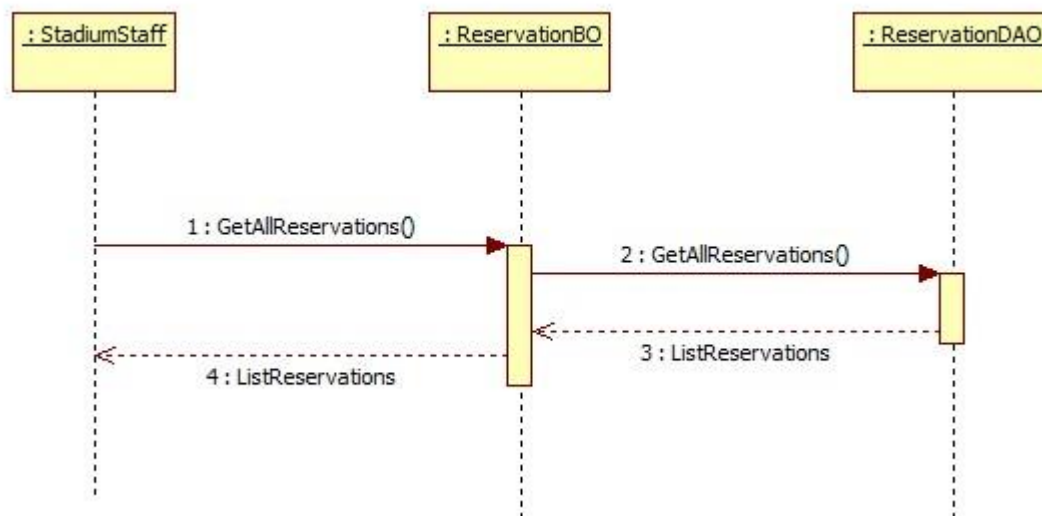
4.5.26. Approve Reservation



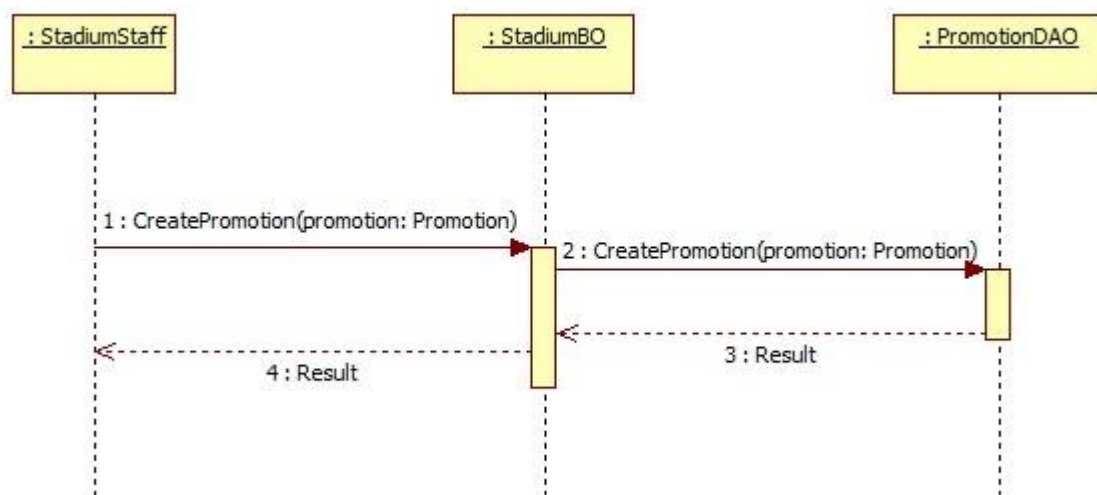
4.5.27. Deny Reservation



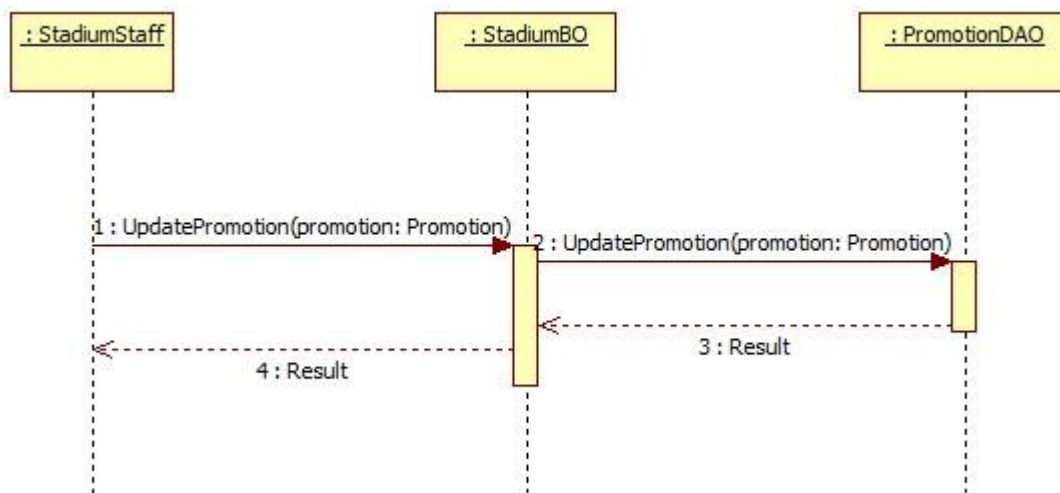
4.5.28. View Reservations



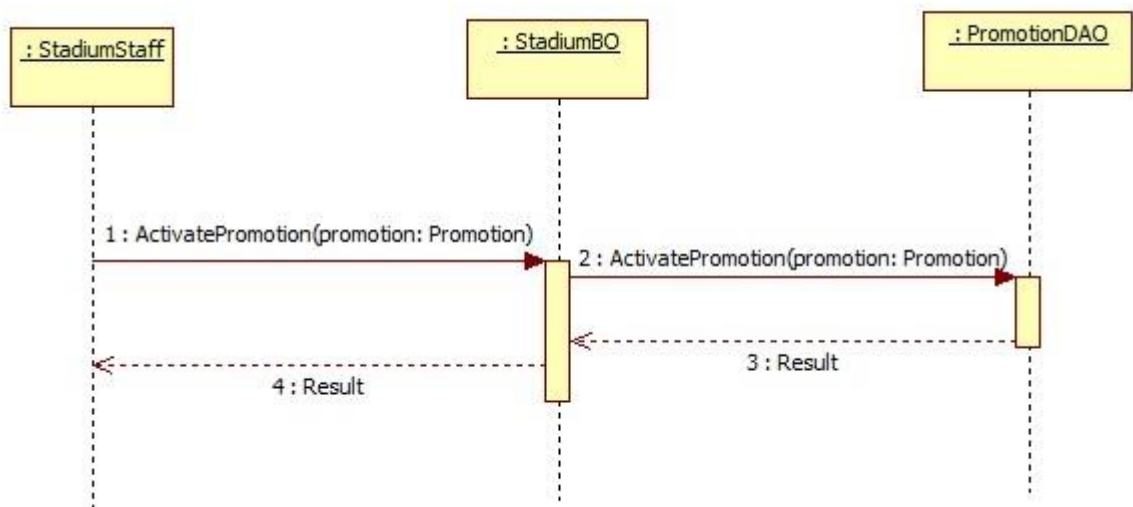
4.5.29. Create Promotion



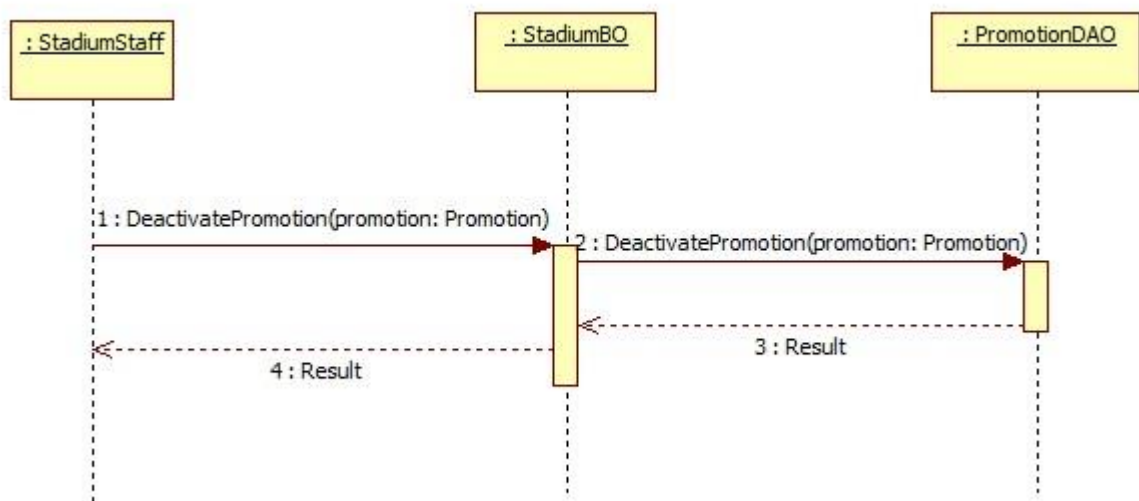
4.5.30. Update Promotion



