



CS352 – Software Engineering II

Phase 2 Template

2017

Staff:

Dr Amr Kamel

a.kamel@fci-cu.edu.eg

Dr Khadiga Mohamed

kelbedweihiy@fci-cu.edu.eg

TA: Ragia Mohamed Aboulfadl

TAs: Eng Mohamed Samir

m.samir@fci-cu.edu.eg

Eng Omar Khaled Ali Ragab

o.khaled@fci-cu.edu.eg

Eng Ragia Mohamed

r.mohamed@fci-cu.edu.eg

Eng Ebtehal yahia

ebtehal.yahia@fci-cu.edu.eg

Eng Ahmed Emad

ahmed.emad@fci-cu.edu.eg

Eng Amr Tarek

a.tarek@fci-cu.edu.eg



CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

Project Team

ID	Name	Email	Mobile
20140066	Alaa Atef Badr	alaa.badr.25@gmail.com	01140911255
20140062	Ismail Ahmed Mahmoud	ismail.ahmed2014@stud.fci-cu.edu.eg	01005887976
20140206	Karim Ehab Ahmed	karimehabahmed@stud.fci-cu.edu.eg	01062064070
20140274	Mostafa Mohamed ELMenshawy	mustafa1elmenshawy@gmail.com	01148504856

Contents

Project Team.....	2
Restful API.....	5
User Services.....	5
Login	5
Register Student	5
Register Teacher	6
Games of Collaborators	7
Course Services.....	10
Show Courses	10
Show Teacher Courses.....	11
Show Student Courses.....	12
Get Course	13
Add Course	14
Enroll Student	15
Get Unenrolled Courses.....	15
Game Services	16
Get Game	16
Add game.....	18
Get Games of Course	19
Add Collaborator	21



CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

Cancel Game	22
Level Services	22
Get Level	23
Get Levels	23
Add Level	24
Achievement Services	25
Show Achievements	26
Add achievements	28
Notification Services	29
Get User Notifications	29
Comment Services	30
Add Comment	30
Class diagram design	31
Subsystems	31
Achievement	32
Course	33
Game	34
Level	35
User	36
Notification	37
Comment	38
Sequence Diagrams	39
Register	39
Login	39
Play Game	40
Show Courses	41
Create Course	41
Create Game	42



CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

Show Games in specific course.....	43
Entity Relationship Diagram – ERD.....	44
Trello workspace screenshot.....	45
Backend	45
Frontend	45
Integration	46
Github repository link.....	46



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Restful API

User Services

Login

Service name	Login		
Input type	POST		
Service URL	/edugame/login		
Parameters	NAME	Description	
	User u	User object containing username and password.	
Example request	POST /edugame/login { "username" : "IsmailAhmed" , "password" : "12345678"		
Example response	<pre>{ "name": "Ismail Ahmed", "gender": "Male", "age": 21, "email": "ismail@ismail.edu", "username": "Ismail_Ahmed", "password": "12345678", "identity": "Teacher" }</pre>		

Register Student

Service name	Register Student		
Input type	POST		
Service URL	/edugame/register/student		
Parameters	NAME	Description	



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	Student s	Student object containing all his/her information.	
Example request	POST /edugame/register/student <pre>{ "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.com", "username": "AlaaAtef", "password": "12345678", "identity": "Student" }</pre>		
Example response	<pre>{ "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.com", "username": "AlaaAtef", "password": "12345678", "identity": "Student" }</pre>		

Register Teacher

Service name			
Input type	POST		
Service URL	/edugame/register/teacher		
Parameters	NAME	Description	
	Teacher t	Teacher object containing all	



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	his/her information.	
Example request	POST /edugame/register/teacher <pre>{ "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.edu", "username": "AlaaAtef", "password": "12345678", "identity": "Teacher" }</pre>	
Example response	<pre>{ "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.edu", "username": "AlaaAtef", "password": "12345678", "identity": "Teacher" }</pre>	

Games of Collaborators

Service name	Get Games of Collaborators		
Input type	GET		
Service URL	/edugame/collaborator/{username}/games		
Parameters	NAME	Description	
	PathVariable String username	Username of the teacher to get the games	



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	he collaborated in.	
Example request	GET /edugame/collaborator/Ismail_Ahmed/games	
Example response	<pre>[{ "name": "Game 2", "description": "Game 2 for testing", "type": "choice", "levels": [{ "levelName": "level A", "question": "Q1", "number": 1, "rightAnswer": "C1", "answers": ["C1", "C2", "C3", "C4"] }, { "levelName": "level B", "question": "Q1", "number": 2, "rightAnswer": "C2", "answers": ["C1", "C2", "C3",</pre>	



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	<pre>"C4"] }], "gameOwner": { "name": null, "gender": null, "age": 0, "email": null, "username": "AlaaAtef", "password": null, "identity": null }, "levelNo": 2, "course": { "courseName": "C++", "courseOwner": { "name": null, "gender": null, "age": 0, "email": null, "username": "AlaaAtef", "password": null, "identity": null }, "description": "C++ course for dummies", "students": null }, "comments": [] }]</pre>
--	--



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Course Services

Show Courses

Service name	Show Courses		
Input type	GET		
Service URL	/edugame/courses		
Parameters	NAME	Description	
Example request	GET /edugame/courses		
Example response	<pre>[{ "courseName": "C++", "courseOwner": { "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.edu", "username": "AlaaAtef", "password": "12345678", "identity": "Teacher" }, "description": "C++ Course for dummies", "students": [] }, { "courseName": "Java", "courseOwner": { "name": "Ismail Ahmed", "gender": "Male", "age": 21, "email": "ismail@ismail.edu",</pre>		



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	<pre> "username": "Ismail_Ahmed", "password": "12345678", "identity": "Teacher" }, "description": "Java Course for dummies", "students": [] }] </pre>
--	--

Show Teacher Courses

Service name	Show Teacher Courses		
Input type	GET		
Service URL	/edugame/Courses/{teacherUsername}		
Parameters	NAME	Description	
	PathVariable: String teacherUsername	Teacher username to show his/her courses	
Example request	GET /edugame/Courses/Ismail_Ahmed		
Example response	[{ "courseName": "Java", "courseOwner": { "name": "Ismail Ahmed", "gender": "Male", "age": 21, "email": "ismail@ismail.edu", "username": "Ismail_Ahmed",		



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	<pre> "password": "12345678", "identity": "Teacher" }, "description": "Java Course for dummies", "students": [] }] </pre>
--	--

Show Student Courses

Service name	Show Student Courses		
Input type	GET		
Service URL	/edugame/enrolledCourses/{studentUsername}		
Parameters	NAME	Description	
	PathVariable: String username	Student Username to show courses in which he/she enrolled.	
Example request	GET /edugame/enrolledCourses/KarimEhab		
Example response	[{ "courseName": "Java", "courseOwner": { "name": "Ismail Ahmed", "gender": "Male", "age": 21, "email": "ismail@ismail.edu", "username": "Ismail_Ahmed", "password": "12345678",		



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	<pre> "identity": "Teacher" }, "description": "Java Course for dummies", "students": [{ "name": "Karim Ehab", "gender": "Male", "age": 20, "email": "karim@karim.com", "username": "KarimEhab", "password": "12345678", "identity": "Student" }]] </pre>
--	---

Get Course

Service name	Get Course		
Input type	GET		
Service URL	/edugame/courses/{courseName}		
Parameters	NAME	Description	
	PathVariable: String courseName	Course Name to get	
Example request	GET /edugame/courses/Java		
Example response	{ "courseName": "Java", "courseOwner": { "name": "Ismail Ahmed",		



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	<pre> "gender": "Male", "age": 21, "email": "ismail@ismail.edu", "username": "Ismail_Ahmed", "password": "12345678", "identity": "Teacher" }, "description": "Java Course for dummies", "students": [] } </pre>
--	---

Add Course

Service name	Add Course		
Input type	POST		
Service URL	/edugame/courses/{teacherUsername}/addCourse		
Parameters	NAME	Description	
	PathVariable: String teacherUsername	Teacher username: the owner of the course	
	Course c	The course to be added	
Example request	<pre> POST /edugame/coursesIsmail_Ahmed/addCourse { "name": "Java", "description": "Java Course for dummies" } </pre>		
Example response	<pre> { "courseName": "Java", "courseOwner": { </pre>		



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	<pre> "name": "Ismail Ahmed", "gender": "Male", "age": 21, "email": "ismail@ismail.edu", "username": "Ismail_Ahmed", "password": "12345678", "identity": "Teacher" }, "description": "Java Course for dummies", "students": [] } </pre>
--	---

Enroll Student

Service name	Enroll Student		
Input type	GET		
Service URL	/edugame/courses/{courseName}/enroll/{studentUsername}		
Parameters	NAME	Description	
	PathVariable: String courseName	Course Name.	
	PathVariable: String studentUsername	Student Name.	
Example request	GET /edugame/courses/Java/enroll/KarimEhab		
Example response	true		

Get Unenrolled Courses

Service name	Get unenrolled Courses
Input type	GET



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Service URL	/edugame/unenrolledCourses/{studentUsername}		
Parameters	NAME	Description	
	PathVariable: String studentUsername	Student Username to show course in which he/she hasn't enrolled yet.	
Example request	GET /edugame/unenrolledCourses/KarimEhab		
Example response	{ "courseName": "C++", "courseOwner": { "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.edu", "username": "AlaaAtef", "password": "12345678", "identity": "Teacher" }, "description": "C++ Course for dummies", "students": [] }		

Game Services

Get Game

Service name	Get Game		
Input type	GET		
Service URL	/edugame/courses/games/{gameName}		
Parameters	NAME	Description	



CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

	PathVariable String gameName	Game Name that we want to get its data.	
Example request	GET /edugame/courses/games/HelloWorldC++		
Example response	<pre>{ "name": "HelloWorldC++", "description": null, "type": "TorF", "levels": [{ "levelName": "C++ basic", "question": "cout<< prints end line?", "number": 1, "rightAnswer": "True", "answers": ["True", "False"] }, { "levelName": "C++ operations", "question": "x=5; cout<<x++ returns 6?", "number": 2, "rightAnswer": "False", "answers": ["True", "False"] }] }</pre>		



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	<pre>], "gameOwner": { "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.edu", "username": "AlaaAtef", "password": "12345678", "identity": "Teacher" }, "levelno": 2, "course": { "courseName": "C++", "courseOwner": { "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.edu", "username": "AlaaAtef", "password": "12345678", "identity": "Teacher" }, "description": "C++ Course for dummies", "students": [] } } </pre>
--	--

Add game

Service name	Add Game
Input type	POST
Service URL	/edugame/courses/{teacherUsername}/{courseName}/g



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	ames/addGame		
Parameters	NAME	Description	
	PathVariable String teacherUserna me	Username of the teacher (owner) of the game.	
	PathVariable String courseName	Course Name that we wish to add the game in.	
	Body: Game g	The game itself.	
Example request	POST /edugame/courses/AlaaAtef/C++/games/addGame Body: <pre>{ "name": "HelloWorldC++", "type": "TorF", "levelno": 2 }</pre>		
Example response	true		

Get Games of Course

Service name	Get Games of Course		
Input type	GET		
Service URL	/edugame/courses/{courseName}/games		
Parameters	NAME	Description	
	PathVariable String courseName	The course to get its games.	
Example request	GET		



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	/edugame/courses/C++/games
Example response	<pre>[{ "name": "HelloWorldC++", "description": null, "type": "TorF", "levels": [{ "levelName": "C++ basic", "question": "cout<< prints end line?", "number": 1, "rightAnswer": "True", "answers": ["True", "False"] }], }, { "levelName": "C++ operations", "question": "x=5; cout<<x++ returns 6?", "number": 2, "rightAnswer": "False", "answers": ["True", "False"] }], "gameOwner": { "name": "Alaa Atef",</pre>



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	<pre> "gender": "Female", "age": 20, "email": "alaa@alaa.edu", "username": "AlaaAtef", "password": "12345678", "identity": "Teacher" }, "levelNo": 2, "course": { "courseName": "C++", "courseOwner": { "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.edu", "username": "AlaaAtef", "password": "12345678", "identity": "Teacher" }, "description": "C++ Course for dummies", "students": [] } }] </pre>
--	---

Add Collaborator

Service name	Add collaborator
Input type	GET



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Service URL	/edugame/courses/games/{gameName}/addCollaborator/{username}		
Parameters	NAME	Description	
	PathVariable String gameName	The game to which the collaborator is added.	
	PathVariable String username	Username of the added collaborator.	
Example request	GET /edugame/courses/games/Game 2/addCollaborator/Ismail_Ahmed		
Example response	true		

Cancel Game

Service name	Cancel Game		
Input type	DELETE		
Service URL	/edugame/courses/games/{gameName}/delete		
Parameters	NAME	Description	
	PathVariable String gameName	Game Name of the deleted game.	
Example request	DELETE /edugame/courses/games/Game 1/delete		
Example response			

Level Services



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Get Level

Service name	Get level		
Input type	GET		
Service URL	/edugame/courses/games/{gameName}/levels/{levelNo}		
Parameters	NAME	Description	
	PathVariable String gameName	Game Name that the level belongs to.	
	PathVariable int levelNo	Level number in the game.	
Example request	GET /edugame/courses/games/HelloWorldC++/levels/1		
Example response	{ "levelName": "C++ basic", "question": "cout<< prints end line?", "number": 1, "rightAnswer": "True", "answers": ["True", "False"] }		

Get Levels

Service name	Get levels		
Input type	GET		
Service URL	/edugame/courses/games/{gameName}/levels		
Parameters	NAME	Description	
	PathVariable String	Game Name that we want	



CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

	gameName	to get its levels.	
Example request	GET /edugame/courses/games/HelloWorldC++/levels		
Example response	<pre>[{ "levelName": "C++ basic", "question": "cout<< prints end line?", "number": 1, "rightAnswer": "True", "answers": ["True", "False"] }, { "levelName": "C++ operations", "question": "x=5; cout<<x++ returns 6?", "number": 2, "rightAnswer": "False", "answers": ["True", "False"] }]</pre>		

Add Level

Service	Add level
----------------	-----------



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

name			
Input type	POST		
Service URL	/edugame/courses/games/{gameName}/levels/addLevel		
Parameters	NAME	Description	
	PathVariable String gameName	Game Name that we want to add a level to.	
	Body: Level I	The level to be added.	
Example request	POST /edugame/courses/games/HelloWorldC++/levels/addLevel Body: <pre>{ "levelName": "C++ operations", "question": "x=5; cout<<x++ returns 6?", "number": 2, "rightAnswer": "False", "answers": ["True", "False"] }</pre>		
Example response			

Achievement Services



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Show Achievements

Service name	Show Achievements		
Input type	GET		
Service URL	/edugame/achievements/{username}		
Parameters	NAME	Description	
	PathVariable String username	Username of the user that we want to get his/her achievements.	
Example request	/edugame/achievements/KarimEhab		
Example response	<pre>[{ "score": 100, "student": { "name": "Karim Ehab", "gender": "Male", "age": 20, "email": "karim@karim.com", "username": "KarimEhab", "password": "12345678", "identity": "Student" }, "gameinAch": { "name": "Ta7meer", "description": "2atta3 swabe3 aw chipsy", "type": "true-false", "levels": [{ "levelName": "chipsy",</pre>		



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	<pre>"question": "yo7amar fi zobda?", "number": 2, "rightAnswer": "False", "answers": ["True", "False"] }, { "levelName": "swabe3", "question": "tonqa3 elswabe3 fi ma2 w mal7?", "number": 1, "rightAnswer": "True", "answers": ["True", "False"] }], "gameOwner": { "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.edu", "username": "AlaaAtef", "password": "12345678", "identity": "Teacher" }, "levelno": 2, "course": {</pre>
--	---



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	<pre> "courseName": "Btates", "courseOwner": { "name": "Alaa Atef", "gender": "Female", "age": 20, "email": "alaa@alaa.edu", "username": "AlaaAtef", "password": "12345678", "identity": "Teacher" }, "description": "kayf t7amar elbtates b tareeqa e7trafya", "students": [] } } }] </pre>
--	---

Add achievements

Service name	Add Achievement		
Input type	GET		
Service URL	/edugame/{username}/courses/games/{gameName}/levels/{levelNo}		
Parameters	NAME	Description	
	PathVariable String gameName	Game Name that the level belongs to.	
	PathVariable int levelNo	Level number in the game.	
	PathVariable String	Username of the student	



CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

	username	playing the game.	
Example request	GET /edugame/ElMensh/courses/games/HelloWorldC++/levels/1		
Example response			

Notification Services

Get User Notifications

Service name	Get User Notifications		
Input type	GET		
Service URL	/edugame/notifications/{username}		
Parameters	NAME	Description	
	PathVariable String username	Username to get his/her notifications.	
Example request	GET /edugame/notifications/ElMensh		
Example response	<pre>[{ "username": "ElMensh", "notification": "Game 2 is added to C++ course.", "link": "Game 2" }]</pre>		



CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

Comment Services

Add Comment

Service name	Add Comment		
Input type	POST		
Service URL	/edugame/courses/games/{gameName}/comments/add Comment		
Parameters	NAME	Description	
	PathVariable String gameName	gameName of the game the comments will be added to.	
	RequestBody Comment c	Object of comment to be added in the database.	
Example request	POST /edugame/courses/games/HelloWorldJava/comments/a ddComment Body: { "username": "KarimEhab", "comment": "Good Game!" }		
Example response			

