SWE – 206

Lab Project

Project Phase 2

Sec.53/Group 1

Tariq Madkhali – 201920030
Abdulhadi Zubailah – 201919250
Khalid Albaqami – 201934770
Hammaad Ahmar – 201942130

Contributions:

Tariq Madkhali:

1. Brainstorming for Non-functional requirements.
2. Brainstorming for use cases.
3. Review of use case diagram.
4. Use cases: 9, 10
5. Brainstorming for class diagram.
6. Making sequence diagram for “Update Competition Winners”.
7. Making activity diagram for “load”.
8. Feedback and reworking on other activities.
9. Functionality of “Edit” & “Add student”, including “update rank” method.
10. Design of TeamBasedCompetition class.
11. Feedback and additional work on some FXController classes.

Abdulhadi Zubailah:

1. Writing the Report.
2. Writing and reviewing the Non-functional requirements.
3. Designing the use case diagram
4. Use cases: 1, 2, 3
5. Designing & brainstorming the class diagram.
6. Making sequence diagram for “Add Student to Competition”.
7. Making activity diagram for “addStudent”.
8. Feedback and reworking on other activities.
9. All aspects of JavaFX from Classes to FXML files including the design of all interfaces.
10. Functionality of “Add competition” & “Create email” partially, including “notify winners” method.
11. Website integration.
12. Resolving exceptions for every single error that may occur as pop-ups.
13. Design of StudentBased Competition Class, Interfaces Class & all FXController classes.

Khalid Albaqami:

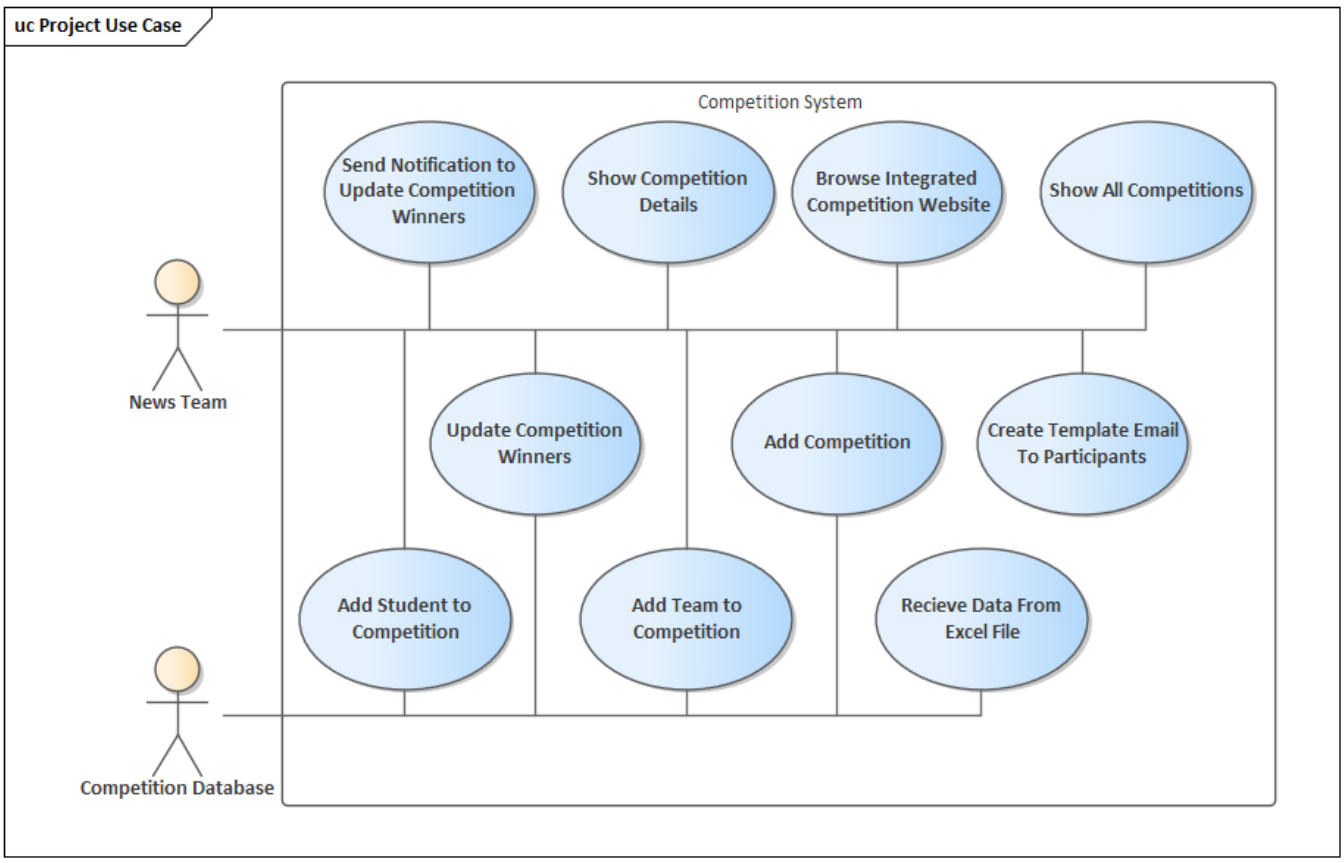
1. Brainstorming for Non-functional requirements
2. Brainstorming for use cases.
3. Review of use case diagram
4. Use cases: 7, 8
5. Brainstorming for class diagram.
6. Making sequence diagram for “Add Team to Competition”.
7. Making activity diagram for “addTeam” & “sendEmail.
8. Feedback and reworking on other activities.
9. All methods related to dealing with excel file such as “load” & “save”.
10. Design of Team & Student Classes.

Hammaad Ahmar:

1. Writing and reviewing the Non-functional requirements.
2. Brainstorming for uses cases
3. Review of use case diagram
4. Use cases: 4, 5, 6
5. Brainstorming for class diagram.
6. Making sequence diagram for “Add Competition”.
7. Making activity diagram for “notifyWinners” & “addCompetition”.
8. Functionality of “Create email” Partially.
9. Design of Competition Class.

Non-functional requirements

- the program should be available 24/7 (Availability).
- the program shall be easy to improve upon for future changes (Maintainability).
- The system should be dependable so that it fails less than 5 times every day (Reliability).
- The user should perform a task in less than five clicks (Usability).
- The system shall automate the News team's menial work (Usability).
- The program should be easily used by experienced users after 30 minutes of training (Usability).
- The program shall be written in java.
- The application shall be efficient and use less than 30% of the CPU and memory space (Efficiency).
- The system shall abide by the university code of ethics.
- The competition listing should be organized and easy to read (Usability).



Use case ID:	1		
Use Case Name:	Browse Integrated Competition Website		
Created by:	Abdulhadi Zubailah	**Last Updated by:**	Hammad
Date Created:	11/1/2021	**Last Revision Date:**	11/7/2021
Actors:	Primary – News Team		
Description:	Browse the competition website within the application.		
Trigger:	Select desired competition		
Preconditions:	1. Website link should be stored in memory, ready to be used. 2. Internet connection is required.		
Postconditions:	N/A		
Normal Flow:	1. Trigger – News Team clicks the desired competition 2. New window opens that has integrated website within the application along with competition info. 3. News Team browses the website 4. News Team returns to the competition selection menu 5. Process ends		
Alternative Flows:	3a. Website shows connection error due to internet issues 1. News Team checks the internet. 2. News Team returns to competition selection menu 3. News Team selects the competition once more 4. Internet website now works 5. Return to step 7 in normal flow		
Exceptions:	3b. Website is received incorrectly and tells you “DNS not found” 1. User fixes the typo in the excel file manually 2. User closes and opens the program once more 3. Internet website now works 4. Return to step 7 in normal flow		
Assumptions:	The news team can open the excel file and modify info manually without the need of the application.		
Notes and Issues:	News team should make sure that all info in the excel file is correct without any typo.		