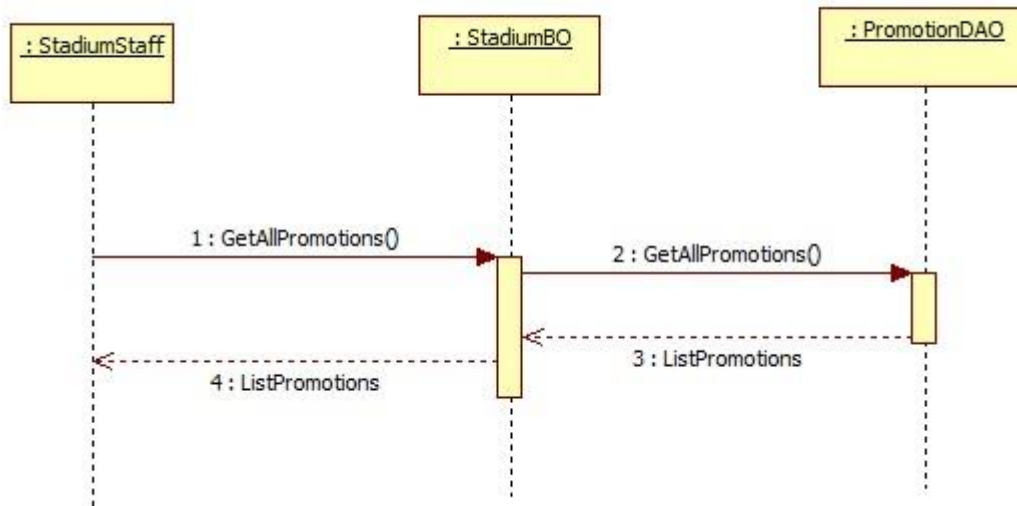
4.5.31. Activate Promotion



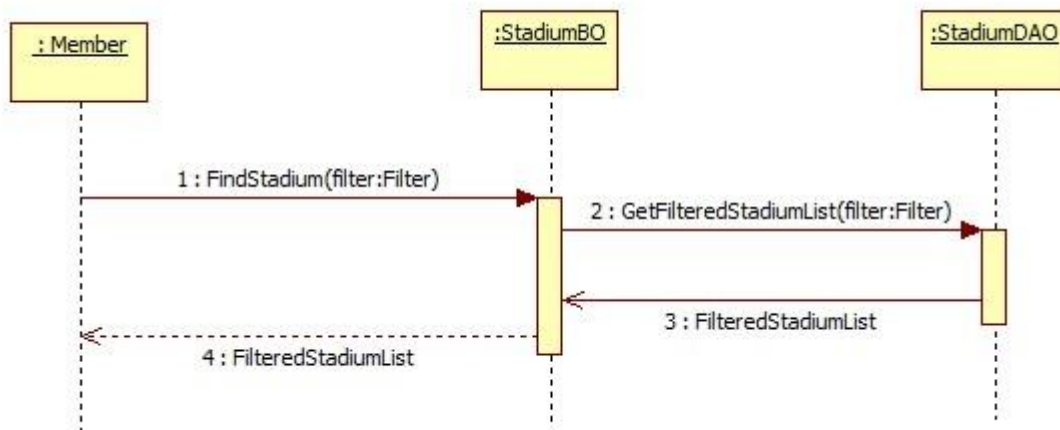
4.5.32. Deactivate Promotion



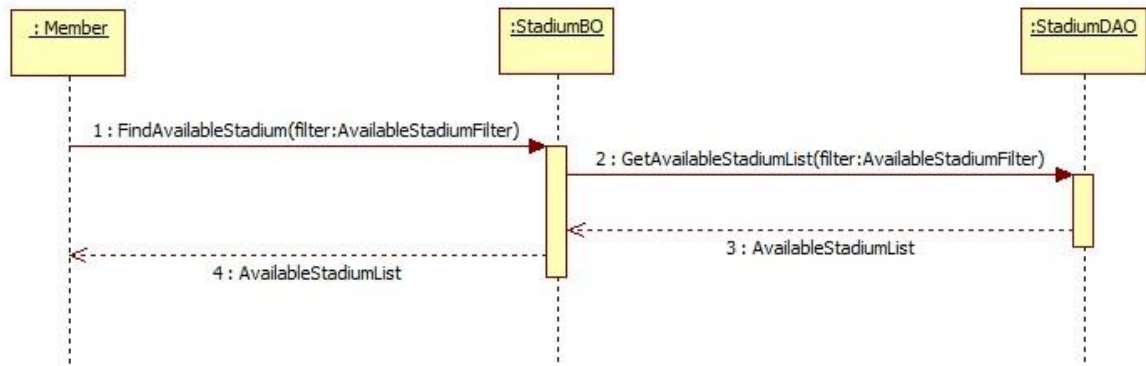
4.5.33. View Promotions



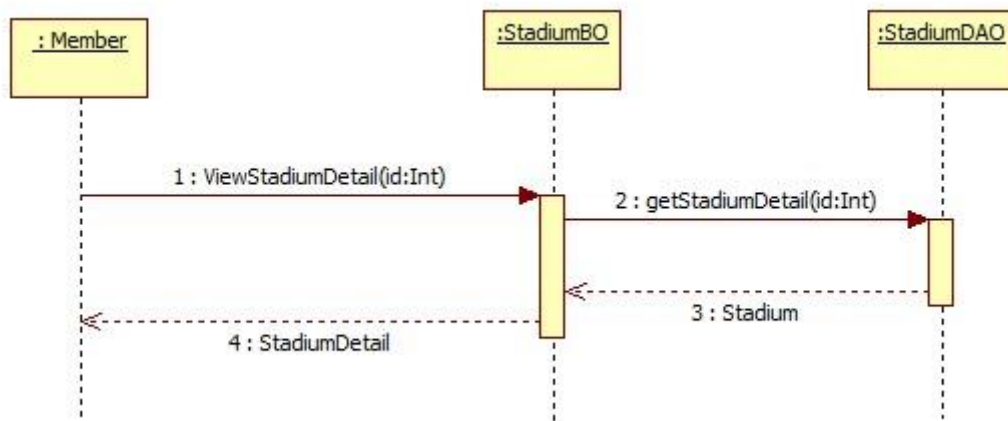
4.5.34. Find Stadium



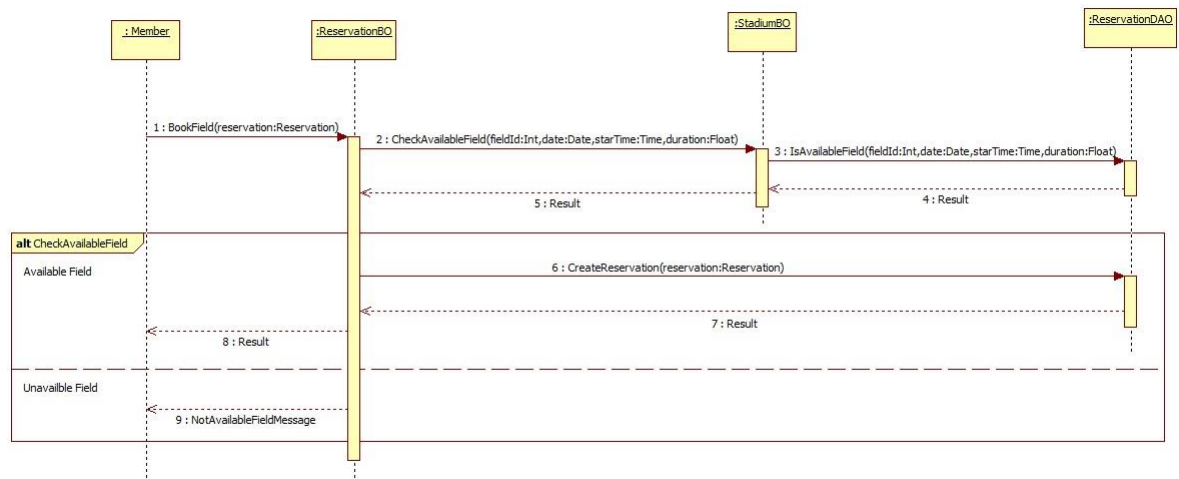
4.5.35. Find Available Stadium



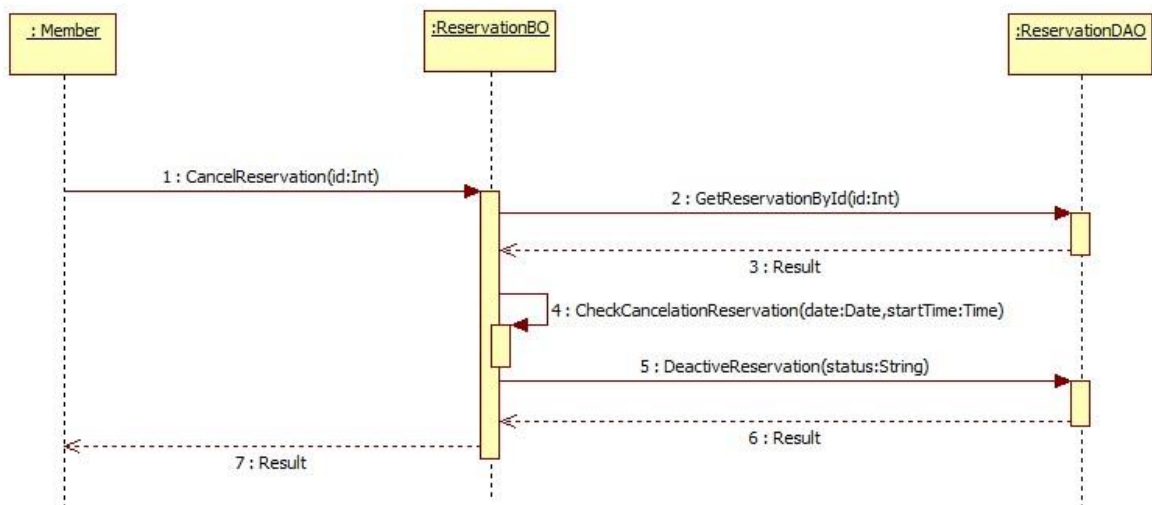