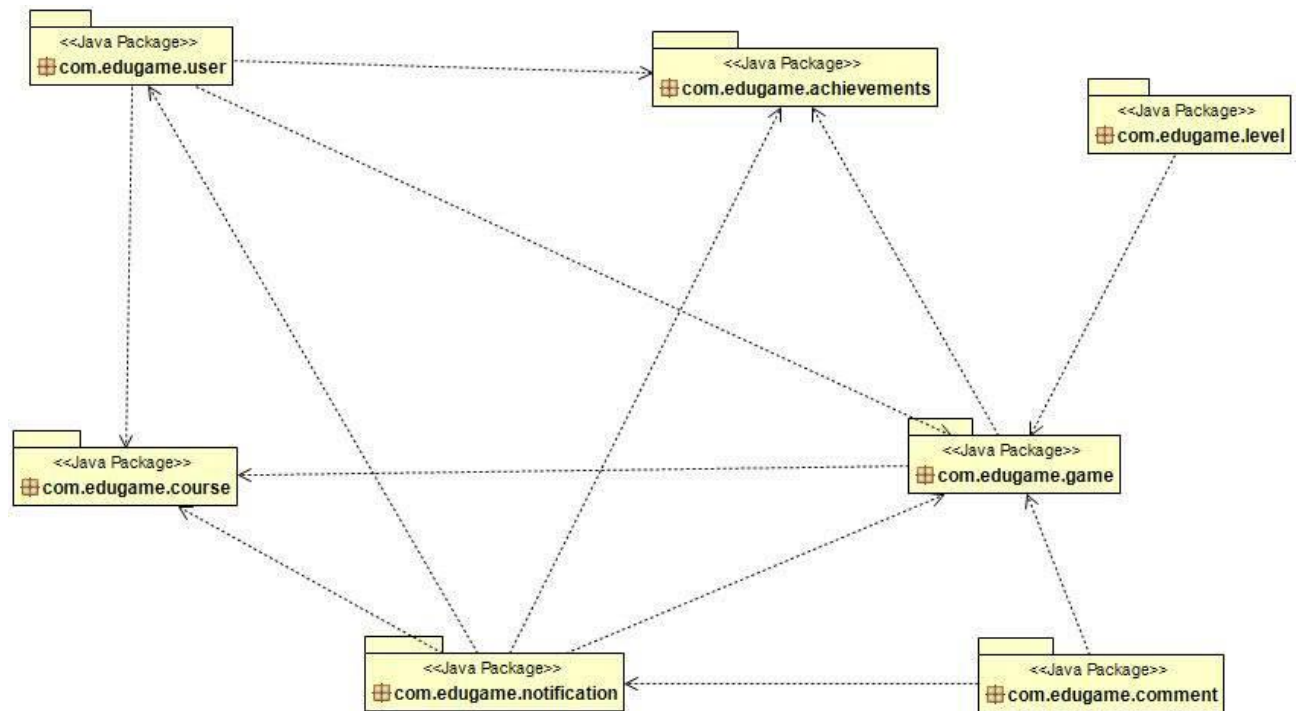


CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

Class diagram design

Subsystems

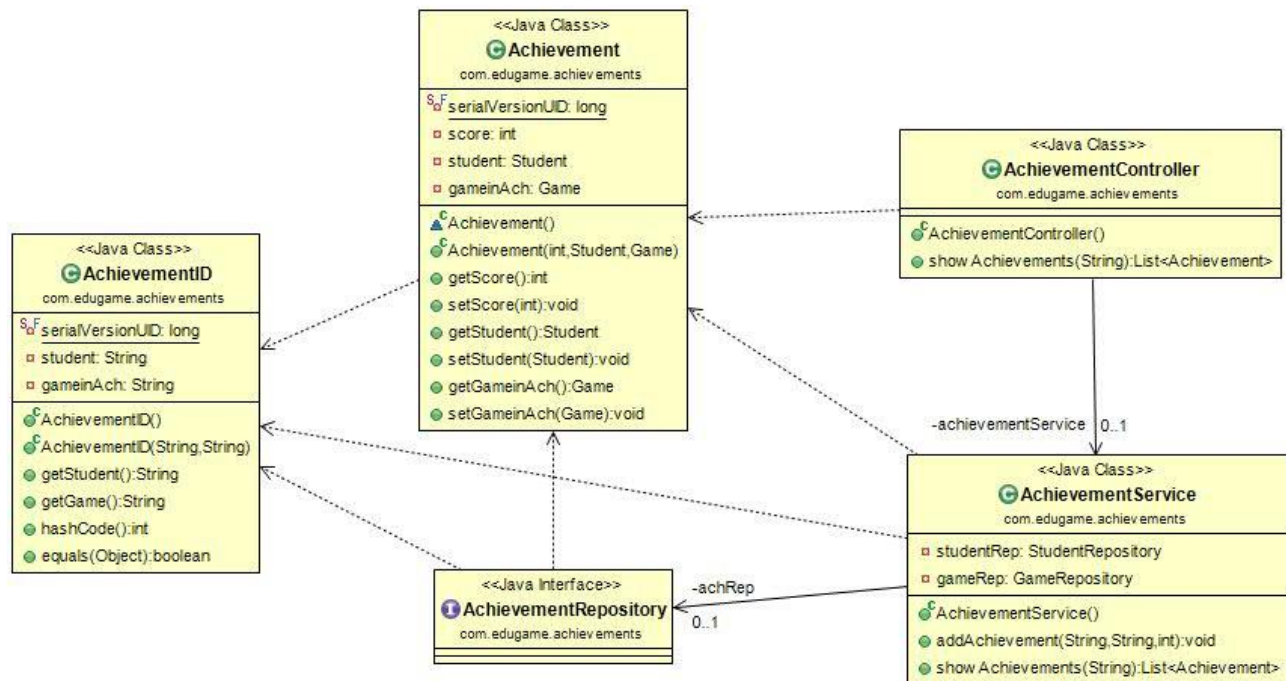




CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

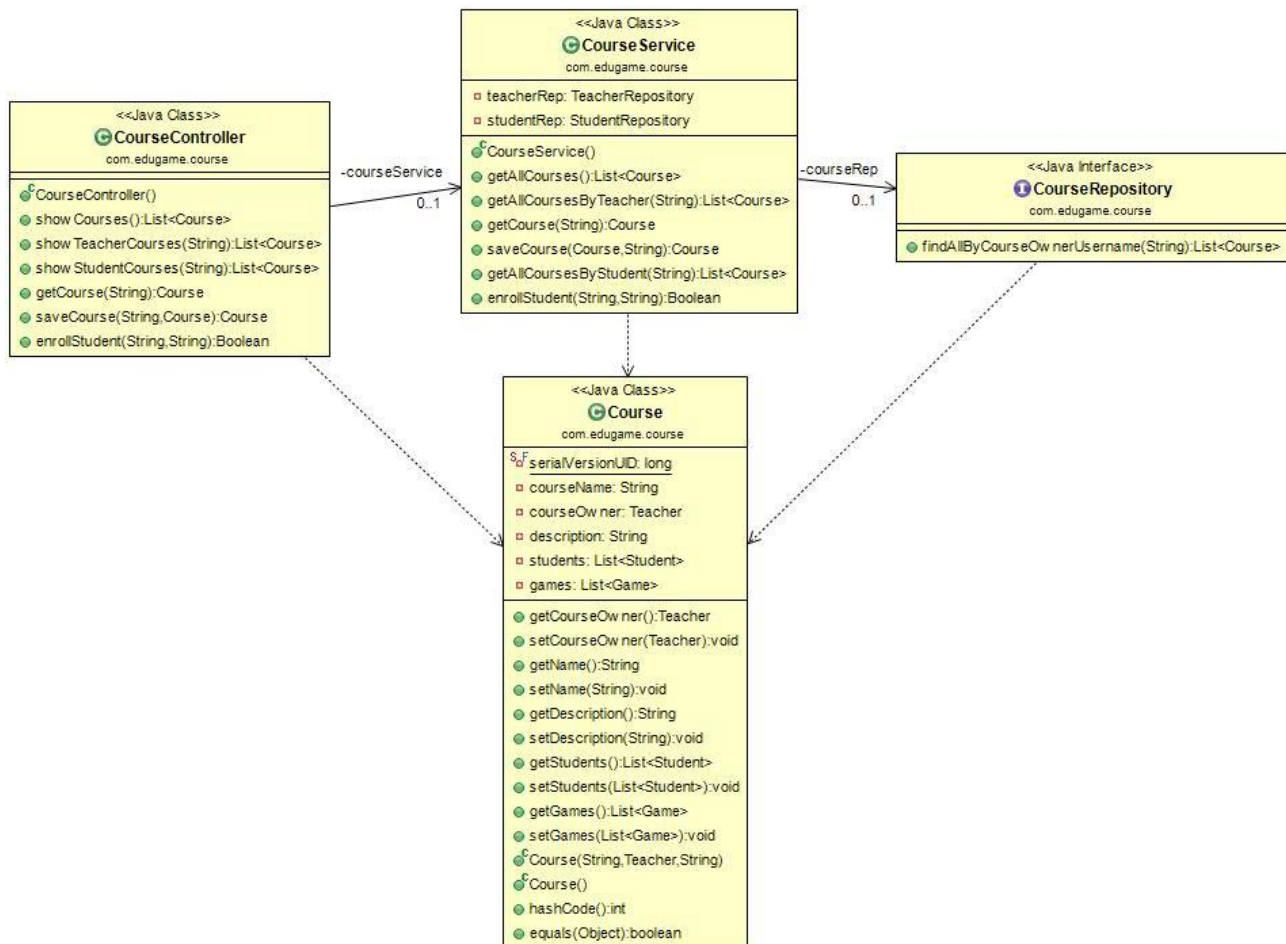
Achievement





CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