Use case ID:	2		
Use Case Name:	Create Template Email for Participants		
Created by:	Abdulhadi Zubailah	**Last Updated by:**	Khalid
Date Created:	11/2/2021	**Last Revision Date:**	11/7/2021
Actors:	Primary – News Team		
Description:	Create an email for each participant using a template		
Trigger:	Click on "Create template email"		
Preconditions:	1. All info regarding participants should be stored in memory, ready to be used.		
Postconditions:	1. Email copied to clipboard		
Normal Flow:	1. Trigger – In competition screen, News team clicks "Create template email" button 2. Program generates email from template using the winner info 3. Program copies the email to clipboard 4. News Team press next to generate the next email 5. Program shows that there are no more winners to create emails for 6. Process ends		
Alternative Flows:	5a. There are more winners 1. Move to normal flow 2		
Exceptions:	1a. There are no winners 1. Program immediately shows that there are no winners to create emails for 2. Return to normal flow 6		
Assumptions:	The news team can open the excel file and modify info manually without the need of the application. In addition, we're assuming there are no typo in the program		
Notes and Issues:	News team should make sure that all info in the excel file is correct without any typo.		

Use case ID:	3		
Use Case Name:	Receive Data from Excel File		
Created by:	Abdulhadi Zubailah	**Last Updated by:**	Tariq
Date Created:	10/31/2021	**Last Revision Date:**	11/7/2021
Actors:	Primary – Competition Database		
Description:	Receive data from competition database "Excel file" to use for other use cases.		
Trigger:	Launch the system.		
Preconditions:	1. Excel file should be in the designated location. 2. Excel file should follow Specific layout of data.		
Postconditions:	1. Use cases such as "Show Competitions" can be triggered.		
Normal Flow:	1. Trigger – News Team launches the program 2. Program accesses the location of the competition excel file 3. Program opens the competition excel file 4. Program retrieves data from competition excel file 5. Program stores these data into memory 6. Process ends		
Alternative Flows:	N/A		
Exceptions:	2a. Data in excel isn't following a specific layout 1. System shows error and prompts the user to follow the supposed layout of data. 2. Go to normal flow step 5		
Assumptions:	The news team already know how the structure of data in excel should be.		
Notes and Issues:	N/A		

Use case ID:	4		
Use Case Name:	Send notification to update competition winners		
Created by:	Hammaad Ahmar	**Last Updated by:**	Tariq
Date Created:	11/3/2021	**Last Revision Date:**	11/7/2021
Actors:	Primary – News Team Secondary- Competition Database		
Description:	Sending a notification to news team to update the winners of a competition		
Trigger:	News Team launch the program		
Preconditions:	1. A competition must be over 2. Winners have not been updated for the competition		
Postconditions:	1. News team updated the winners of the competition.		
Normal Flow:	1. Trigger – News Team starts program 2. Program checks for the competition date & winners 3. Competition date is due & the winners is yet to be updated 4. News Team receives notification from program. 5. Notification shows competition name and informs the user to update winners. 6. News Team updates winner for the competition. 7. Process ends		
Alternative Flows:	6a. News Team doesn't update winners 1. return to step 1 in normal flow		
Exceptions:	1. N/A		
Assumptions:	The competition must have participant info in database		
Notes and Issues:	N/A		

Use case ID:	5		
Use Case Name:	Show all competitions		
Created by:	Hammaad Ahmar	**Last Updated by:**	Khalid
Date Created:	11/3/2021	**Last Revision Date:**	11/7/2021
Actors:	Primary – News Team		
Description:	Shows all the current competitions.		
Trigger:	Launch the program		
Preconditions:	1. There should be competitions stored in memory.		
Postconditions:	N/A		
Normal Flow:	1. Trigger – Launch the program 2. The “Recieve Data from Excel File” Use case is executed. 3. Program displays an interface containing a list of competitions to be selected with their date. 4. Process ends		
Alternative Flows:	N/a		
Exceptions:	2a. Data in excel isn’t following a specific layout 1. System shows error and prompts the user to follow the supposed layout of data.		
Assumptions:	There are competitions in the database		
Notes and Issues:	N/A		

Use case ID:	6		
Use Case Name:	Show competition details		
Created by:	Hammaad Ahmar	**Last Updated by:**	Khalid
Date Created:	10/31/2021	**Last Revision Date:**	11/7/2021
Actors:	Primary – News Team Secondary- Competition Database		
Description:	Shows all the details of the competition selected		
Trigger:	Choose the competition		
Preconditions:	N/A		
Postconditions:	1. Showing all the details of the competition		
Normal Flow:	1. Trigger – News Team clicks on a competition. 2. Program shows all competition details from memory to News Team. 3. The “Browse Integrated Competition Website” is executed. 4. Process ends.		
Alternative Flows:	N/A		
Exceptions:	2a. Data in excel isn’t following a specific layout 1. System shows error and prompts the user to follow the supposed layout of data.		
Assumptions:	There should be a competition in the database		
Notes and Issues:	N/A		

