

ClaM

CLassroom Management Software

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Introduction

ClaM is designed to ease life of teachers in the classroom.

Namely, teacher can create quizzes, which students can later take. Points will be calculated automatically and data will be easily accessible.

Solution will be secure and flexible, supporting many different types of questions and quizzes. Professor, in our case, is "administrator" of the program, having control of creating student accounts, managing quizzes and grades.

Implementation plan

- Make program design (classes, interactions, actors).
- Make a shared git repository to work together.
- Start programming using Ruby language.
- Perform heavy testing and bug-tracking.
- Write code according to defined design.
- Deploy! *(and get 1.0 in the class :D)*

Complexity: **quite high.**

Because of multitude of classes and complex interactions between them need to be implemented in Ruby, being new programming language for us.



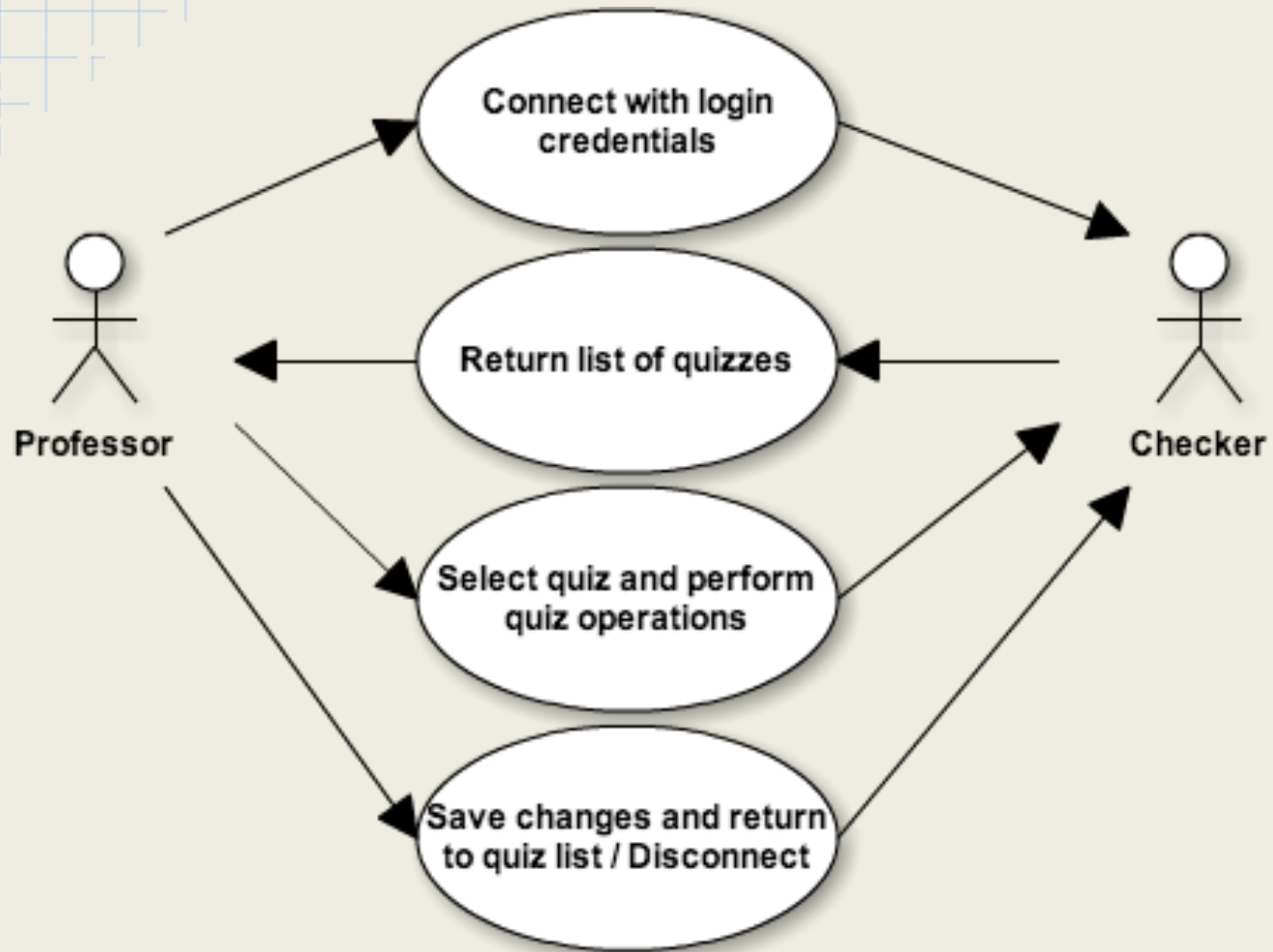
Back-end

"How does it work from inside?"