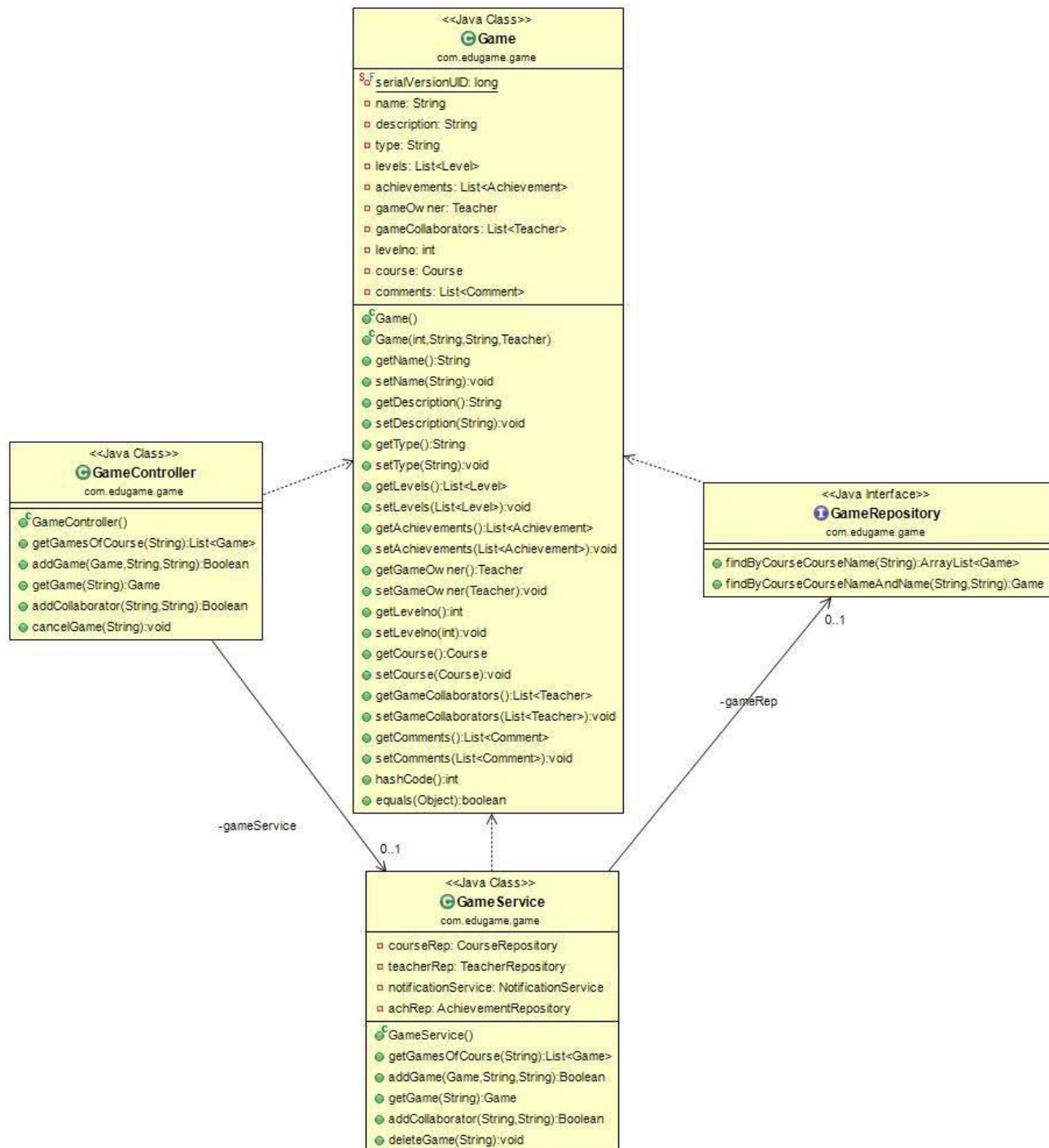
Course





CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

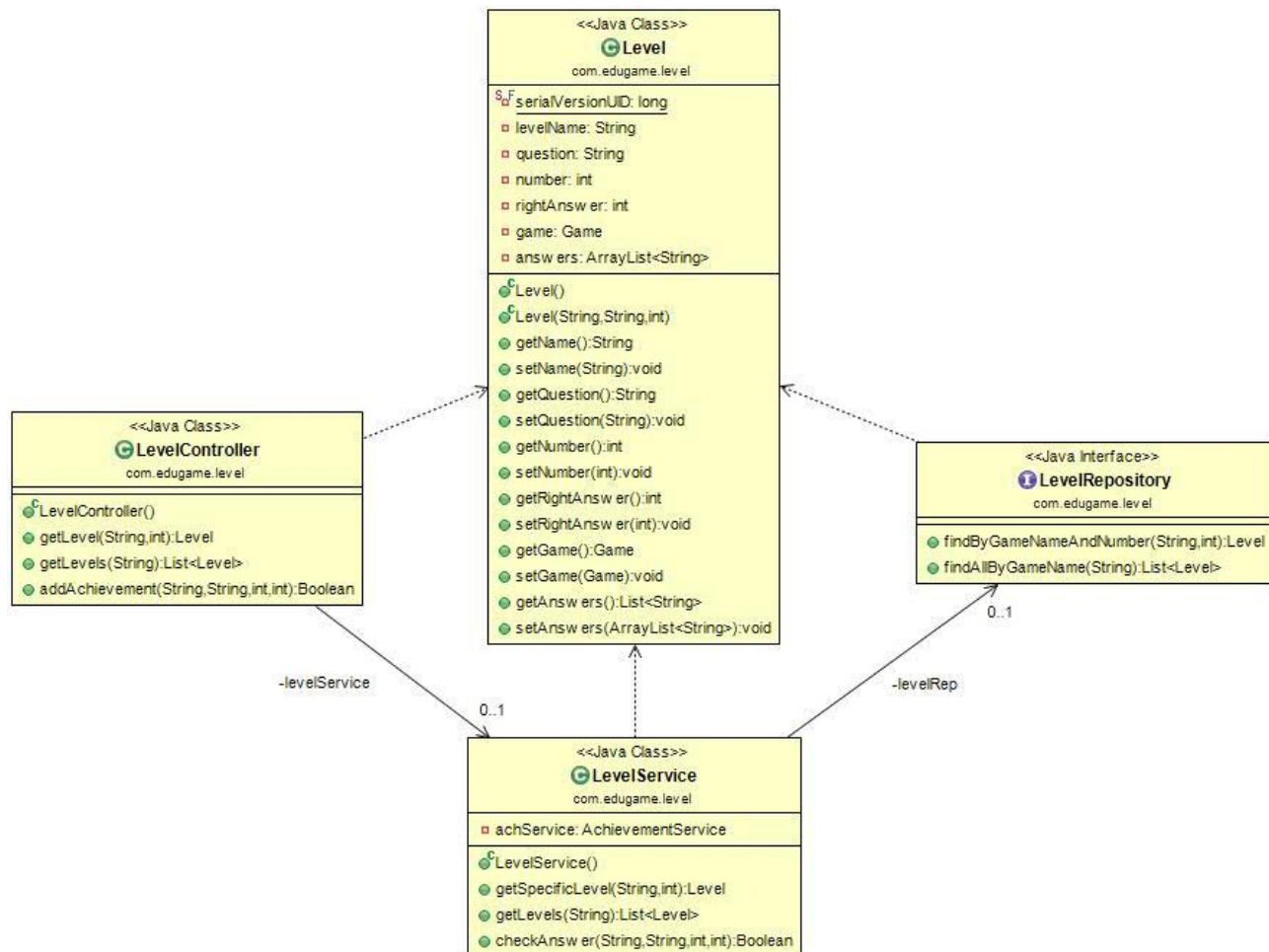
Game





CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Level

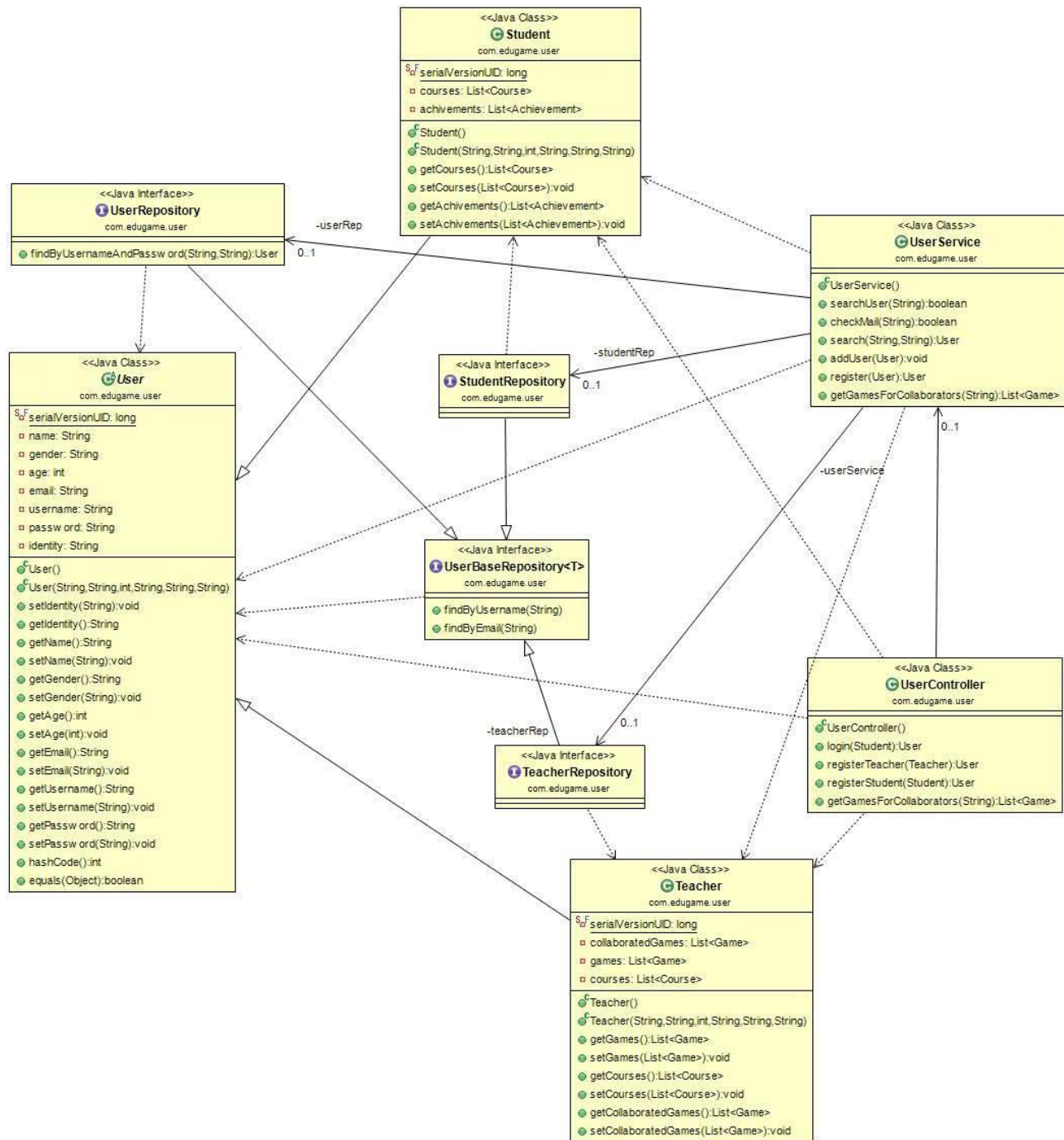




CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

User

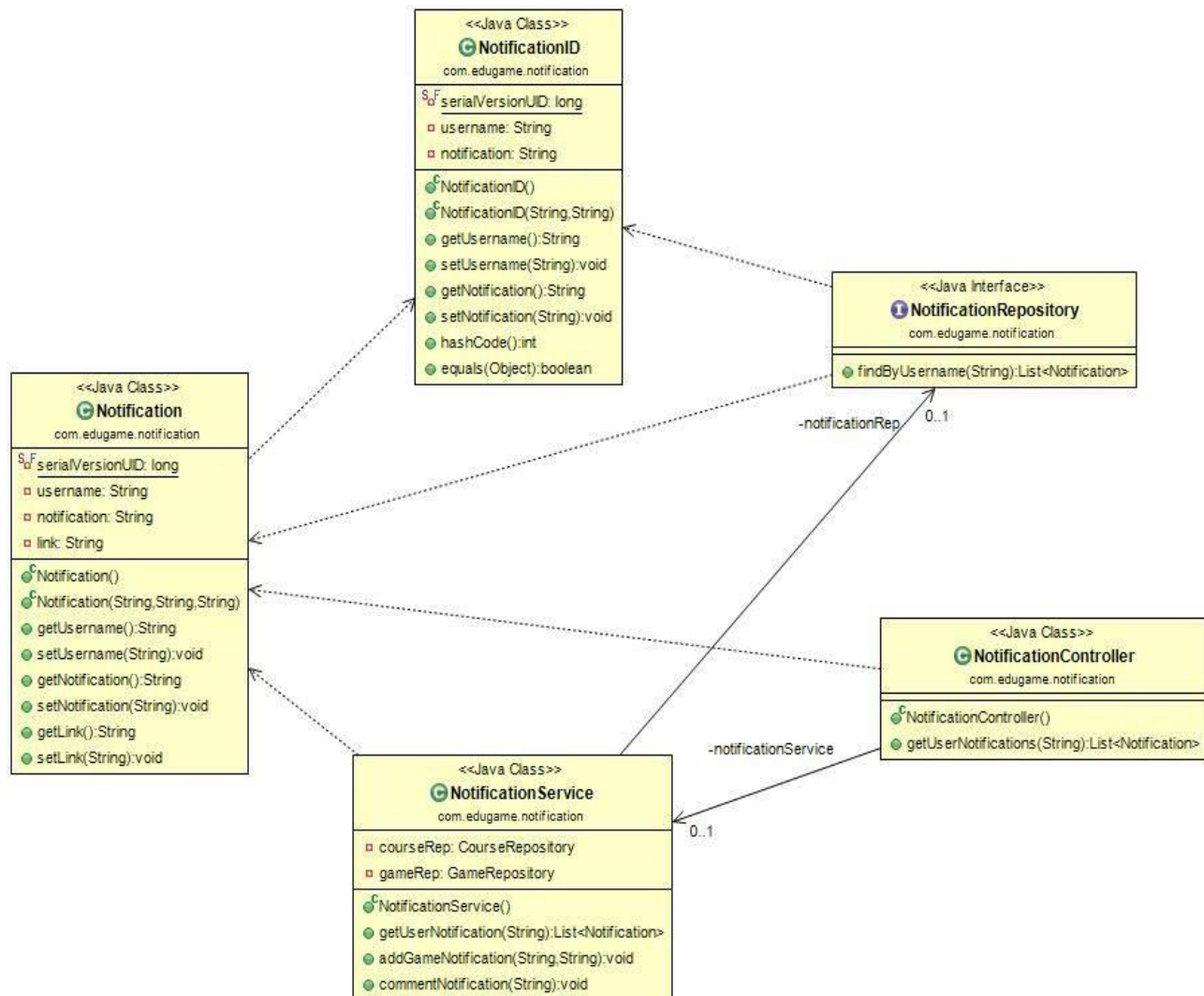




CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

Notification

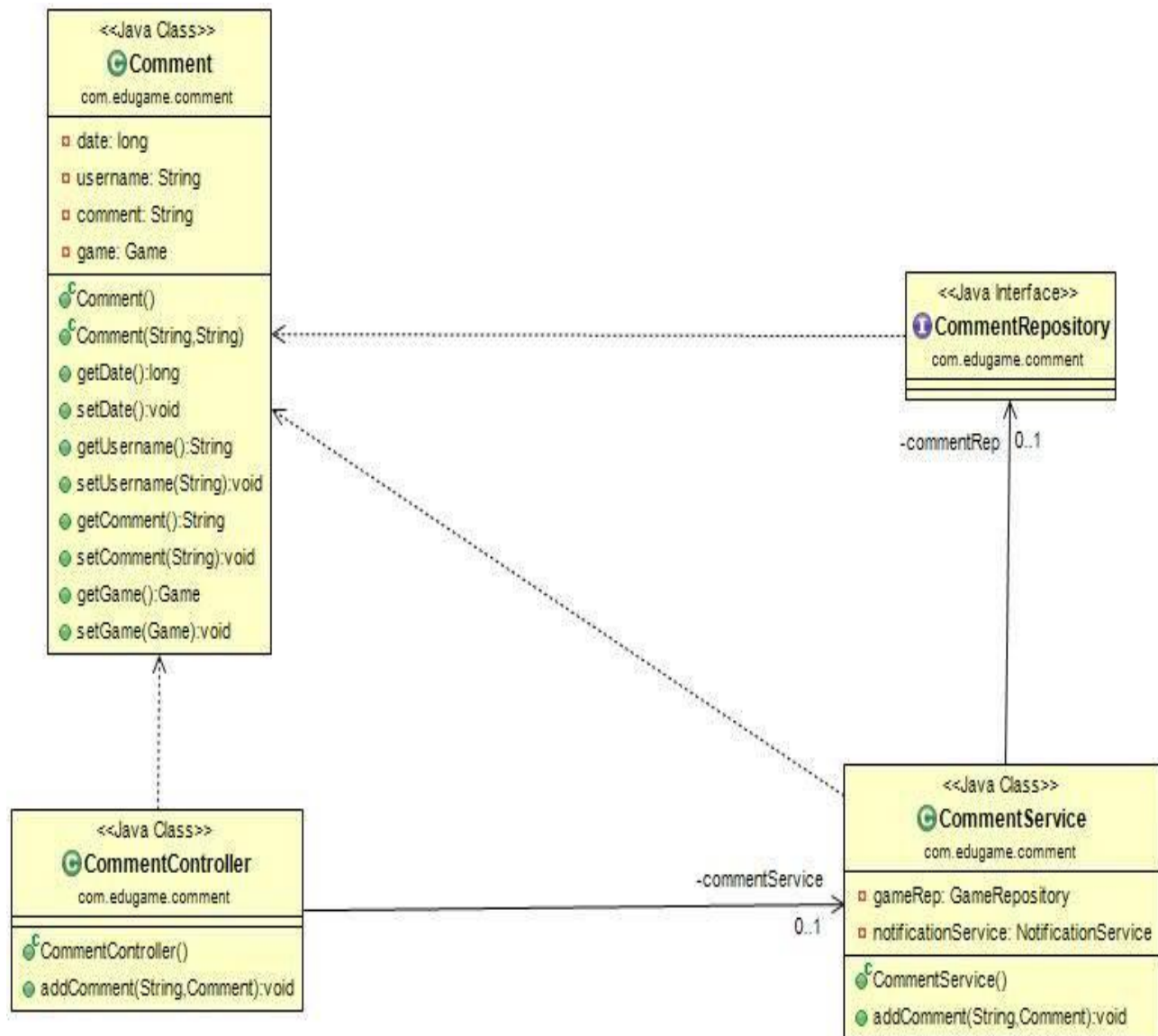




CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

Comment

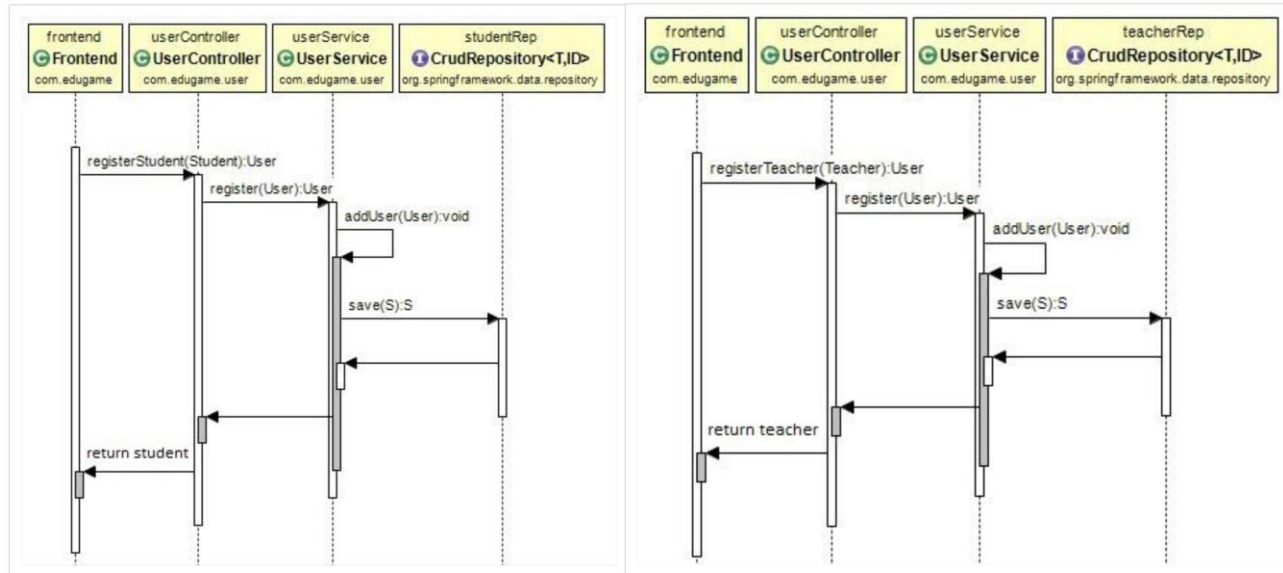




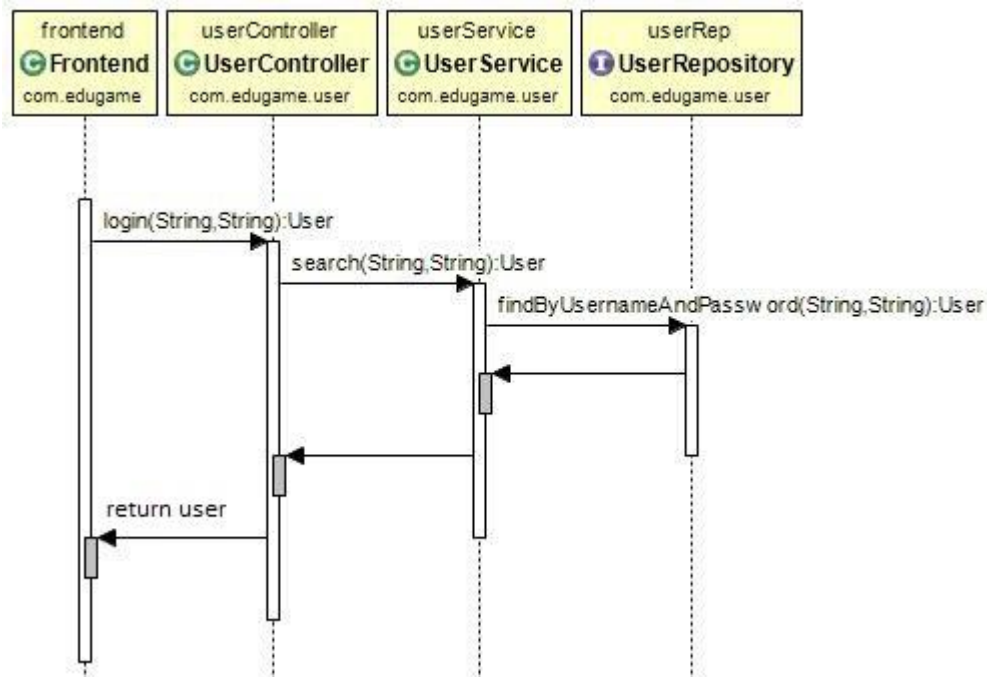
CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Sequence Diagrams