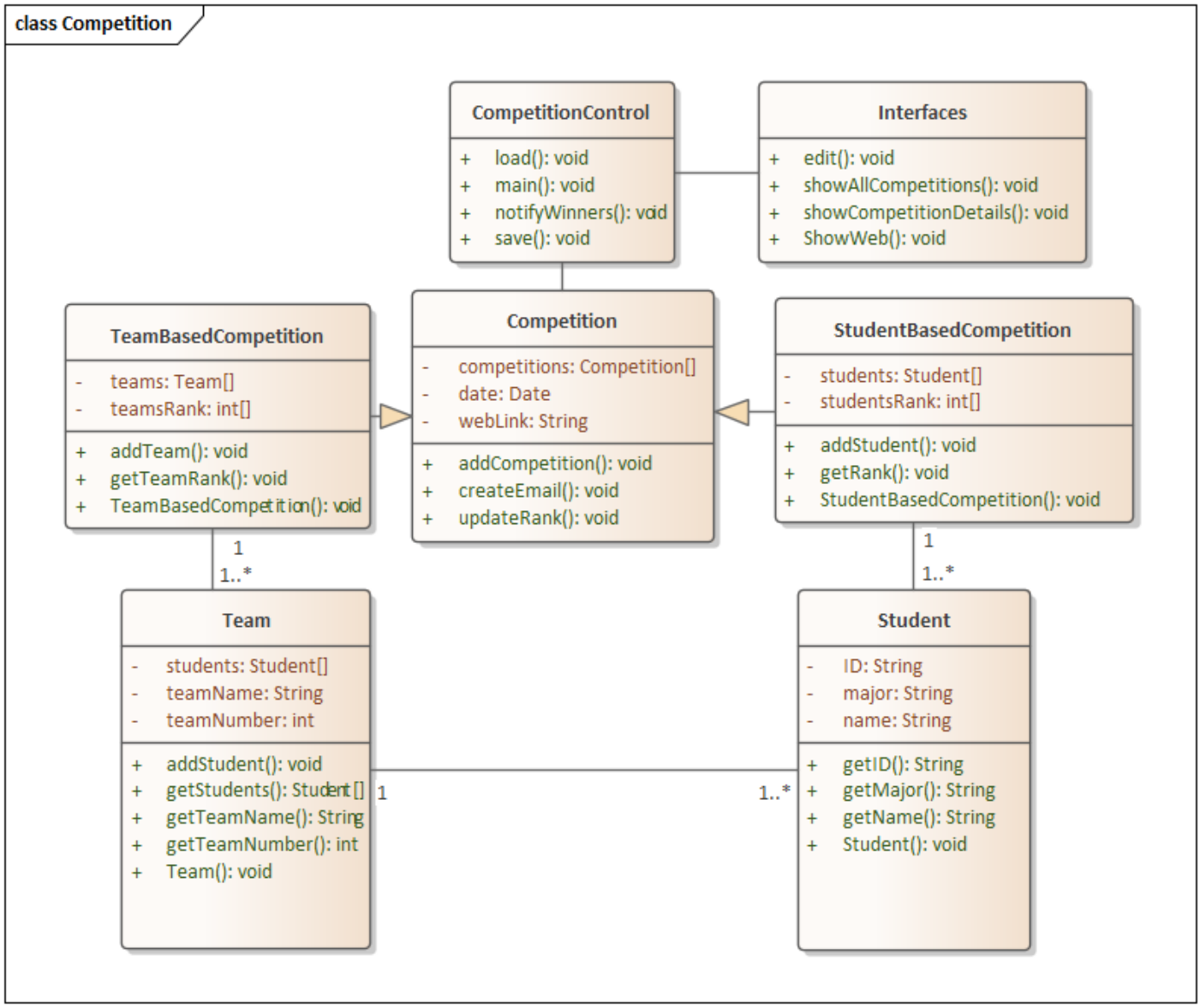
Use case ID:	7		
Use Case Name:	Add competition winners		
Created by:	Tariq Madkhali	**Last Updated by:**	Abdulhadi
Date Created:	11/3/2021	**Last Revision Date:**	11/7/2021
Actors:	Primary – News Team Secondary – Competition database		
Description:	Add competition winners to the respective competition in the database		
Trigger:	Select desired competition		
Preconditions:	1. Competition has ended 2. Competition database is accessible		
Postconditions:	NA		
Normal Flow:	1. News team choose a competition from the interface and click it 2. System shows details interface 3. News team click the Edit button 4. System shows the edit interface 5. News team specify the winner of the competition 6. News team press the save button 7. System save changes to competition database 8. System return to details interface 9. Process ends		
Alternative Flows:	NA		
Exceptions:	NA		
Assumptions:	1. The winner is a student at KFUPM		
Notes and Issues:	1. The News Team must ensure that the winner's info is correct 2. The News Team must ensure that the competition is correct		

Use case ID:	8		
Use Case Name:	Add Student to competition		
Created by:	Tariq Madkhali	**Last Updated by:**	Abdulhadi
Date Created:	11/3/2021	**Last Revision Date:**	11/7/2021
Actors:	Primary – News Team Secondary – Competition database		
Description:	Add student as a participant in for a competition in the database		
Trigger:	Select desired competition		
Preconditions:	3. Competition has not begun 4. Competition database is accessible 5. Competition is not team based		
Postconditions:	NA		
Normal Flow:	10. News team choose a competition from the interface and click it 11. System shows details interface 12. News team click the Edit button 13. System shiws the Edit inteface 14. News team click the add button in the participants' area 15. News team fill the participant info 16. News team press the save button 17. Save changes to competition database 18. Process ends		
Alternative Flows:	NA		
Exceptions:	NA		
Assumptions:	2. The participant is a student at KFUPM		
Notes and Issues:	3. The News Team must ensure that the participant info is correct 4. The News Team must ensure that the competition is correct		

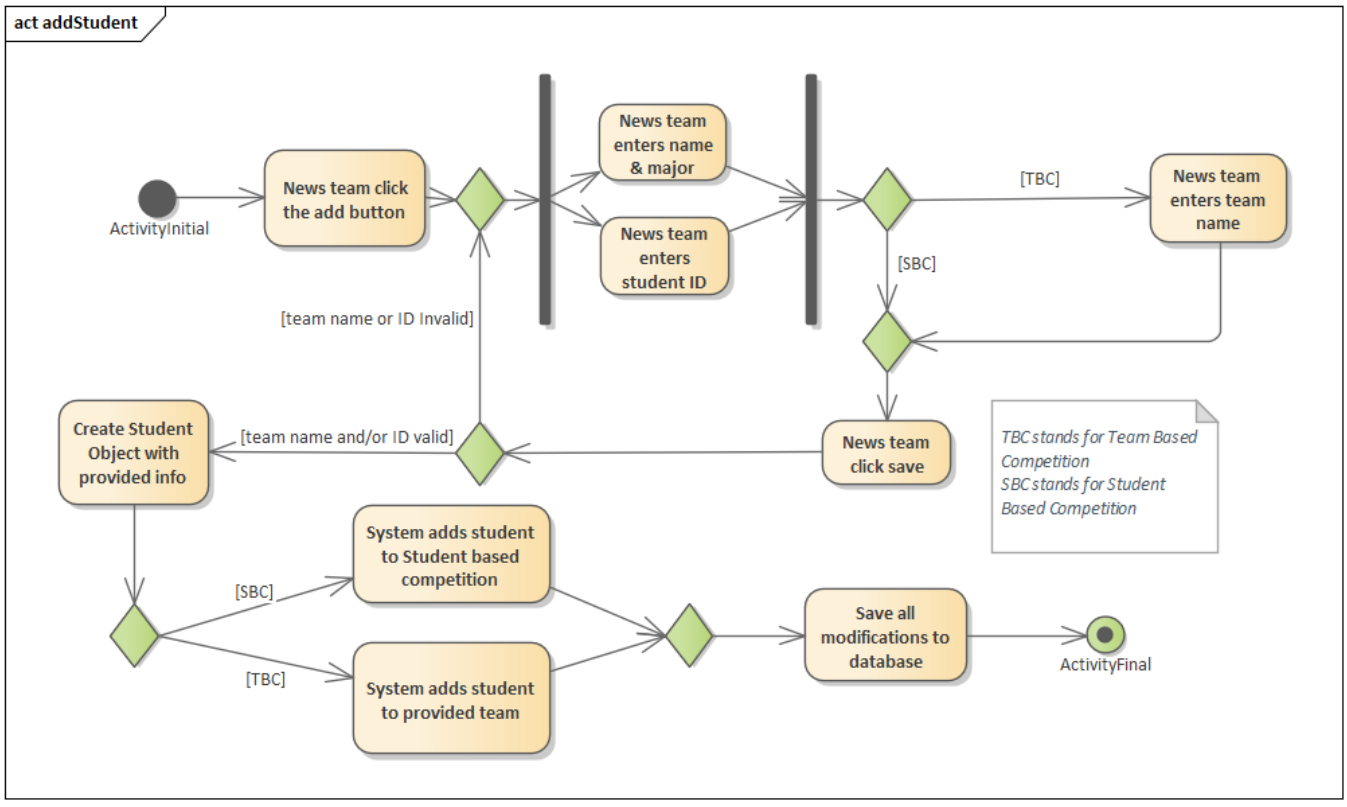
Use case ID:	9		
Use Case Name:	Add competition		
Created by:	KHALID ALBAQAMI	**Last Updated by:**	
Date Created:	11/2/2021	**Last Revision Date:**	
Actors:	Primary-News team Secondary–Competition data base		
Description:	Add a new competition to the data base		
Trigger:	Choose “Add a competition” button from the option menu in the application		
Preconditions:	1. The data base should be in the designated location.		
Postconditions:	N/A		
Normal Flow:	1. Trigger - The news team user clicks on the “Add a competition” button. 2. Program shows the competition adding interface. 3. The news team clicks on the text fields to fill required information. 4. The news team adds all required information in the information text fields. 5. The news team user clicks on the “save competition” button. 6. Process ends.		
Alternative Flows:	N/A		
Exceptions:	N/A		
Assumptions:	N/A		
Notes and Issues:	N/A		