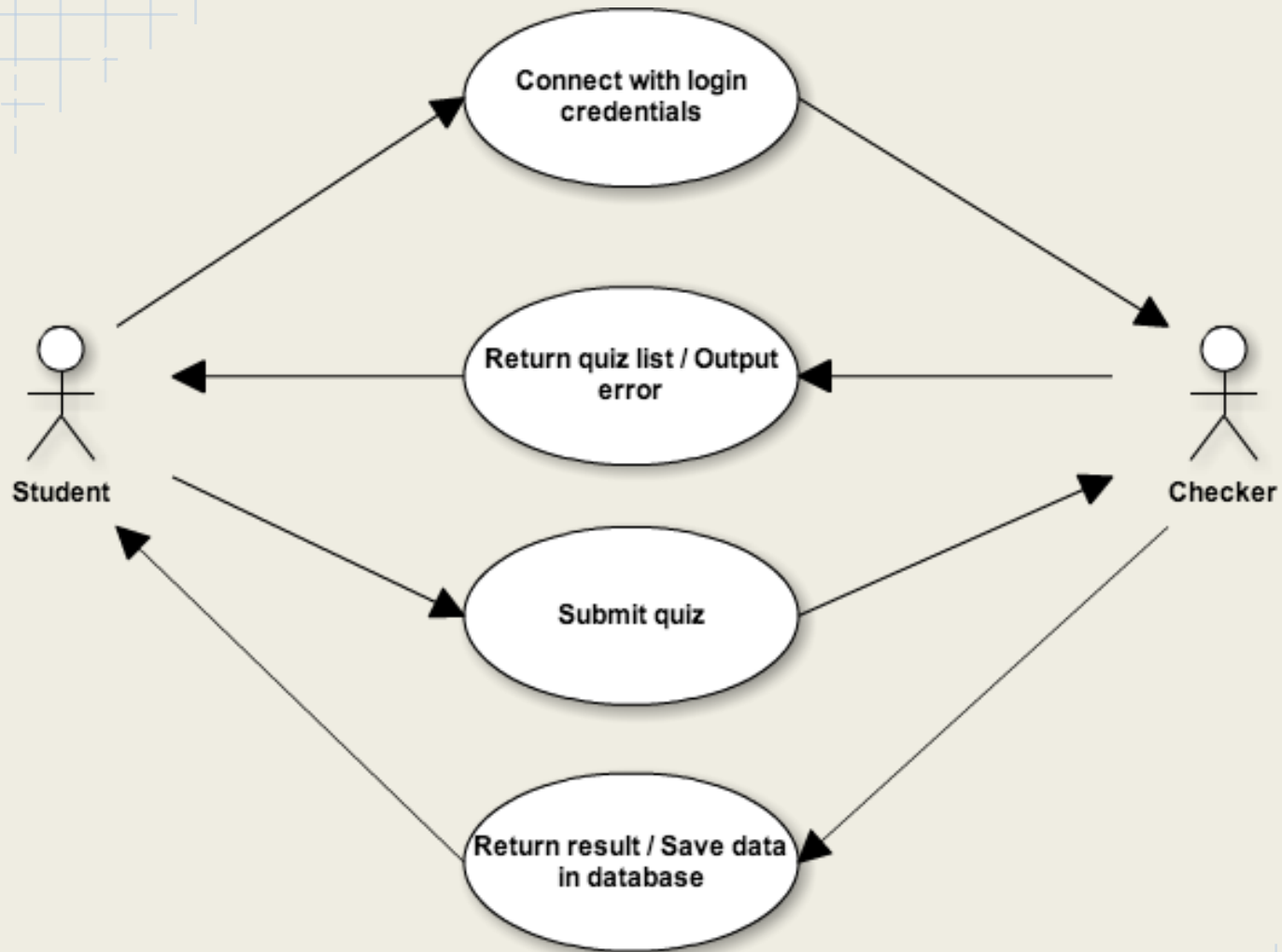


What is it all about?