4.5.36. View Stadium Detail



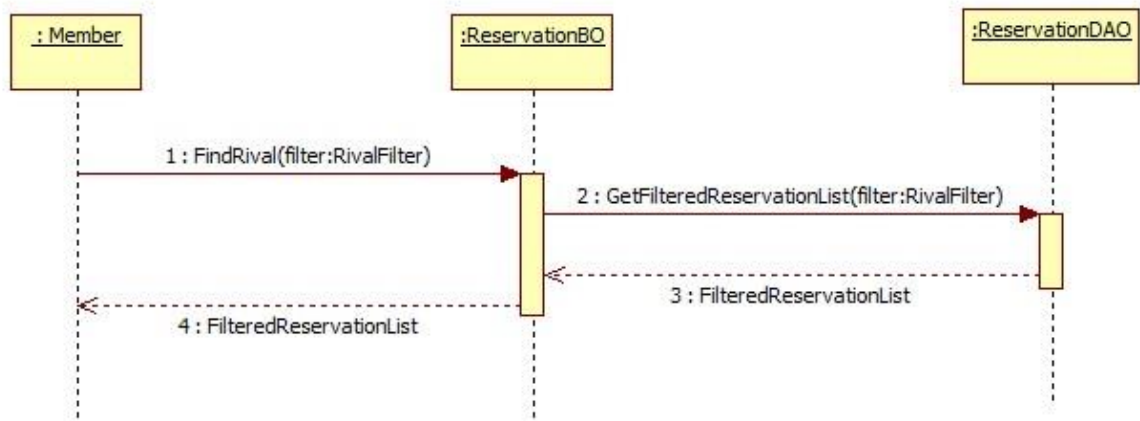
4.5.37. Book Field



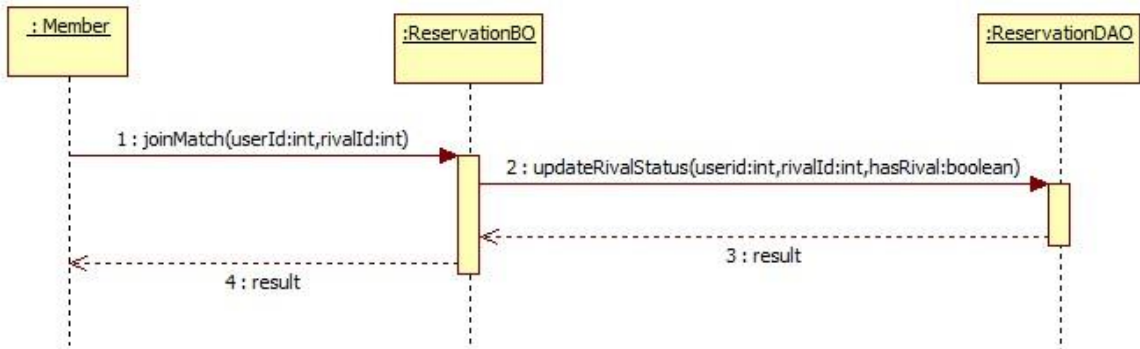
4.5.38. Cancel Reservation



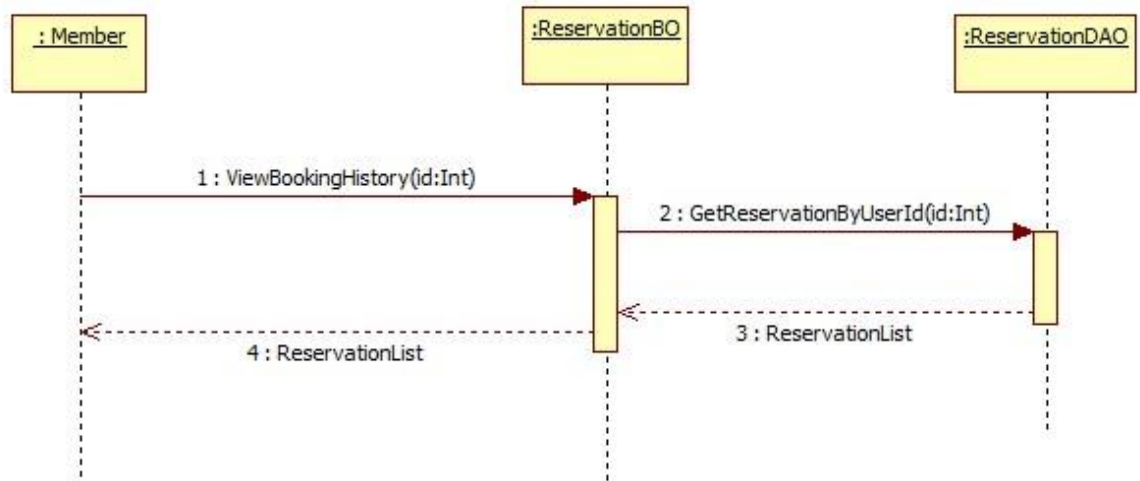
4.5.39. Find Rival



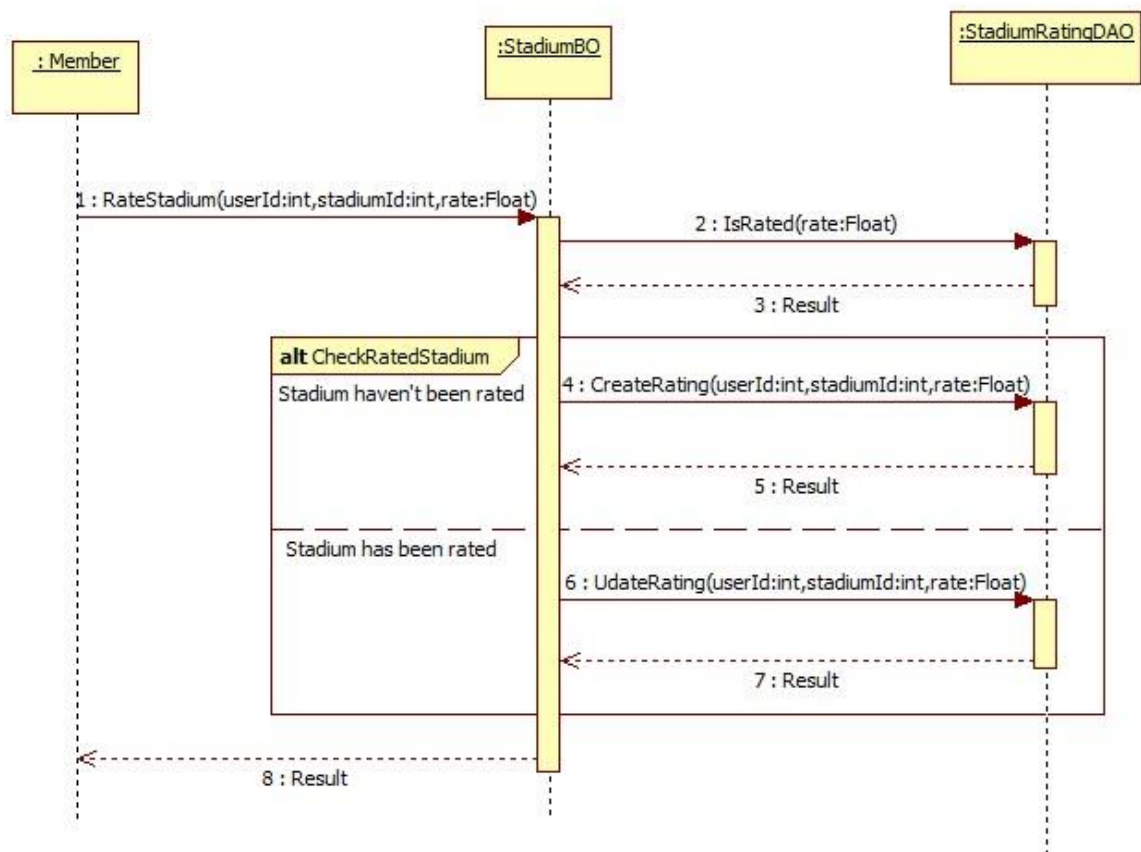
4.5.40. Join Match



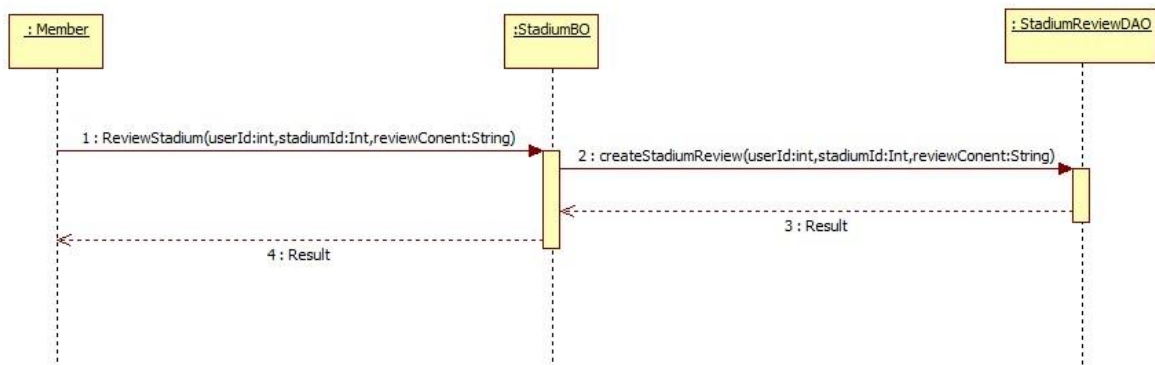