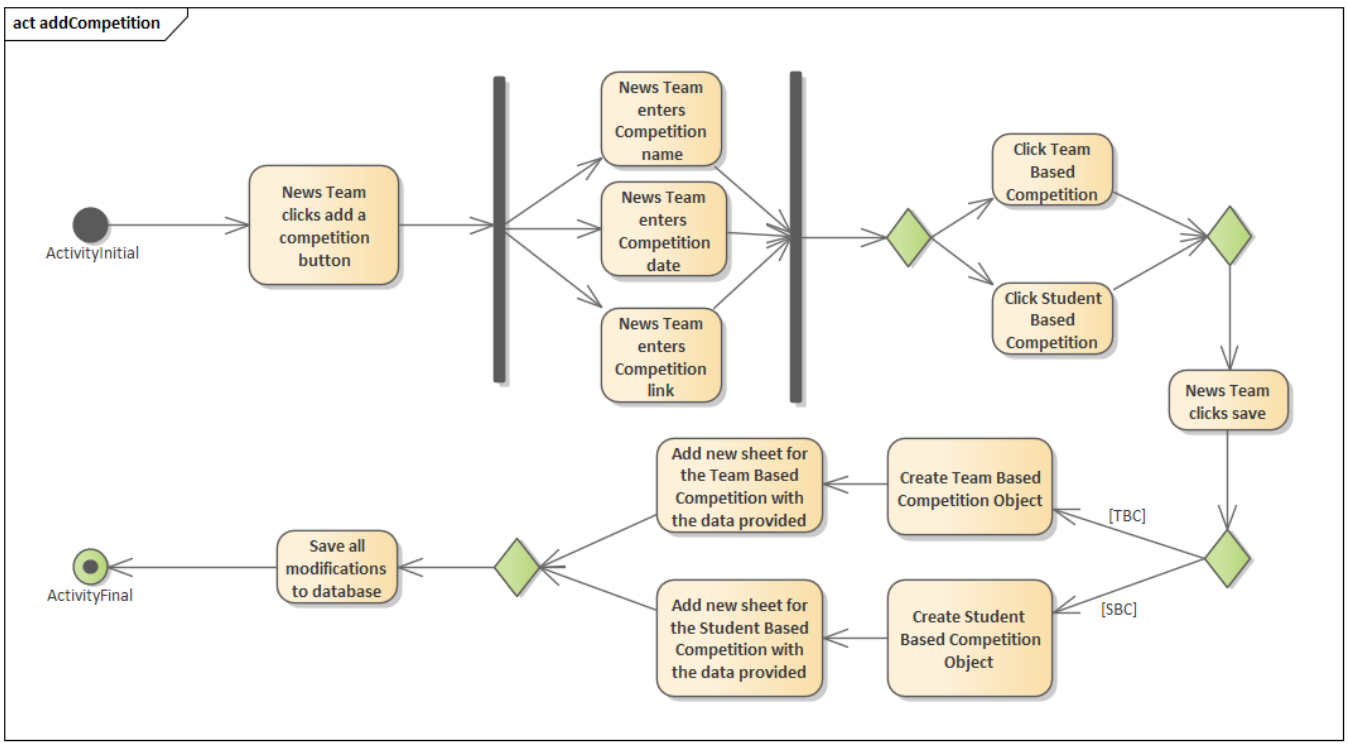
Use case ID:	10		
Use Case Name:	Add team		
Created by:	KHALID ALBAQAMI	**Last Updated by:**	
Date Created:	11/2/2021	**Last Revision Date:**	
Actors:	Primary-News team Secondary–Competition data base		
Description:	Add a new team into a competition in the data base		
Trigger:	Choose “add a team” option from the option menu in the application		
Preconditions:	2. Competition database is accessible.		
Postconditions:	The new team shall be written in the same layout that the data base has. The new team shall be written in the application competition teams menu.		
Normal Flow:	7. Trigger- News team choose a competition from the interface and click it 8. Show details interface is opened 9. News team click the Edit button 10. News team click the add button in the team’s area 11. News team fill the participant info 12. News team press the save button 13. Save changes to competition database 14. Process ends		
Alternative Flows:	N/A		
Exceptions:	N/A		
Assumptions:	N/A		
Notes and Issues:	N/A		

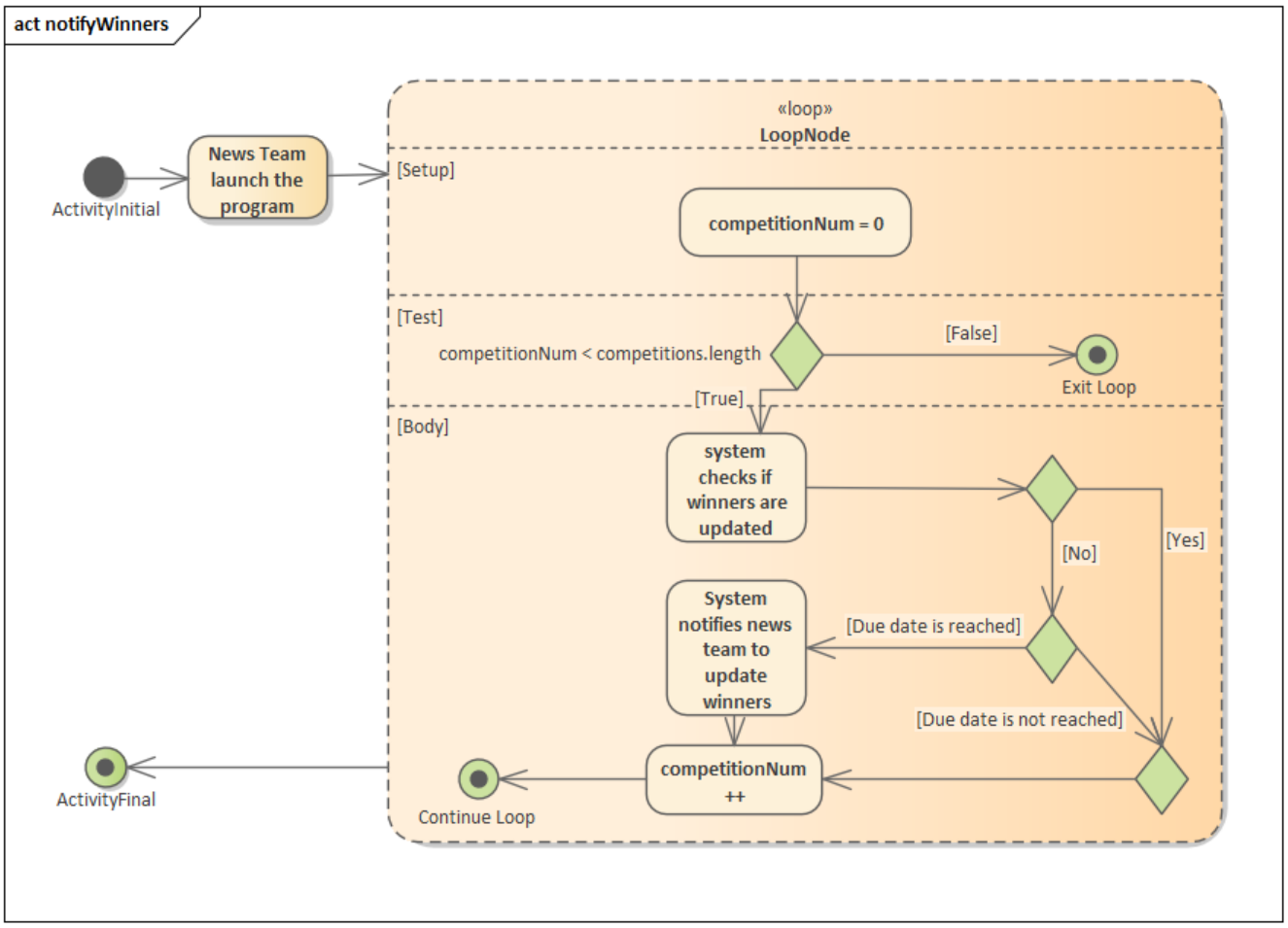
Class diagram:

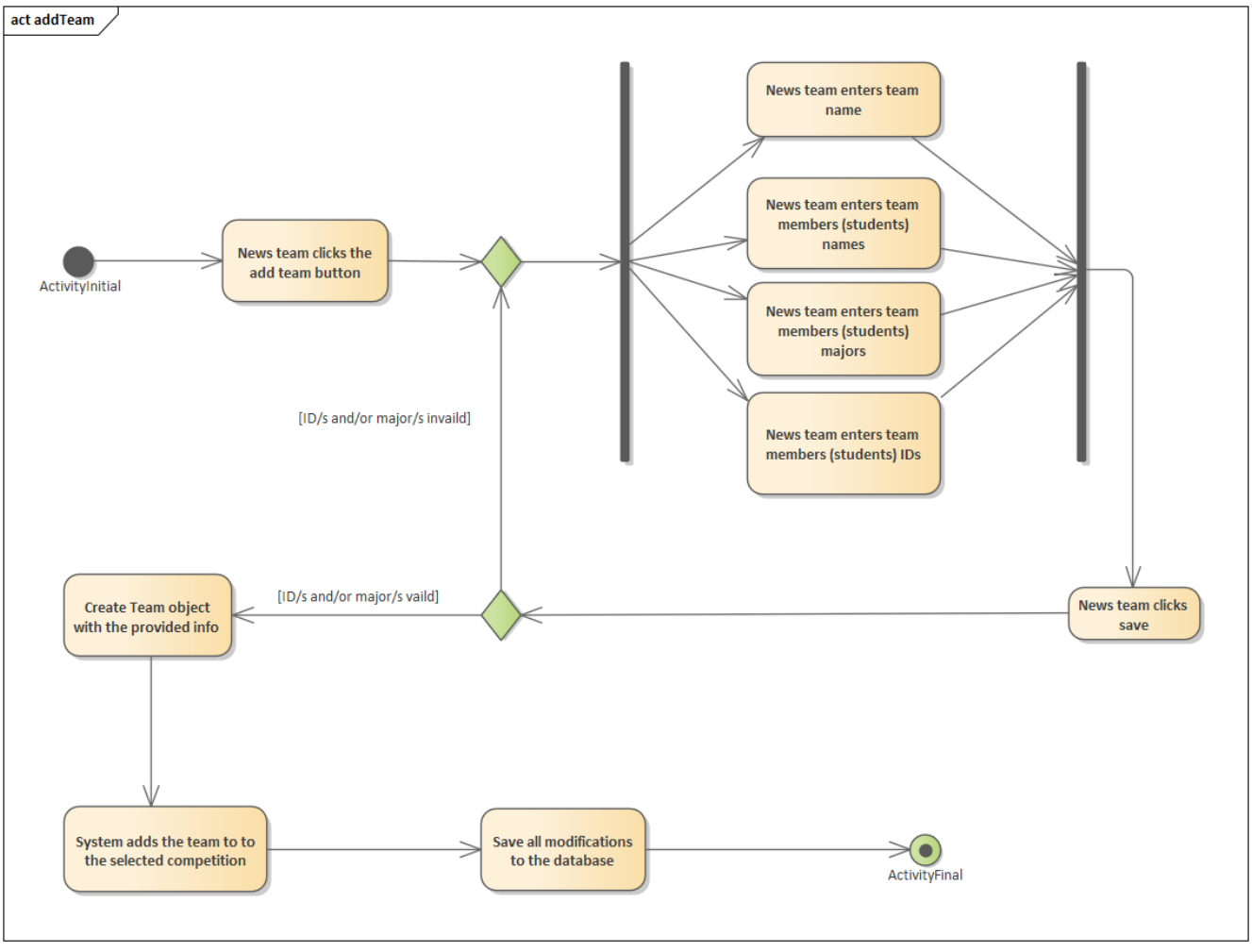


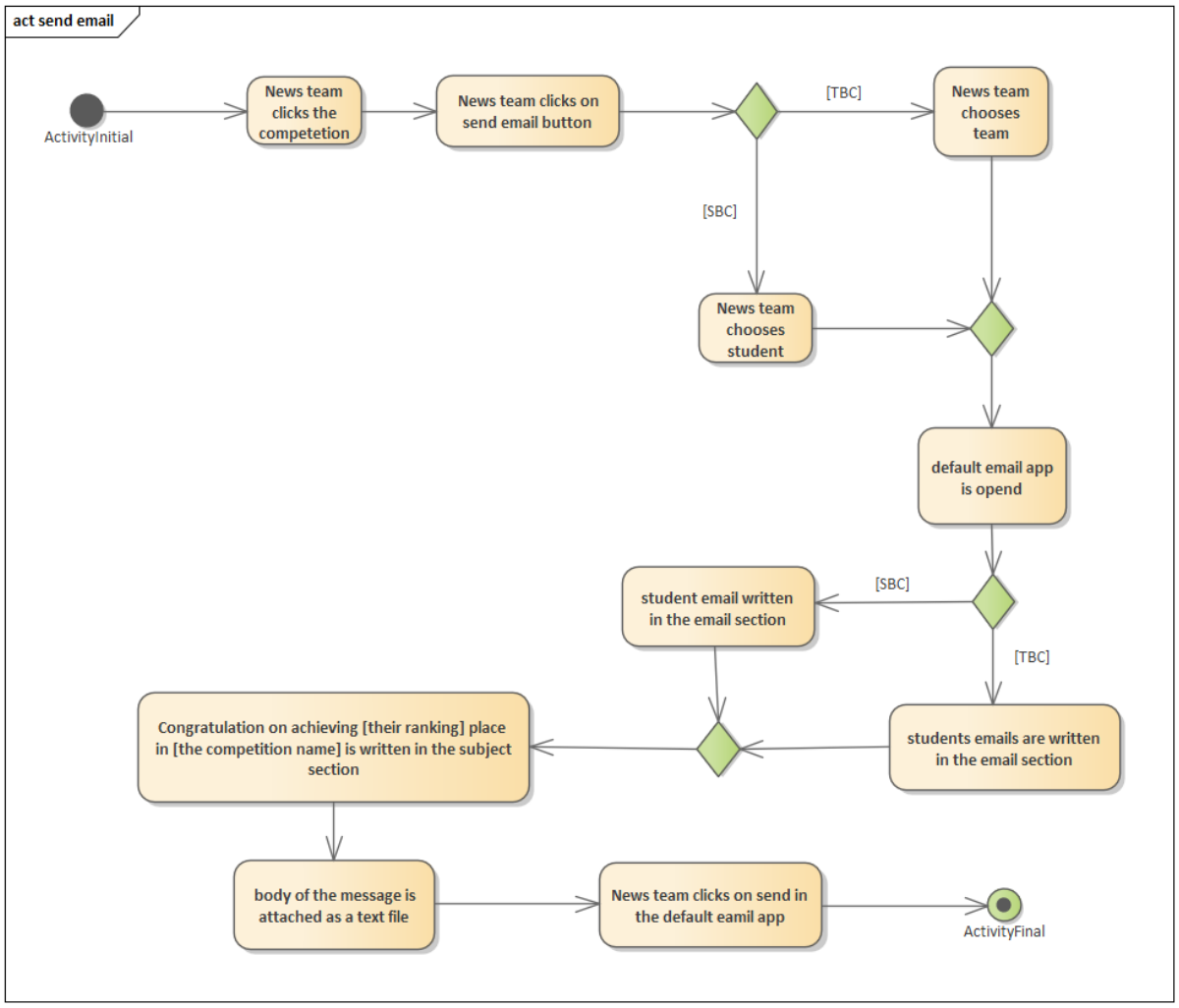
All activity diagrams:

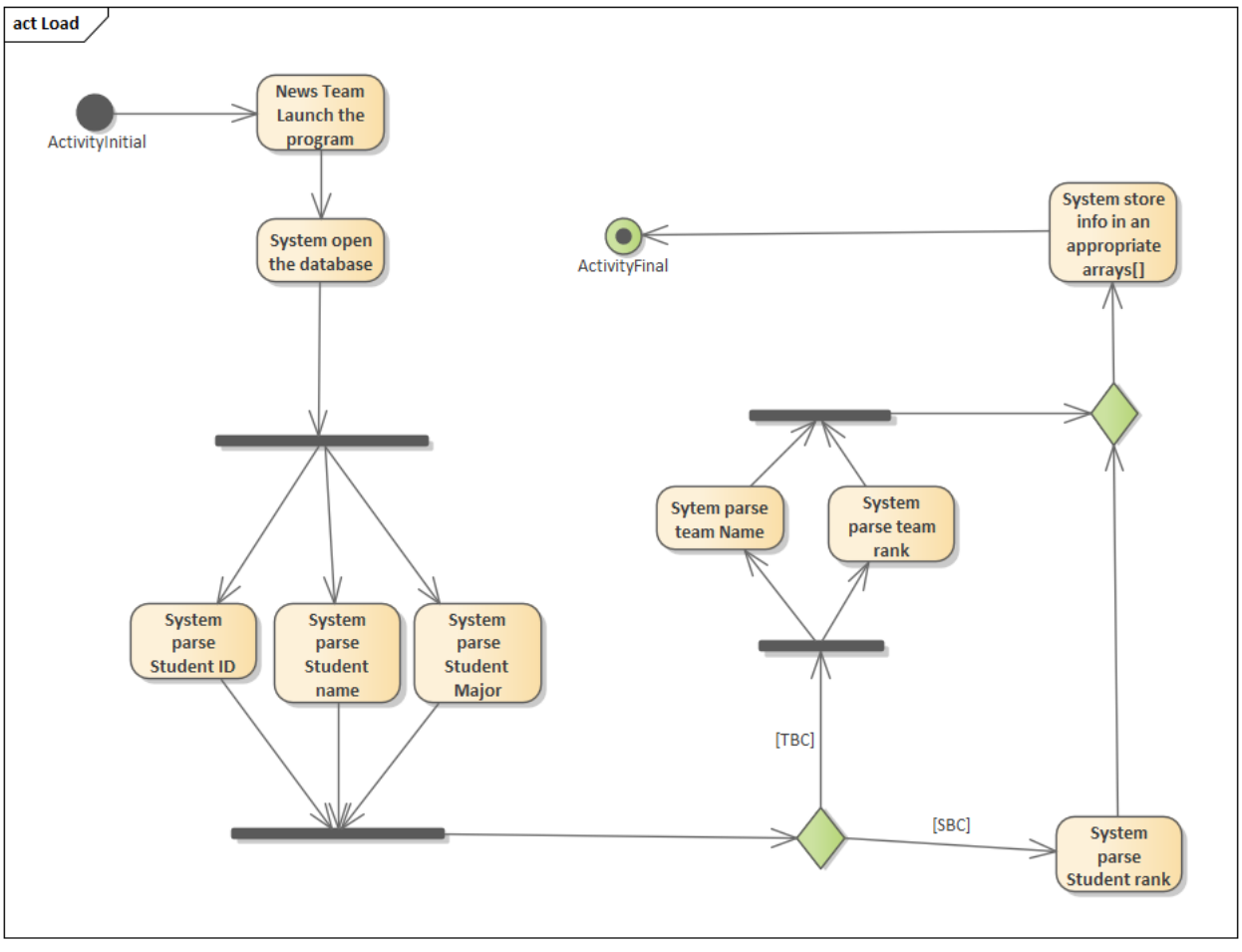




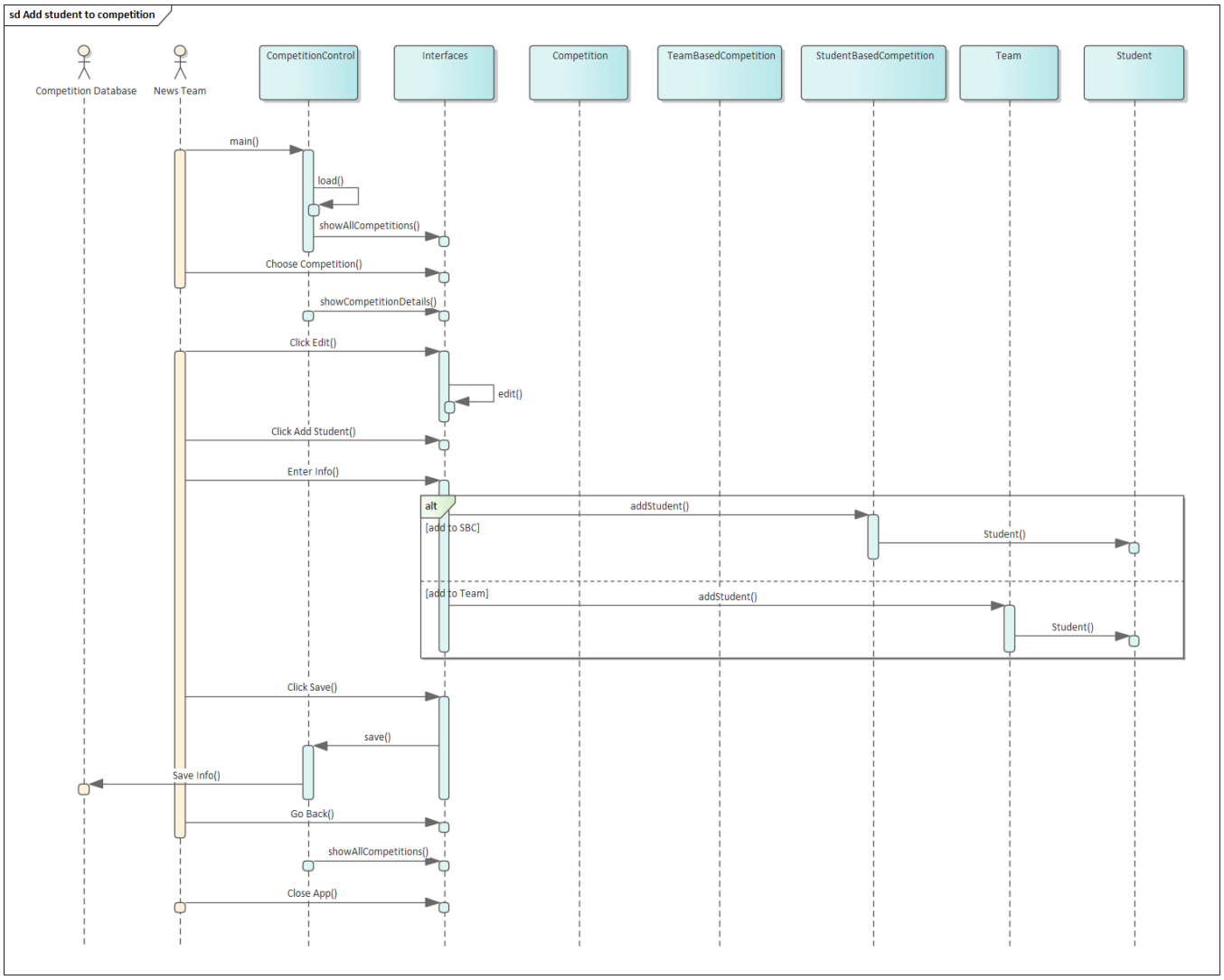

act notifyWinners
«loop»
LoopNode
ActivityInitial
News Team launch the program
[Setup]
competitionNum = 0
[Test]
competitionNum < competitions.length
[False]
Exit Loop
[True]
[Body]
system checks if winners are updated
[No]
[Yes]
System notifies news team to update winners
[Due date is reached]
[Due date is not reached]
competitionNum ++
Continue Loop
ActivityFinal

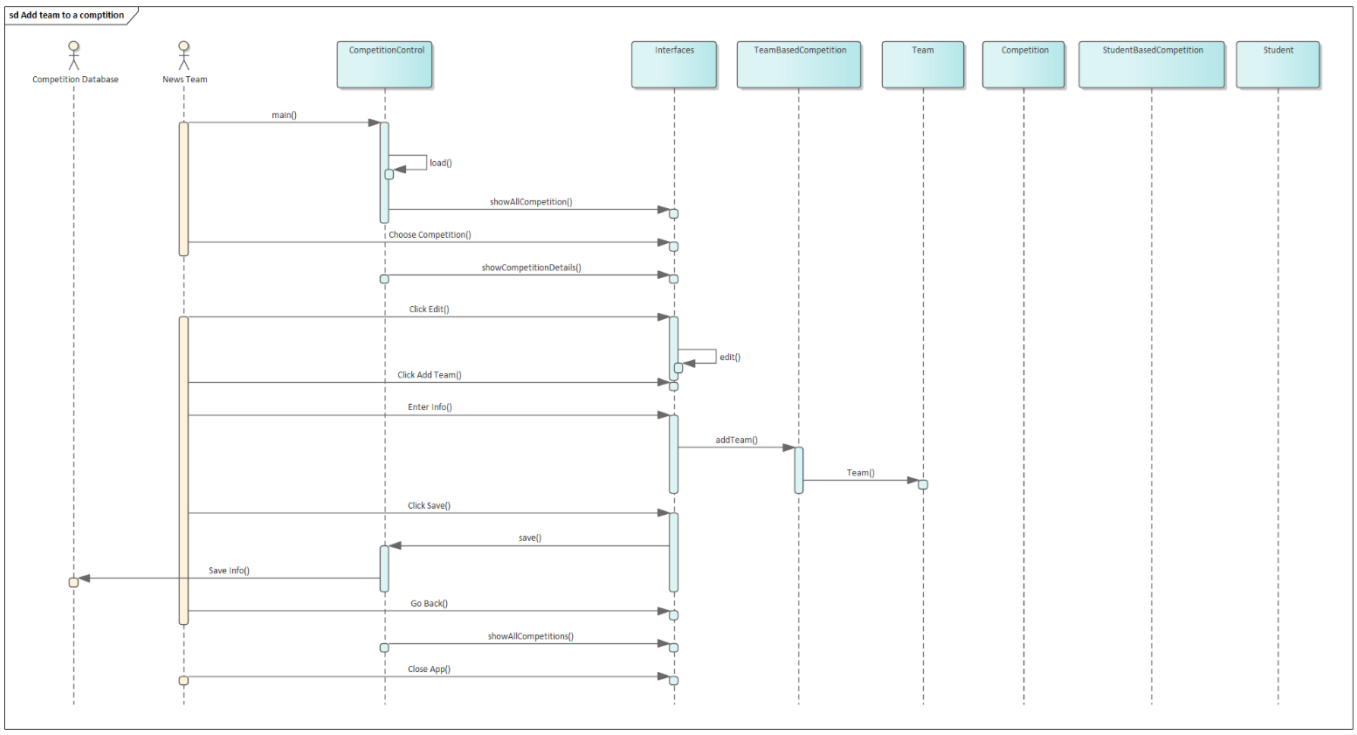

act addTeam
ActivityInitial
News team clicks the add team button
News team enters team name
News team enters team members (students) names
News team enters team members (students) majors
News team enters team members (students) IDs
[ID/s and/or major/s invaild]
[ID/s and/or major/s vaild]
Create Team object with the provided info
News team clicks save
System adds the team to to the selected competition
Save all modifications to the database
ActivityFinal