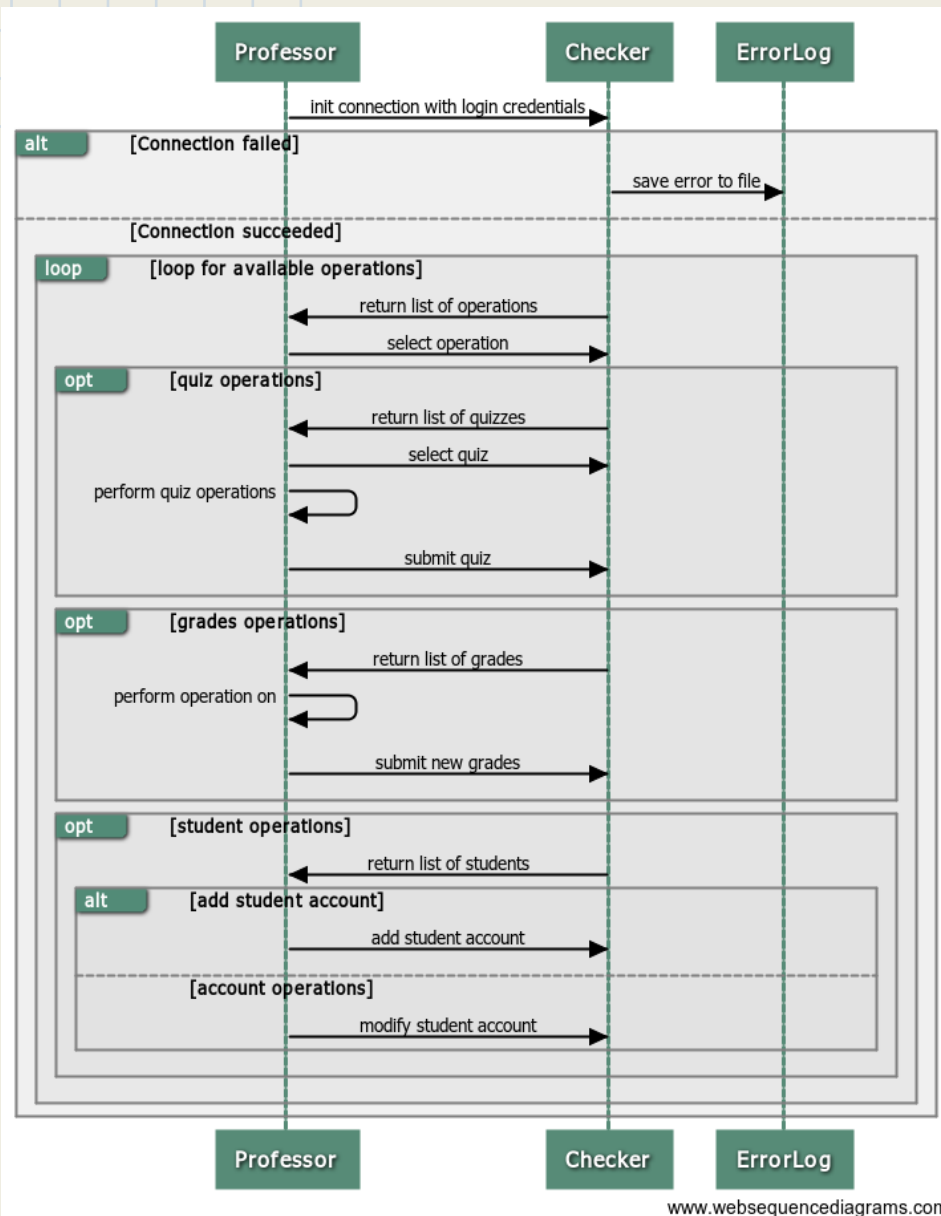
- Class hierarchy with inheriting.
- Complex interactions between the classes.
- "Core" class as main initializer.
- Recognizing 3 main actors:
Controller, Student and Teacher.
- Determining actions, on which conditions they occur and when in the timescale of execution.