Register



Login

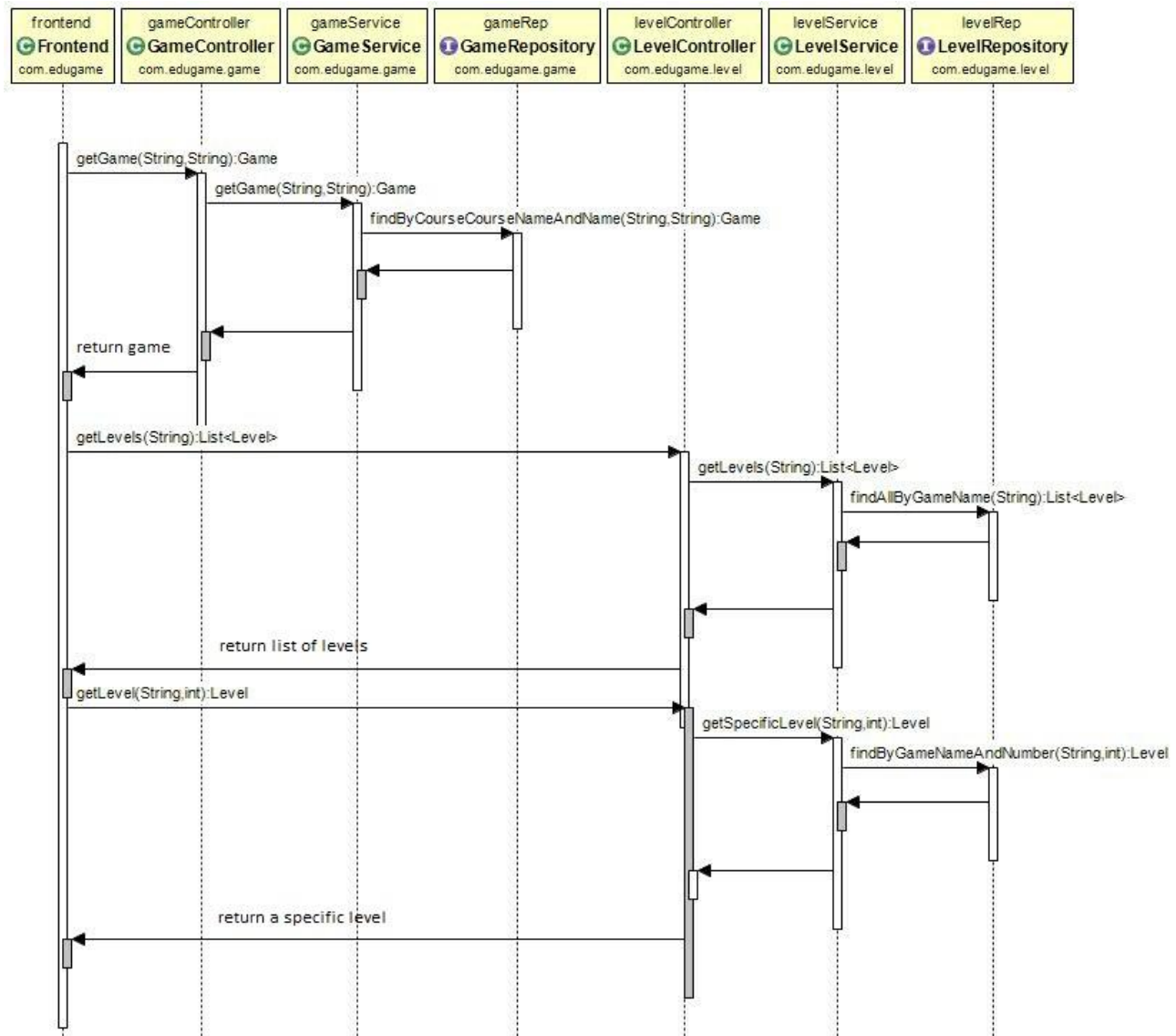




CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

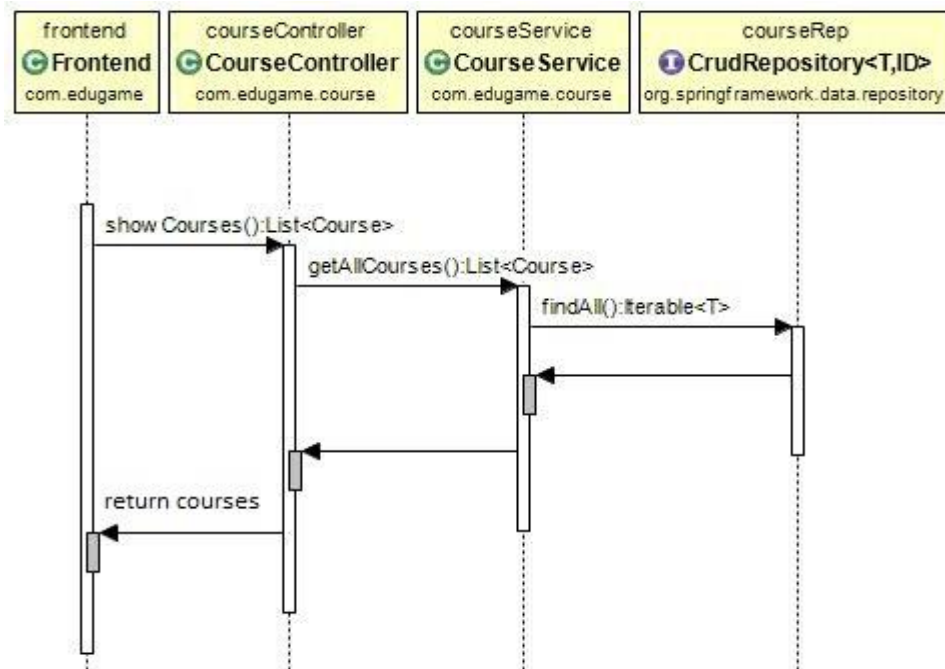
Play Game



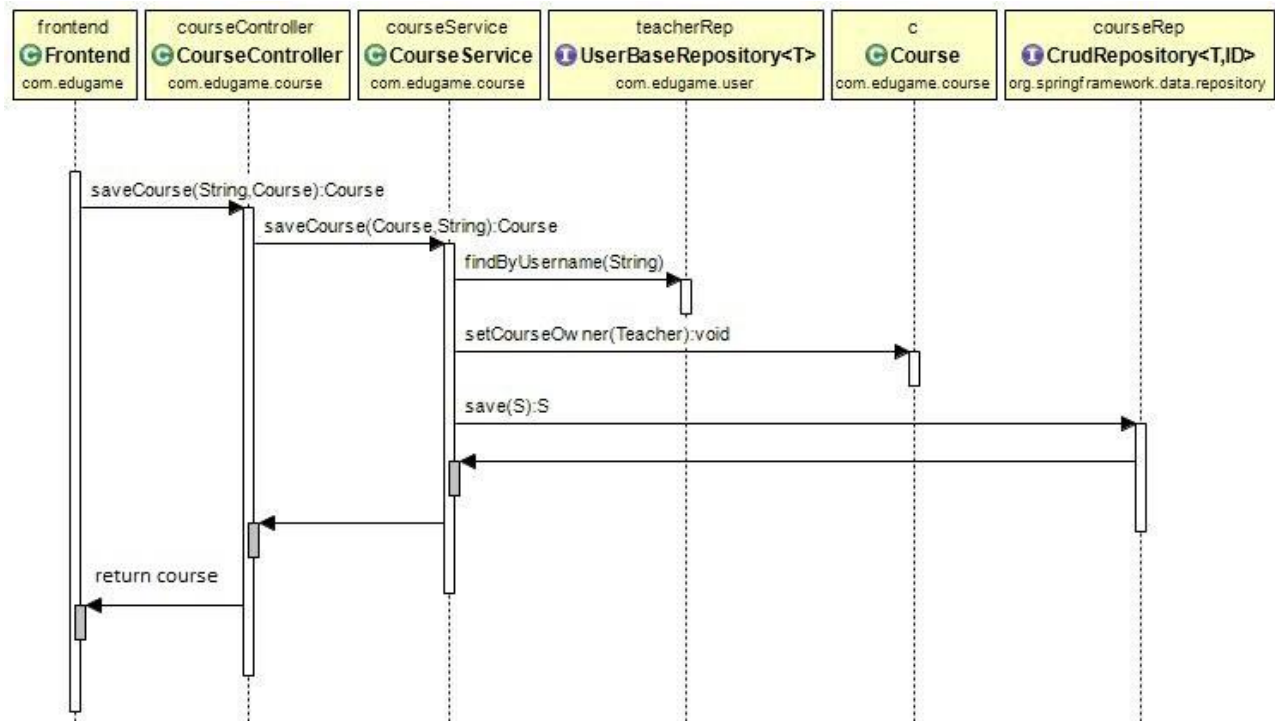


CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Show Courses



Create Course

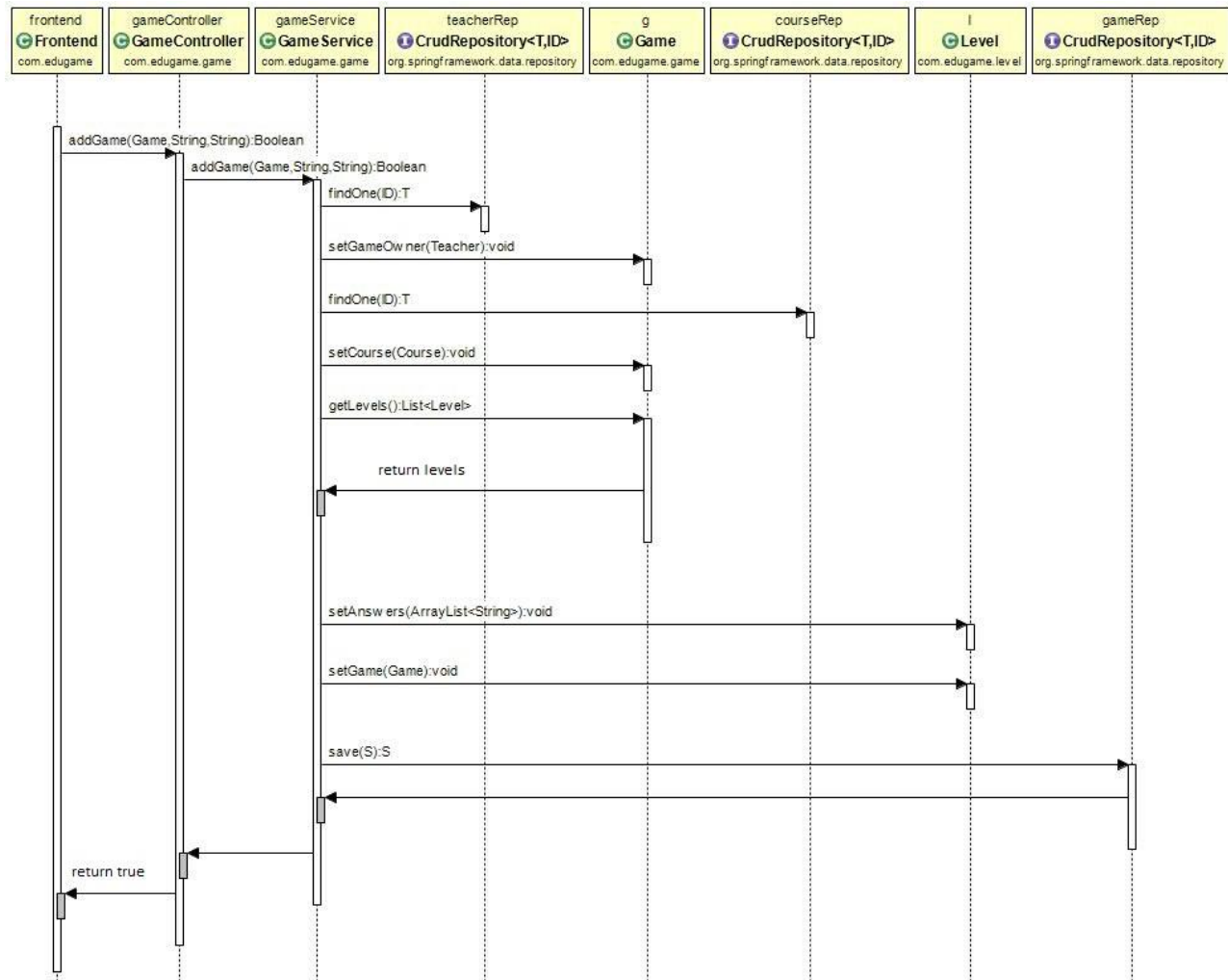