4.5.41. View Booking History



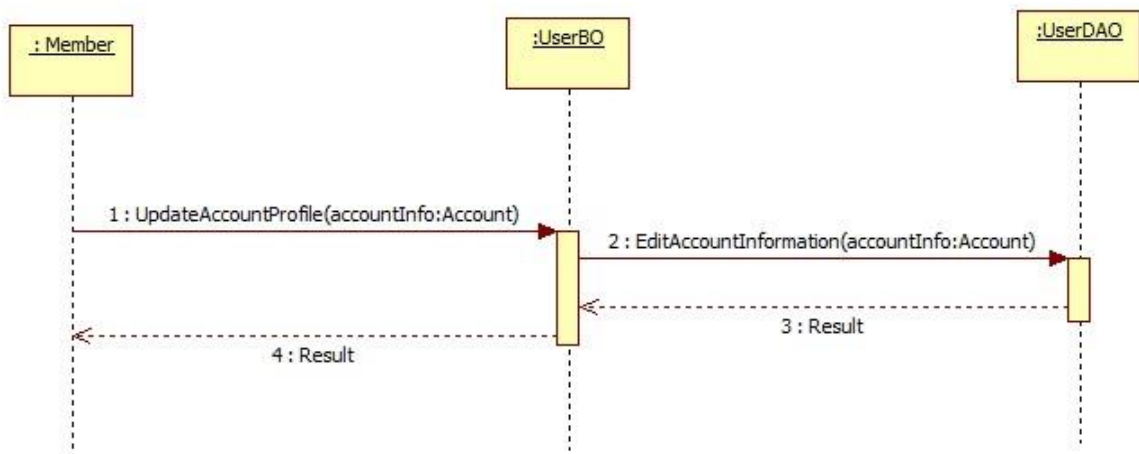
4.5.42. Rate Stadium



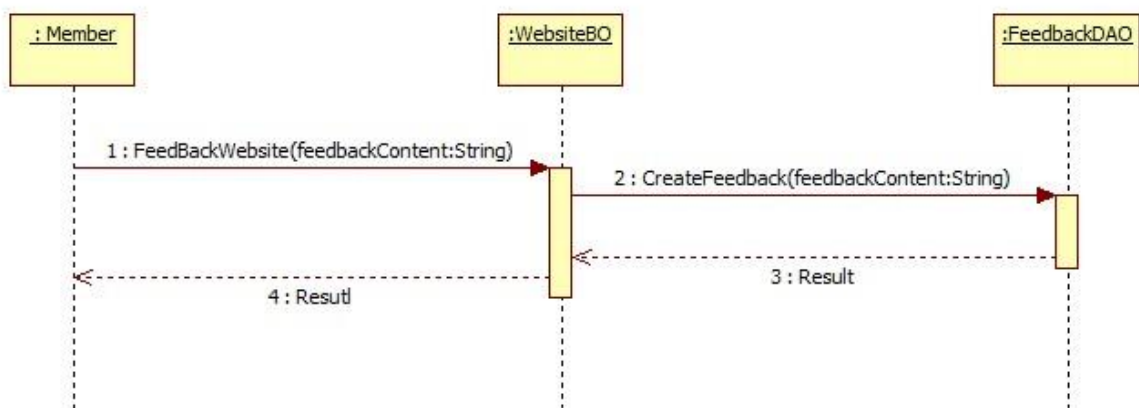
4.5.43. Review Stadium



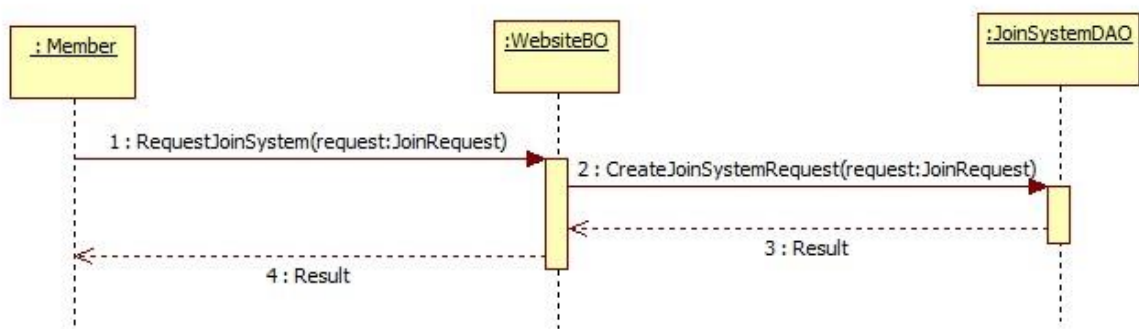
4.5.44. Update Account Profile



4.5.45. Feedback Website



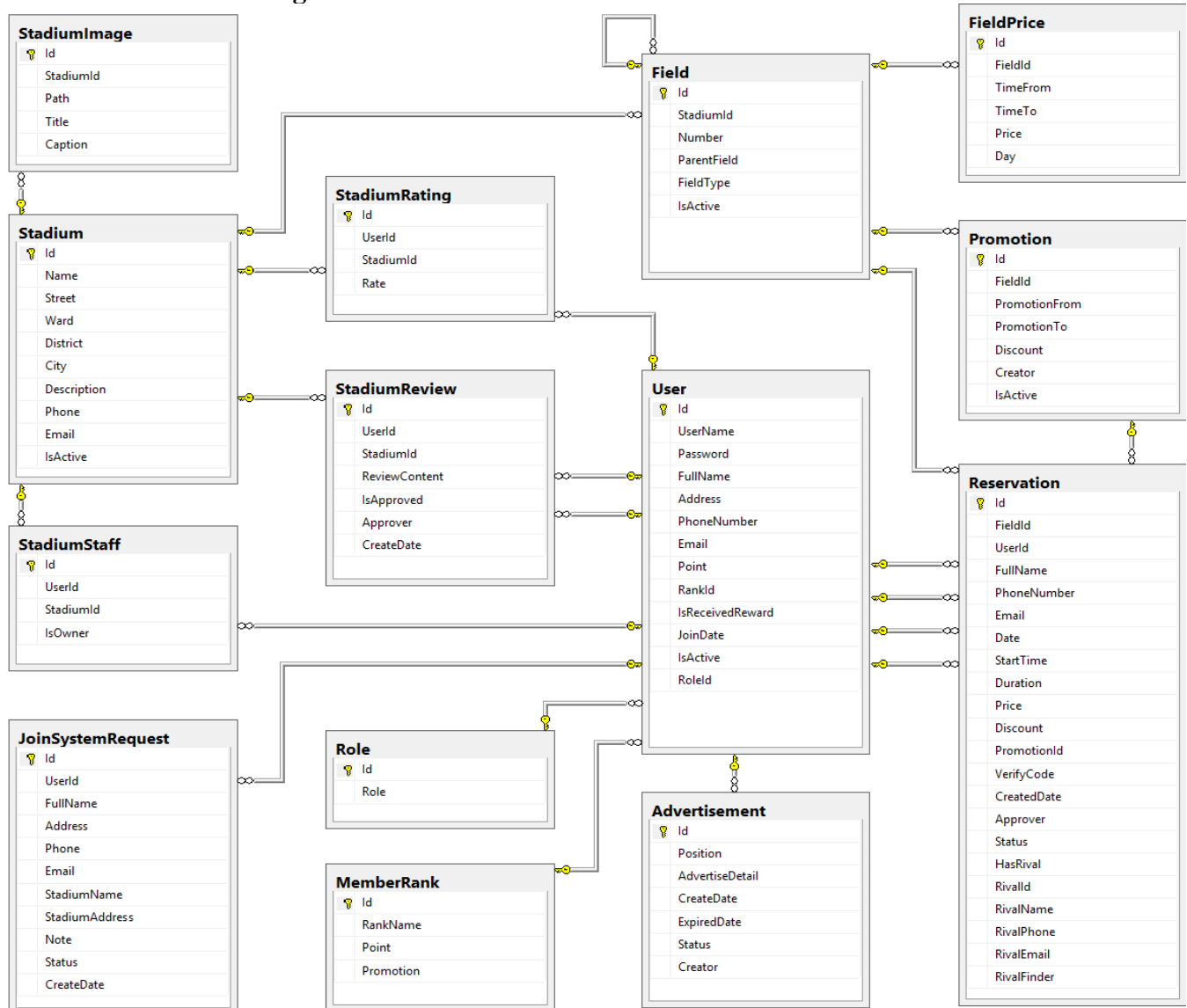
4.5.46. Request Join System



4.6. User Interface Design/ Hardware Interface Design (if any)

Update Later

4.7. Database Design



4.7.1. Tables description

No.	Table name	Description
1	Advertisement	Store information about advertising of website
2	Field	Store information about fields in system
3	FieldPrice	Store information about price of fields in system
4	JoinSystemRequest	Store information about join system requests in system
5	MemberRank	Store information about rank of member in system
6	Promotion	Store information about promotions of stadiums in system
7	Reservation	Store information about reservations of stadiums in system
8	Role	Store information about roles of user in system
9	Stadium	Store information about stadiums in system
10	StadiumImage	Store information about images of stadiums in system
11	StadiumRating	Store information about rating of stadiums in system
12	StadiumReview	Store information about reviews of stadiums in system
13	StadiumStaff	Store information about staffs of stadiums in system

14	User	Store information about users in system
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4.7.2. Advertisement