Use Case Diagram

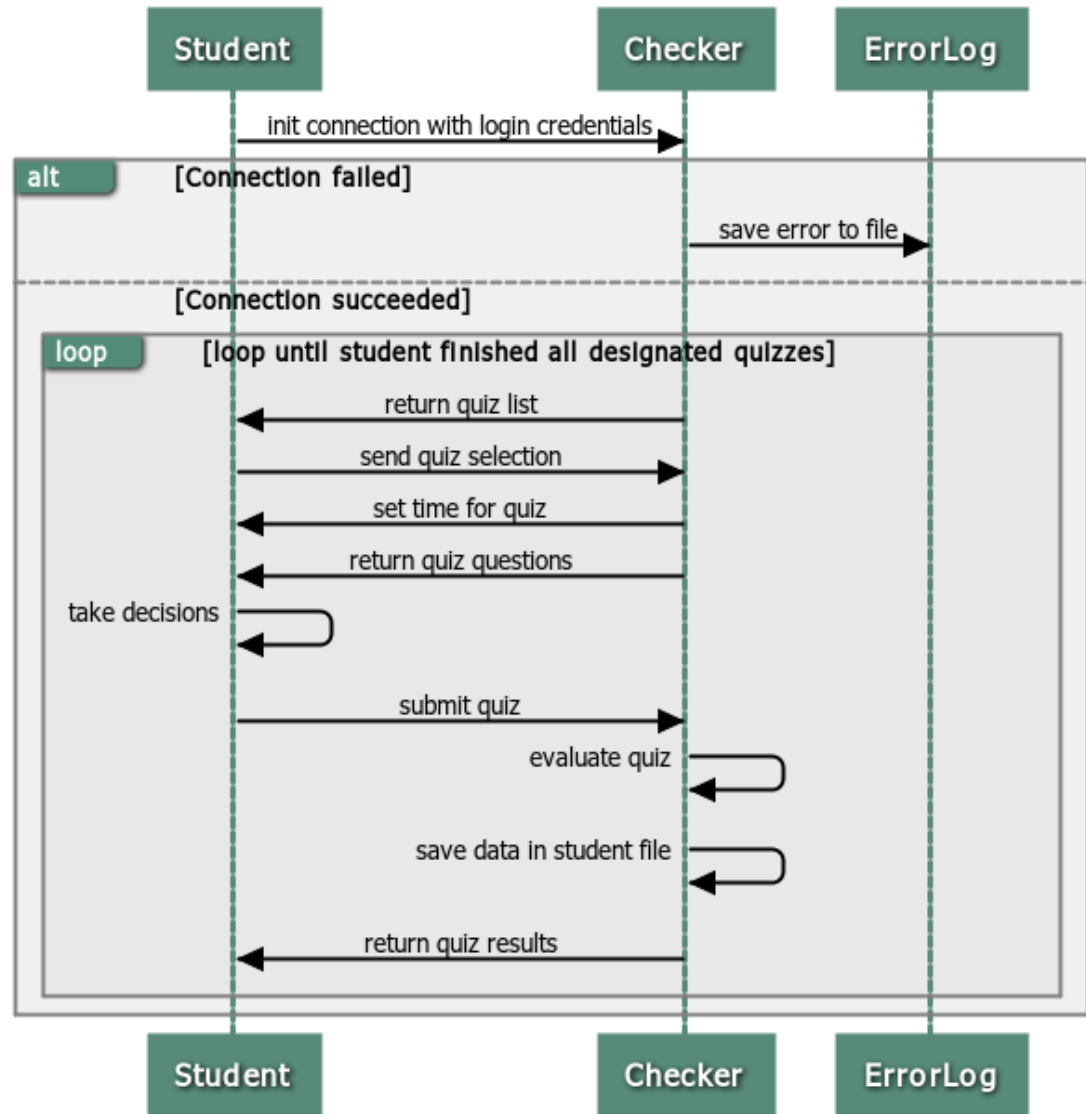


Use Case Diagram



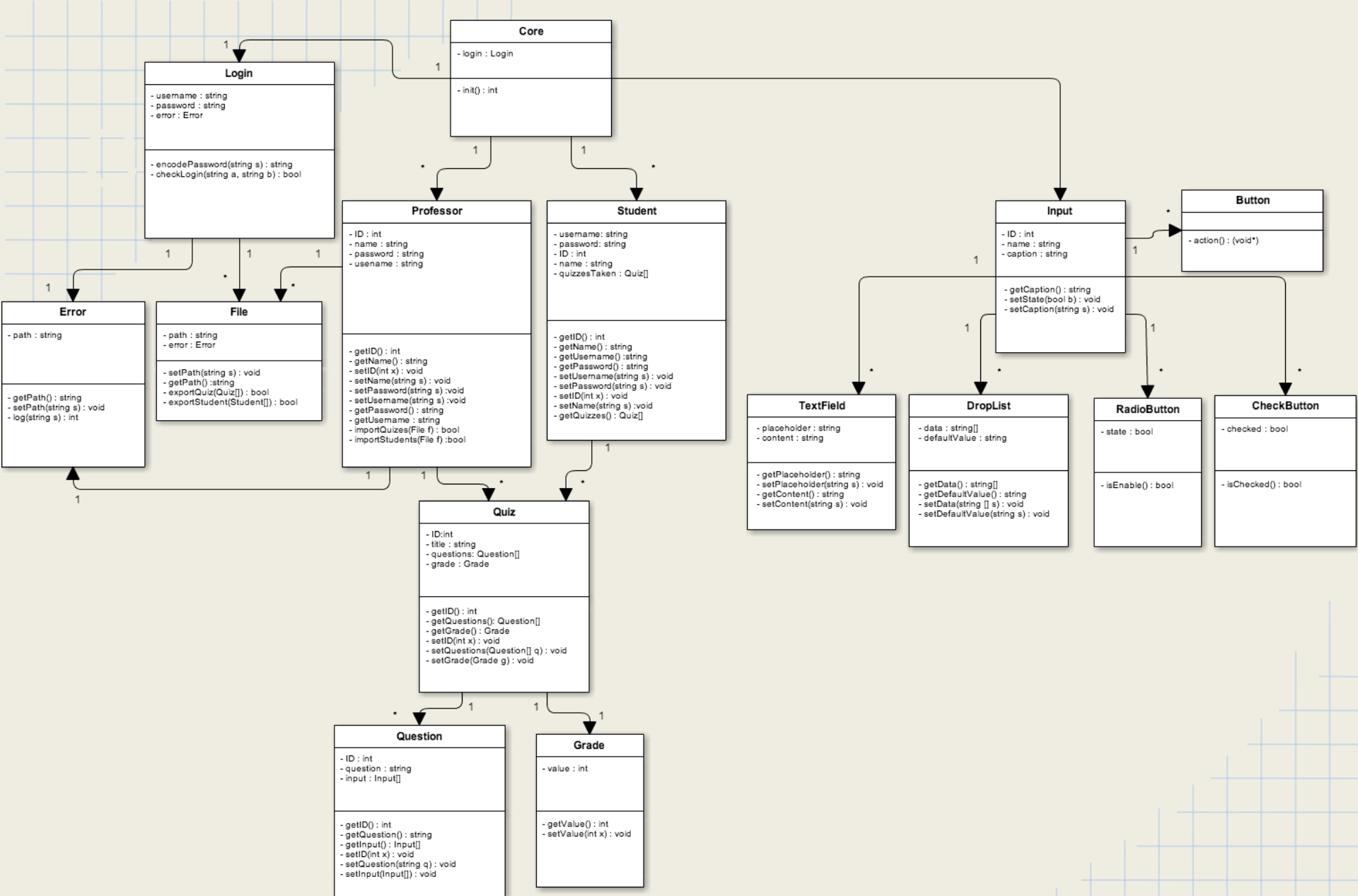
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Sequence Diagram



www.websequencediagrams.com

Sequence Diagram



Class Diagram

Front-end

"How does user interact with program?"

