**PROJECT architecture document - submit system**

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Project Background and Description

*Our clients are the students, teachers, and exercise checkers of Bar Ilan university. This system allows the management, submission, and grading of coding exercises.*

*Our goal is to replace the existing system with a new one, providing a better UI, more options and greater ease of maintenance.*

## Project Scope

*This is a system for submitting coding exercises and checking them.*

*1. For students, The system provides the ability to:*

1. *Manage their submissions (adding new submissions or editing existing submissions)*
2. *Test their code with basic tests.*
3. *View their grades for previously submitted exercises.*
4. *Request deadline extensions.*
5. *Submit appeals.*

*2. For teachers, The system provides the ability to:*

1. *Create and manage exercises.*
2. *Accept or reject student requests.*
3. *Manage the automatic tests of the code.*
4. *Manage the checkers of the exercises.*

*3. For exercise checkers, The system provides the ability to:*

1. *Check submissions.*
2. *Recheck submissions that need to be checked a second time.*

*4. For managers, The system provides the ability to:*

1. *Create courses and assign teachers to them.*
2. *Add users to the system.*
3. *Manage users' permissions.*

*The system will be independent and separate from the “Inbar” server.*

## High-Level Requirements (Design)

* *Ability to run automatic tests for several programming languages with the ability to set configurations (like parameters,input files,timeout, etc).*
* *Ability to Manage chats of appeals and extension requests.*
* *Ability to Save and operate files in cloud server.*
* *Ability to save and operate data in DB server.*

## Who are the users?

*Students - users who submit solutions to their exercises.*

*Teachers - users who create the exercises and manage them.*

*Exercises checkers - users who checks the submissions of the students.*

*In addition, there are managers that can create new users and manage their permissions.*

## Project entities (Architecture)

*Web application- MVC architecture.*

*Server- C# in the university cloud.*

*Angular- JS, CSS*

*DB- Microsoft SQL server*

## Typical user flows

In addition to this file, there are design xd files that describe the user flows.

[[Metargel design.xd](https://github.com/stavih19/Submit-System/blob/master/Archtechture%20files/Metargel%20design.xd) , [Student design.xd](https://github.com/stavih19/Submit-System/blob/master/Archtechture%20files/Student%20design.xd) , [bodek design.xd](https://github.com/stavih19/Submit-System/blob/master/Archtechture%20files/bodek%20design.xd)]

## Epics and user stories and test plans scenarios

*Epics:*

* *Managing exercises.(Teachers)*
* *Testing exercises.(Teachers and Checkers)*
* *Submitting exercises. (Students)*

*Managing exercises:*

*US:*

1. *As a Teacher, I want to log in to the system and right away review all the appeal requests so that I will be able to decline or accept them easily and in a short time.*
2. *As a Teacher, I want to log in to the system and right away review all the time extension requests so that I will be able to decline or accept them easily and in a short time.*
3. *As a Teacher, I want to log in to the system, select specific course and create new exercises for the course. In the creation process I will give basic information about the settings of the exercises. As a result, students will be able to upload their solutions to the system and I will be able to test them when the time is up .*
4. *As a Teacher, I want to log in to the system, select a specific exercise and change its submission date to give the students more time to solve the exercise.*
5. *As a Teacher, I want to log in to the system, select a specific exercise and add a checker to the exercise. so the checker will be able to check the submissions and grade them.*

*Tests - things to check - when (something) i have to see (something)+/ that doing (something) :*

1. *When the teacher logs in and reaches the home page, a list of appeals for exercises from courses they teach are shown, and the teacher is able to decline or accept them.*
2. *When the teacher logs in and reaches the home page, a list of time extension requests for exercises from courses they teach are shown,and the teacher is able to decline or accept them.*
3. *When the teacher logs in and reaches the home page, a list of courses they teach is shown. When the teacher selects a course from the list, they get a page of the course that contains an option to add exercises to the course with its basic settings information.After doing that, the students will be able to submit submissions to this exercise.*
4. *When the teacher logs in and reaches the home page, a list of courses they teach is shown. When the teacher selects a course from the list, they get a page of the course with a list of exercises . In the exercise page there is an option to edit the settings of the exercise that has the option to change the submission date.*
5. *When the teacher logs in and reaches the home page, a list of courses they teach is shown. When the teacher selects a course from the list, they get a page of the course with a list of exercises . In the exercise page there is an option to edit the settings of the exercise that has the option to add a checker to the exercise.*

*Checking exercises:*

*US:*

1. *As a Teacher, I want to enter a specific course page and automatically check all submitted homework with one click in order to get all the grades of the students.*
2. *As a Teacher, I want to be able to automatically check the coding style of an exercise.*
3. *As an exercise checker, I want to be able to easily view all the exercises I am assigned to check.*
4. *As an Exercises checker, I want to select an exercise and then select a student submission and manually check it.*
5. *As an Exercise checker, I want to be able to view the result of the automatic checks so that I can make sure the grade is warranted.*

*Tests - things to check - when (something) i have to see (something)+/ that doing (something) :*

1. *When the teacher clicks on the course button, he then chooses an exercise and will be given the option to do an automatic test via a button click.*
2. *When the teacher clicks on the course button, he then chooses an exercise and will be given the option to do an automatic coding style check via a button click.*
3. *When I enter the home page as exercise checker, I will see a list of exercises that I was assigned to check.*
4. *When I enter the exercise page, I can choose a specific exercise submission and will then be given the ability to preview or download the files so I can check them.*
5. *When seeing an exercise submission, I can see the results of the check at the bottom of the page and edit the penalty on any mistake as I see fit.*

*Submitting exercises:*

*US:*

1. *As a Student, I want to log in to the system and see a list of my grades.*
2. *As a Student, I want to enter a specific curse and exercise, so that I can submit the files.*
3. *As a Student, I want to login in and send an extension request for an exercise.*
4. *As a Student, I want to login in and send an appeal request on an exercise witch already tested.*
5. *As a Student, I want to login in and see my files that I submitted to one of the exercises.*

*Tests - things to check - when (something) i have to see (something)+/ that doing (something) :*

1. *Given the student log in he will see the that list in the home page in a table*
2. *Given the student enters the right course from the list and chooses the right exercise he can click a button and add files and submit.*
3. *Given the student entered an exercise I can click on the exercise in the list in the home page and click on the right button to send the extension request.*
4. *Given the student entered an exercise I can click on the exercise in the list in the home page and click on the right button to send the appeal request.*
5. *Given the student entered an exercise I can click on the exercise in the list in the home page and click on the right button to download my files.*

* *If this is an old exercise I will find him in another way by first finding his course in the list and then finding it is the exercises list of the course.*