CS352: Phase 2 – Gamers++ <edugame>

Phase 2- document

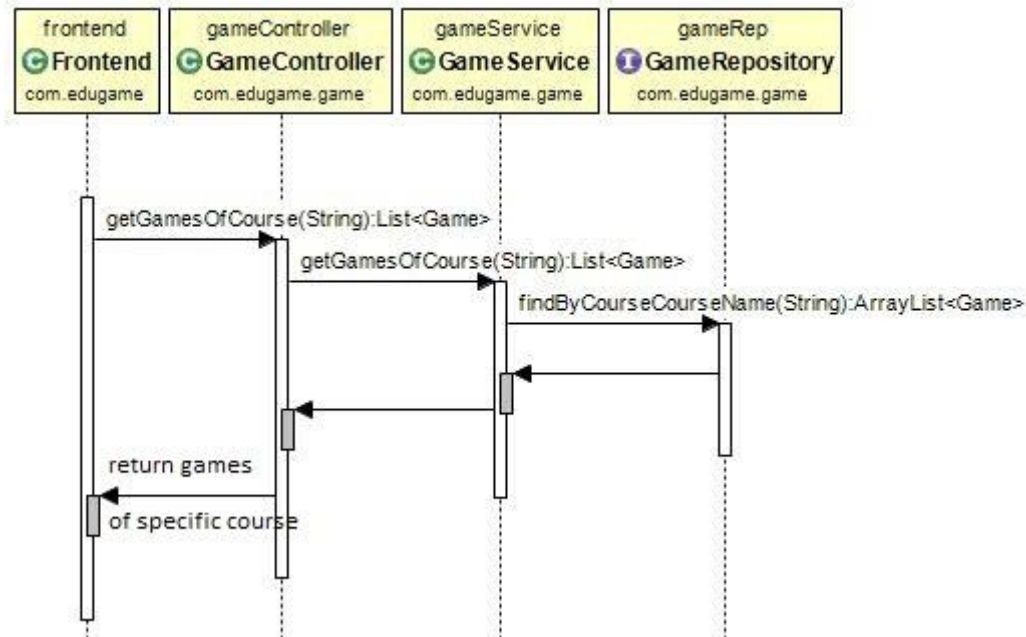
Create Game





CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

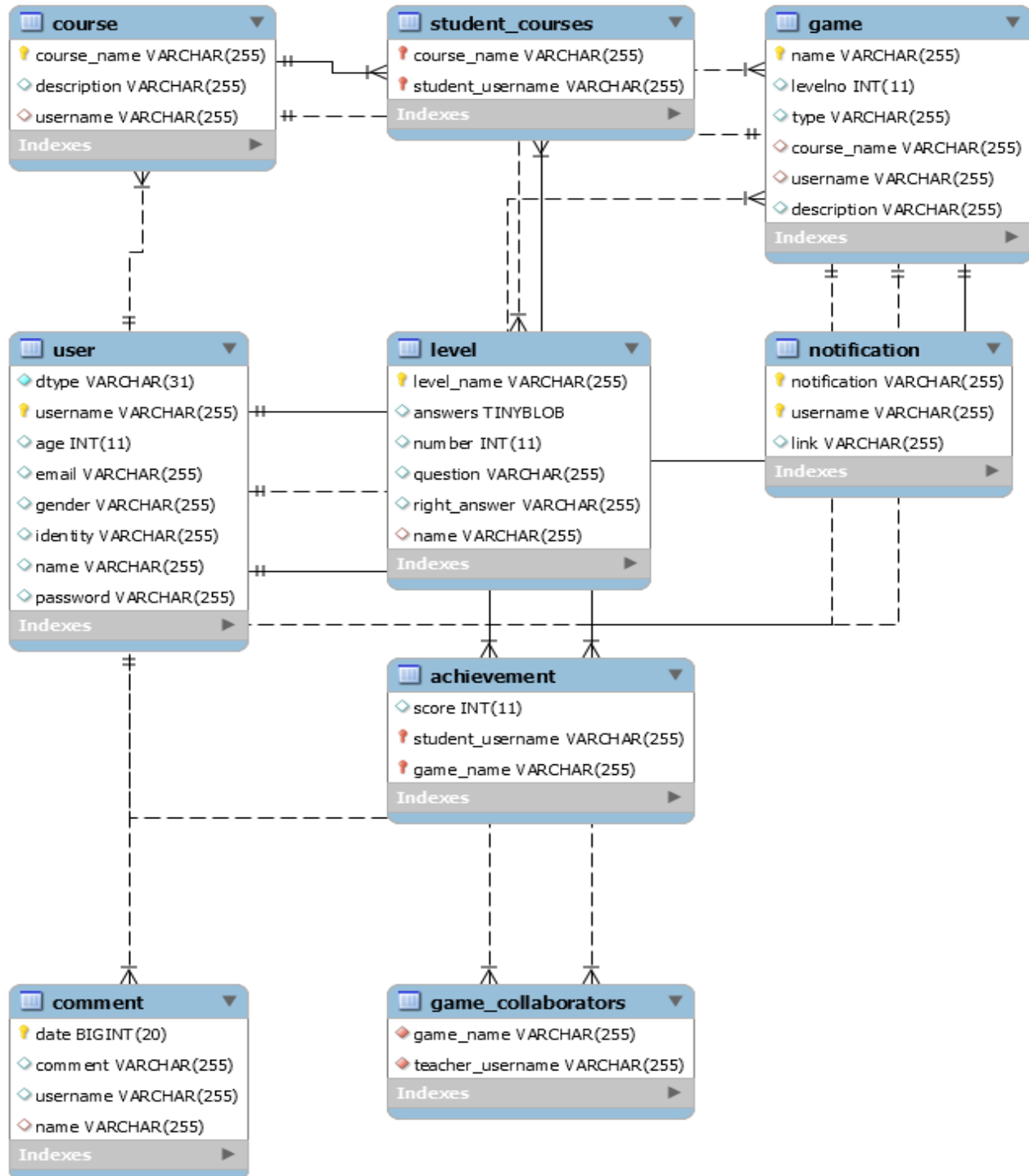
Show Games in specific course





CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Entity Relationship Diagram – ERD