Tools and libraries

Since making and solving quizzes in terminal shell is a truly dreadful experience, we decided to use Graphical User Interface in our project.

We will be using

Shoes GUI

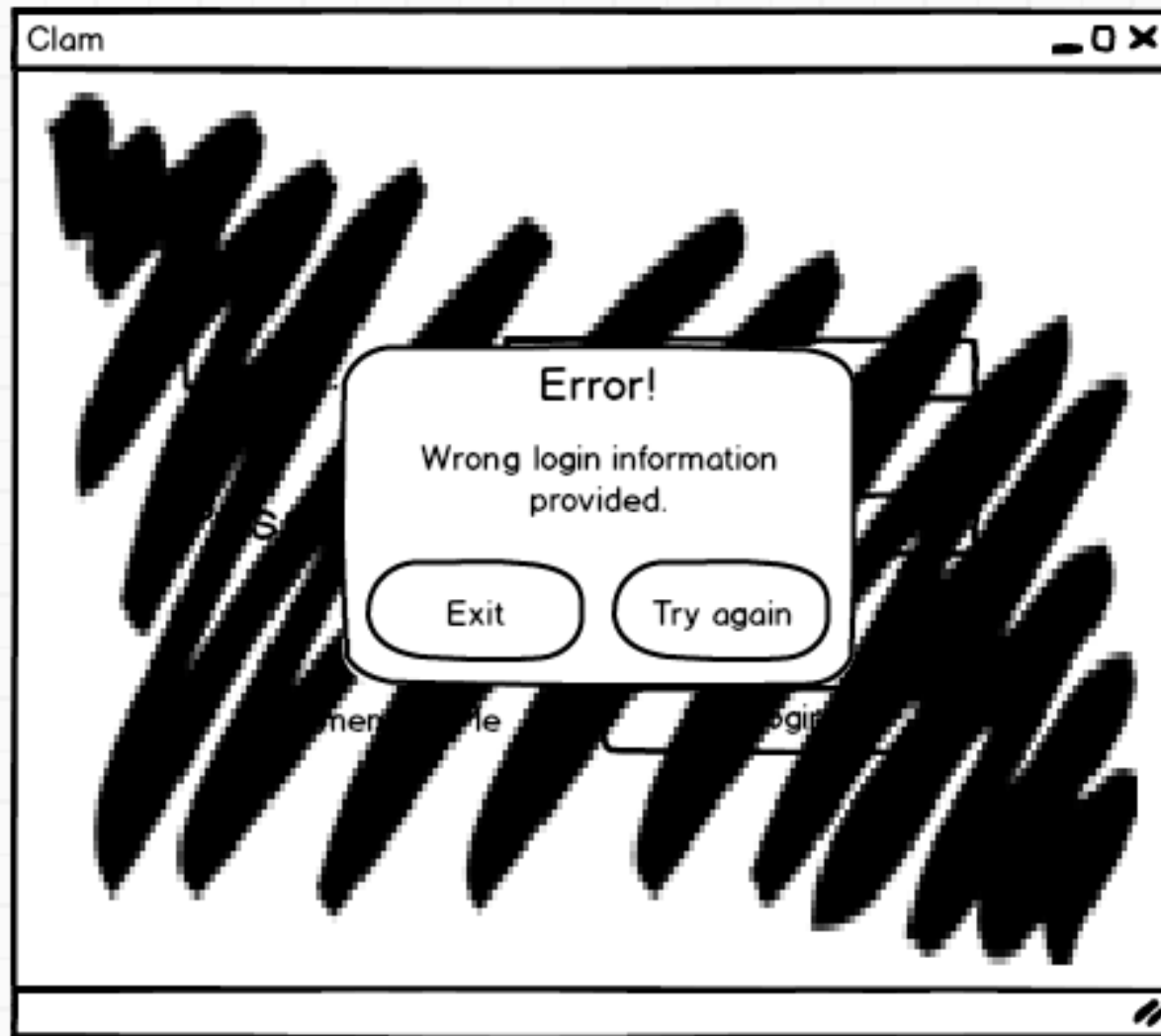


in combination with

Rubymine IDE



to achieve the cross-platform executable, best code quality, performance and results.