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this advertising
Position	nvarchar(10)					The position to display of the advertising
AdvertiseDetail	ntext					The content of this advertising
CreateDate	date					The date when this advertising is created
ExpiredDate	date					The date when this advertising is expired
Status	nvarchar(50)					The status of this advertising
Creator	int	true		FK		The creator who is created this advertising

4.7.3. Field

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this field
StadiumId	int			FK		The index of stadium which contain this field
Number	nvarchar(5)					The number of this field
ParentField	int	true		FK		The index of field which is parent of this field
FieldType	int					The type of this field
IsActive	bit	true				The status of this field

4.7.4. FieldPrice

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of price of field
FieldId	int			FK		The index of field
TimeFrom	float					The price of field begin from this time
TimeTo	float					The price of field end from this time
Price	float					The price of field
Day	int					The price of fiend in this day

4.7.5. JoinSystemRequest

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this join system request
UserId	int			FK		The user who send this join system request
FullName	nvarchar(50)					The full name of user who send this join system request
Address	nvarchar(100)					The address of user who send this join system request
Phone	nvarchar(20)					The phone number of user who send this join system request
Email	nvarchar(50)					The email of user who send this join system request
StadiumName	nvarchar(100)					The name of stadium which is user want to join system
StadiumAddress	nvarchar(100)					The address of stadium which is user want to join system
Note	nvarchar(1000)	true				The note of this request
Status	nvarchar(50)					The status of this request
CreateDate	datetime					The date when this request is created

4.7.6. MemberRank

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this rank
RankName	nvarchar(50)	true				The name of this rank
Point	int	true				This point is condition to have this user rank
Promotion	nvarchar(500)	true				The promotion for user who have this rank

4.7.7. Promotion

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this promotion

FieldId	int			FK		The index of field which this promotion apply
PromotionFrom	date					The time when this promotion is started
PromotionTo	date					The time when this promotion is finished
Discount	float					The discount per cent of this promotion
Creator	int	true				The creator who is created this promotion
IsActive	bit	true				The status of this promotion

4.7.8. Reservation

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this reservation
FieldId	int			FK		The index of field is booked
UserId	int	true		FK		The index of user who book the field
FullName	nvarchar(50)					The full name of user who book the field
PhoneNumber	nvarchar(20)					The phone number of user who book the field
Email	nvarchar(50)	true				The email of user who book the field
Date	date					The date that is booked the field
StartTime	float					The start time when user need the field
Duration	float					The duration time that user need the field
Price	float					The price of field
Discount	float	true				The discount per cent of the promotion is applied to this reservation
PromotionId	int	true				The index of the promotion is applied to this reservation
VerifyCode	nvarchar(50)					The code which use for verifying this reservation
CreatedDate	datetime					The date when this reservation is created
Approver	int	true		FK		The index of stadium staff who approve this reservation

Status	nvarchar(20)					The status about approving of this reservation
HasRival	bit					The status about having rival of this reservation
RivalId	int	true		FK		The index of rival who join this request rival of this reservation
RivalName	nvarchar(50)	true				The name of rival who join this request rival of this reservation
RivalPhone	nvarchar(20)	true				The phone number of rival who join this request rival of this reservation
RivalEmail	nvarchar(50)	true				The email of rival who join this request rival of this reservation
RivalFinder	int	true				The index of user who find rival for this request rival of this reservation

4.7.9. Role

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK, FK		The index of this role
Role	nvarchar(50)					The name of this role

4.7.10. Stadium

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this stadium
Name	nvarchar(100)					The name of this stadium
Street	nvarchar(50)					The street address of this stadium
Ward	nvarchar(50)					The ward address of this stadium
District	nvarchar(50)					The district address of this stadium
City	nvarchar(50)					The city address of this stadium
Description	nvarchar(500)					The description about this stadium

Phone	nvarchar(20)					The phone number to contact with this stadium staff
Email	nvarchar(50)					The email to contact with this stadium staff
IsActive	bit	true				The status of this stadium

4.7.11. StadiumImage

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this image
StadiumId	int			FK		The index of stadium which the image about
Path	nvarchar(100)					The path of this image store in server
Title	nvarchar(100)	true				The title of this image
Caption	nvarchar(200)	true				The caption of this image

4.7.12. StadiumRating

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this rating
UserId	int			FK		The index of user who rate the stadium
StadiumId	int			FK		The index of stadium which is rated
Rate	float					The point of this rating

4.7.13. StadiumReview

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this review
UserId	int			FK		The index of user who review the stadium
StadiumId	int			FK		The index of stadium which is reviewed
ReviewContent	nvarchar(500)					The content of this review
IsApproved	bit					The status about approving of this review
Approver	int	true		FK		The index of stadium staff who approve this review
CreateDate	datetime					The date when this review is created

4.7.14. StadiumStaff

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this stadium staff
UserId	int			FK		The index of user who is staff of stadium
StadiumId	int			FK		The index of stadium
IsOwner	bit					The role of this staff

4.7.15. User

Field name	Type	Null	Unique	P/F key	Default	Description
Id	int			PK		The index of this user
UserName	nvarchar(50)					The user name of this user
Password	nvarchar(50)					The password of this user
FullName	nvarchar(50)	true				The full name of this user
Address	nvarchar(100)	true				The address of this user
PhoneNumber	nvarchar(20)	true				The phone number of this user
Email	nvarchar(50)					The email of this user
Point	int					The point of this user
RankId	int			FK		The index of rank of this user
IsReceivedReward	bit					The status about receiving reward of this user
JoinDate	date					The date when user register at website
IsActive	bit					The status of this user
RoleId	int					The index of role of this user

4.8. Other material (if any)

N/A