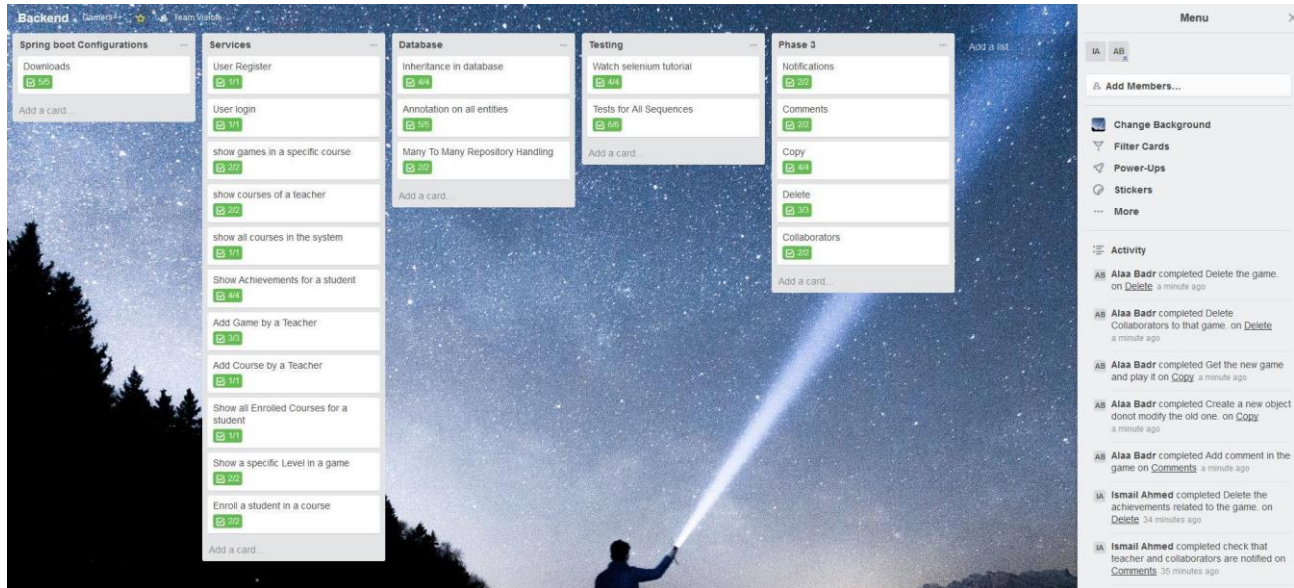




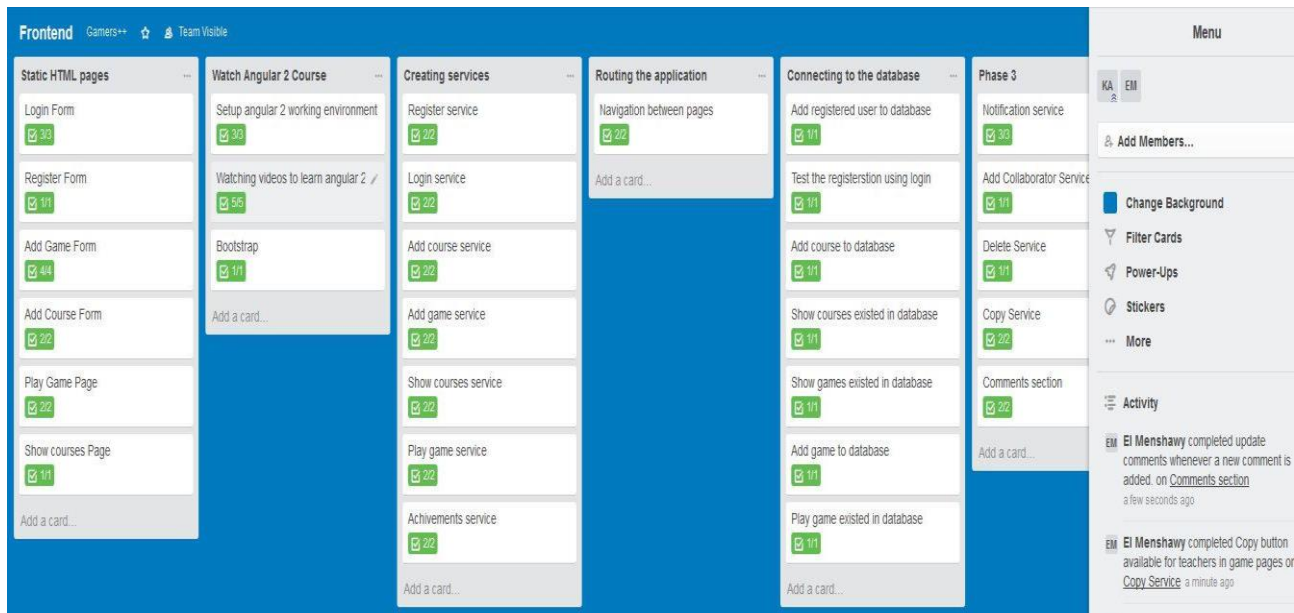
CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Trello workspace screenshot

Backend



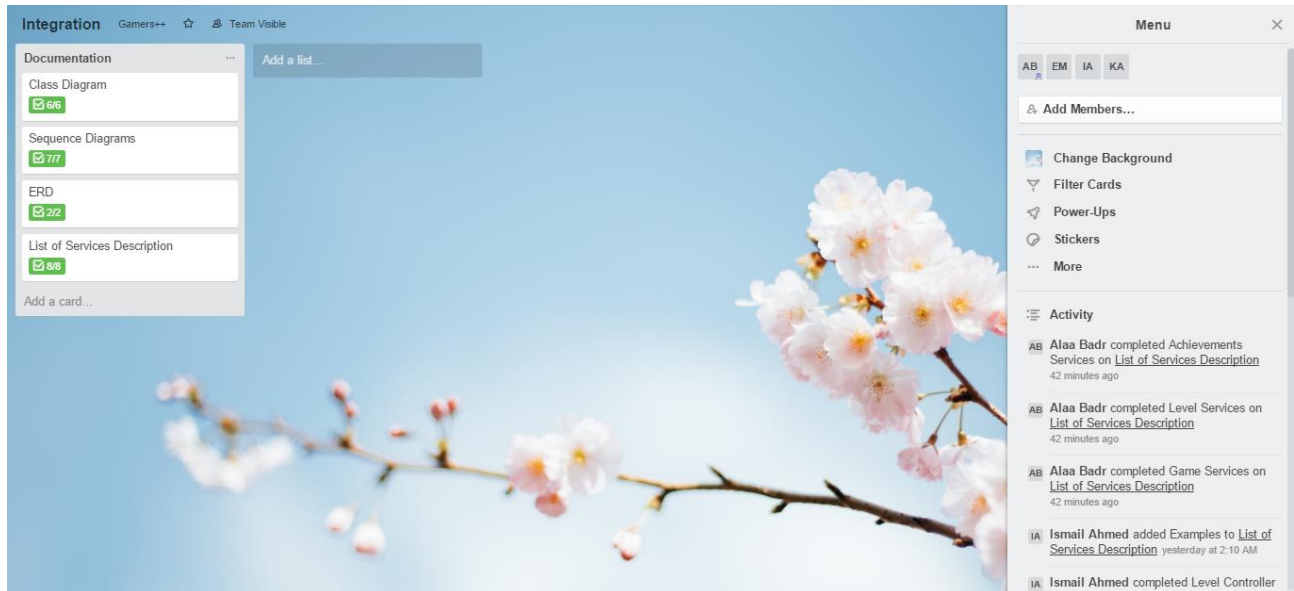
Frontend





CS352: Phase 2 – Gamers++ <edugame> Phase 2- document

Integration



Github repository link

<https://github.com/AlaaBadr/SWE2-Project>