Login screen

Clam

Welcome back, PonySlasher123

Available quizzes:

Quiz #1, due 08/03

Take the quiz!

Last results:

#	Quiz name	Date	Grade
1	Vectors and Matrixes	15/02/2013	15/20
2	Derivatives and Integrals	25/02/2012	30/30
3	Assembler	01/03/2012	0/30
4	Social Interactions A1.1	01/01/2013	1/30
5	Intro to Ruby	02/03/2013	100/100

User interface for student

Clam

Solving "Quiz #3: American History"

Question #1: Which of the following are US presidents?

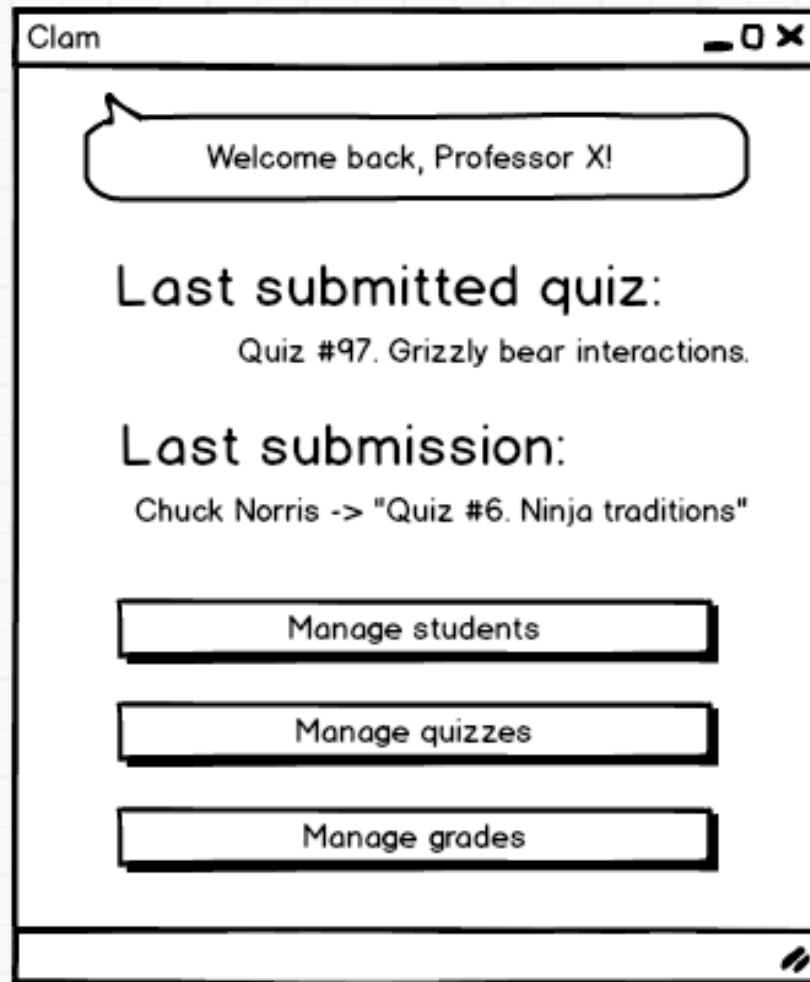
- ☐ George Washington
- ☒ Napoleon Bonaparte
- ☐ Joseph Stalin
- ☒ John Kennedy

Question #2: Name three Lincoln's cat names.

1.

2.

Taking the quiz



User interface for professor

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Back

Add student Clear student list

Export student list Import student list

#	Name	Avg. grade	Quizzes taken	Delete
1	Giacomo Guilizzoni	89%	12	<input type="checkbox"/>
2	Marco Botton	65%	4	<input type="checkbox"/>
3	Mariah Maclachlan	100%	1	<input type="checkbox"/>
4	Valerie Liberty	-%	0	<input type="checkbox"/>
5	Guido Jack Guilizzoni	47%	7	<input type="checkbox"/>