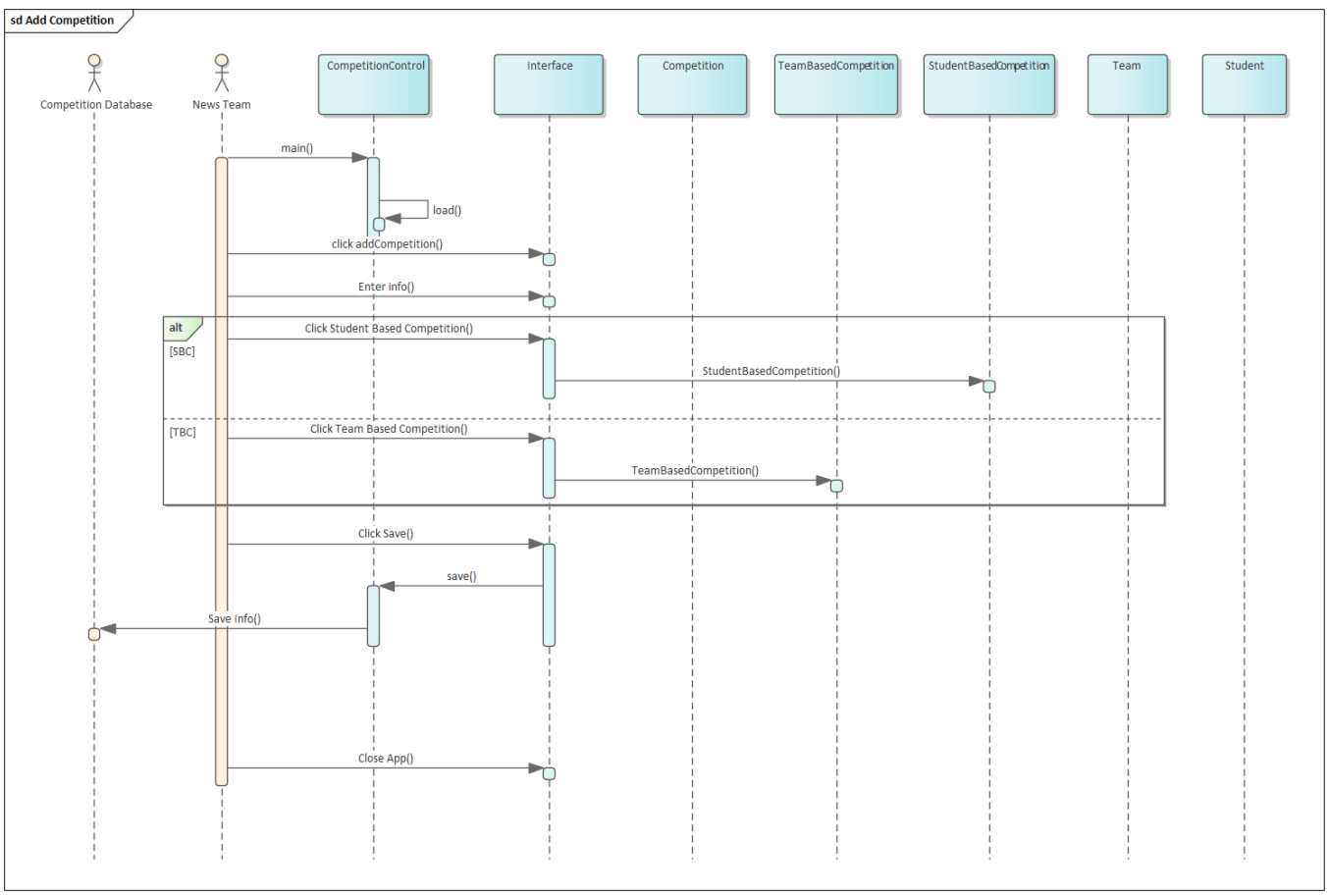

act send email
ActivityInitial
News team clicks the competetion
News team clicks on send email button
[TBC]
News team chooses team
[SBC]
News team chooses student
default email app is opend
[SBC]
student email written in the email section
[TBC]
Congratulation on achieving [their ranking] place in [the competition name] is written in the subject section
students emails are written in the email section
body of the message is attached as a text file
News team clicks on send in the default eamil app
ActivityFinal

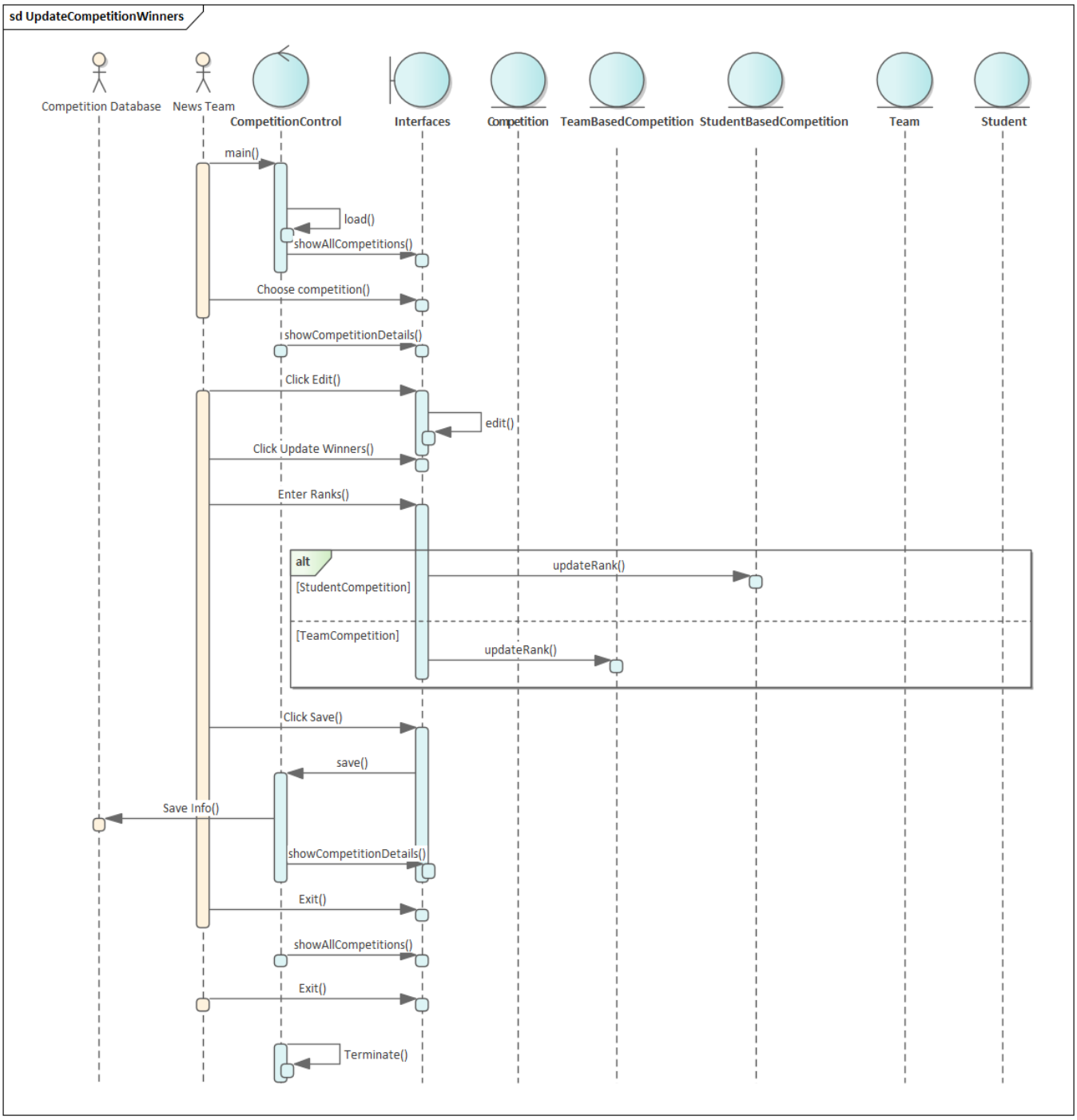

act Load
ActivityInitial
News Team Launch the program
System open the database
System parse Student ID
System parse Student name
System parse Student Major
ActivityFinal
System store info in an appropriate arrays[]
Sytem parse team Name
System parse team rank
[TBC]
[SBC]
System parse Student rank

All sequence diagrams:




sd Add team to a comptition
Competition Database
News Team
CompetitionControl
Interfaces
TeamBasedCompetition
Team
Competition
StudentBasedCompetition
Student
main()
load()
showAllCompetition()
Choose Competition()
showCompetitionDetails()
Click Edit()
edit()
Click Add Team()
Enter Info()
addTeam()
Team()
Click Save()
save()
Save Info()
Go Back()
showAllCompetitions()
Close App()


sd Add Competition
Competition Database
News Team
CompetitionControl
Interface
Competition
TeamBasedCompetition
StudentBasedCompetition
Team
Student
main()
load()
click addCompetition()
Enter info()
alt
[SBC]
Click Student Based Competition()
StudentBasedCompetition()
[TBC]
Click Team Based Competition()
TeamBasedCompetition()
Click Save()
save()
Save Info()
Close App()


sd UpdateCompetitionWinners
Competition Database
News Team
CompetitionControl
Interfaces
Competition
TeamBasedCompetition
StudentBasedCompetition
Team
Student
main()
load()
showAllCompetitions()
Choose competition()
showCompetitionDetails()
Click Edit()
edit()
Click Update Winners()
Enter Ranks()
alt
[StudentCompetition]
updateRank()
[TeamCompetition]
updateRank()
Click Save()
save()
Save Info()
showCompetitionDetails()
Exit()
showAllCompetitions()
Exit()
Terminate()