Managing students

Clam _ □ ×

Back

Add quiz

Clear quizzes

Export quiz list

Import quiz list

#	Name	Questions	Taken by	Avg. grade	Delete
1	Art History of 18th Century	15	3	89%	<input type="checkbox"/>
2	Harlem Shake Tendency	2	60	65%	<input type="checkbox"/>
3	Biological forces	40	32	100%	<input type="checkbox"/>
4	Sexuality	34	0	-%	<input type="checkbox"/>
5	USC Food and Jazz Artists	9	32	47%	<input type="checkbox"/>

Managing quizzes

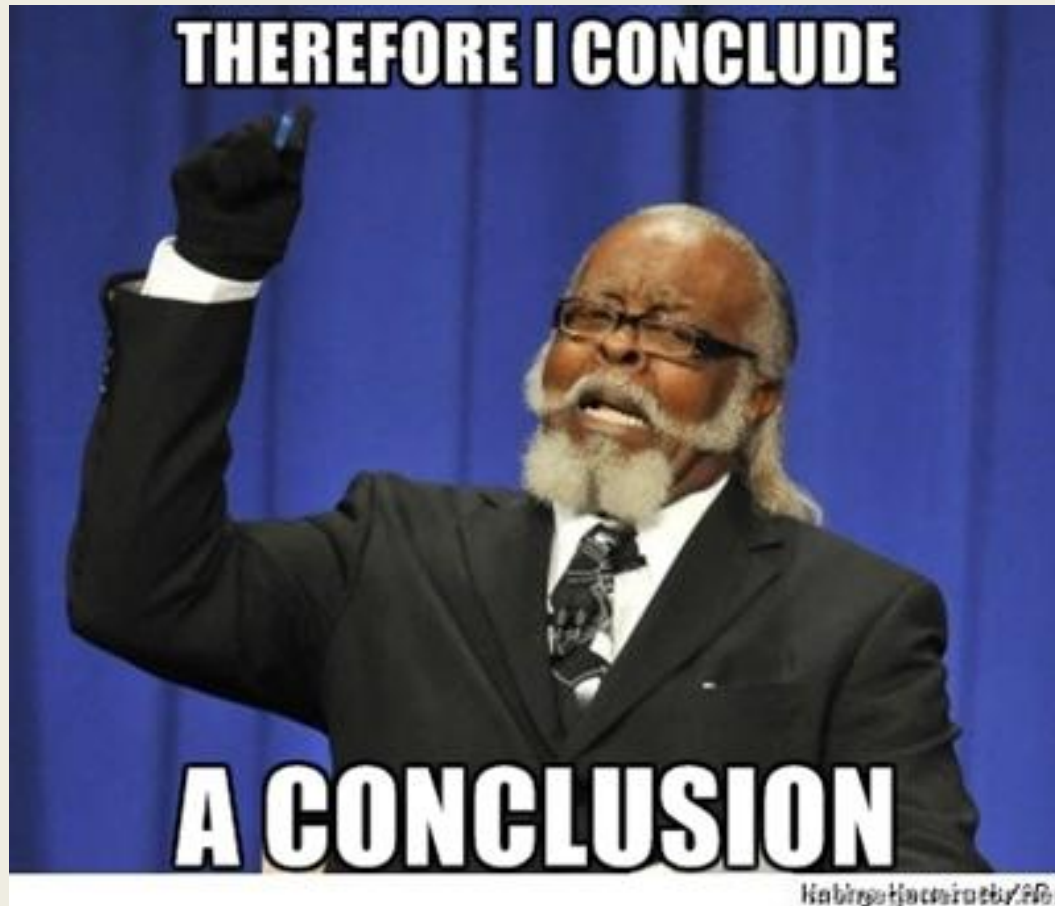
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Back Print Export to PDF

Quiz/Student	Vova T.	Stas T.	Sasha M.	Artem D.	Vova C.	Rescale
Quiz #1	76	89	54	67	43	<input type="checkbox"/>
Quiz #2	36	87	54	65	67	<input type="checkbox"/>
Quiz #3	100	45	0	99	56	<input type="checkbox"/>
Quiz #4	7	8	7	7	7	<input type="checkbox"/>
Quiz #5	100	100	100	100	100	<input type="checkbox"/>

Managing grades

In conclusion...



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Questions?