

AYU  
Badkan - moodle  
Software Design Document

Names :  
Avi Boter,  
Yair anisfeld  
Uriel Sachs

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## **1. INTRODUCTION**

### **1.1 Purpose**

Moodle system is an online academic platform for both students and academic stuff for studying , learning and communicating.

Badkan auto code tester is a free platform for academic stuff to apply class assignments to.

It receive a Github repository link and returns grade and feedback to the user.

Also, its can save the grade history of the student, which helps to the academic stuff to see his student progress.

Our main goal is to enable Moodle academic users to submit an academic code assignments with an automatic interface testers designed by the academic stuff and create a plug-in that will enable to connect between the "Moodle" system and "Badkan" website which is an automatic tester.

## 1.2 Scope

The plug-in will be design to work with an automatic interface tester "badkan" website

- The plug-in may support connection with other systems such the "Badkan" in this project scope.
- Our plugin will connect the student to the "Badkan" code runner.

As a result, in case of mistakes and issues with the student code, the student will get a chance to current its mistakes and learn better.

There for, an academic institutions will have the option to change there teaching strategy.

## 1.3 Reference Material

*Github*

*\*Vision statement*

*\*Windows design document*

*\*SRS*

## **2. SYSTEM OVERVIEW**

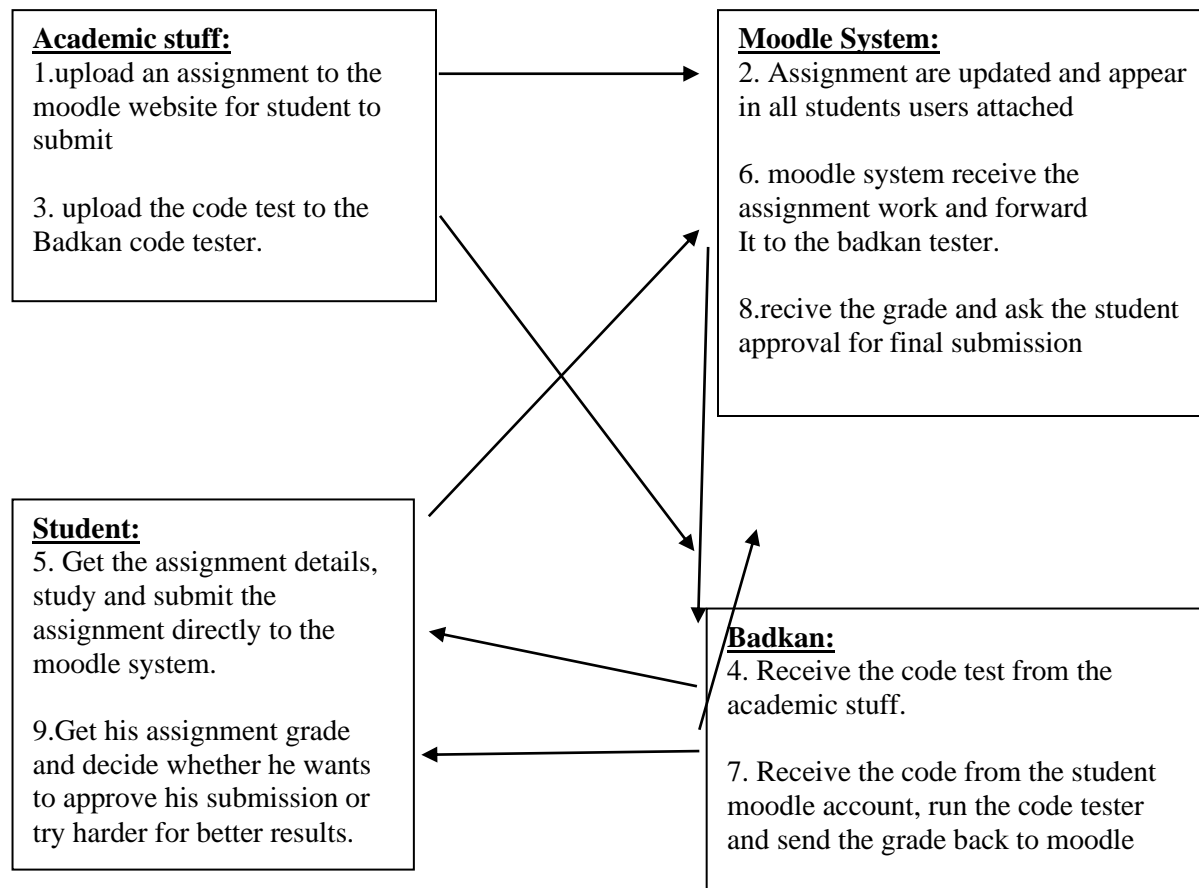
Our software is a plug-in feature installed on the Moodle software system.

As usually, academic stuff upload an assignment to the moodle website for student to submit, then, the student submit the assignment directly to the moodle system and automatically get the his submission grade from the badkan code tester and decide whether he wants to approve his submission or try harder for better results.

### 3. SYSTEM ARCHITECTURE

#### 3.1 Architectural Design and Decomposition Description

The next modular structure represents the relationship between the modules to achieve the complete functionality of the system.  
the diagram showing the major subsystems and data repositories and their interconnections.



## **3.2 Design Rationale**

We choose this architecture in that order (3.1) because of its logical order. Our implementation must be in these specific order due to the Academic Stuff/Lecturers and Students relations.

But also due to our willing, to let the student the opportunity to improve itself and its coding skills. First we allows the student to do a self examination, fix his code and learn from his mistakes. then we allow him to submit his assignments.

## **3.3 Functional description**

emailAndPass() – login to the badkan with the user email and password, return error message in case of invalid data

Assign\_my\_code() – assign the github url to the badkan

And return the badkan output, return error message in case of invalid data

## 4. Data Design

### 4.1 Data Description

Our system deals with data mainly two issues.

1)When lecturers will open a new assignment to submit.

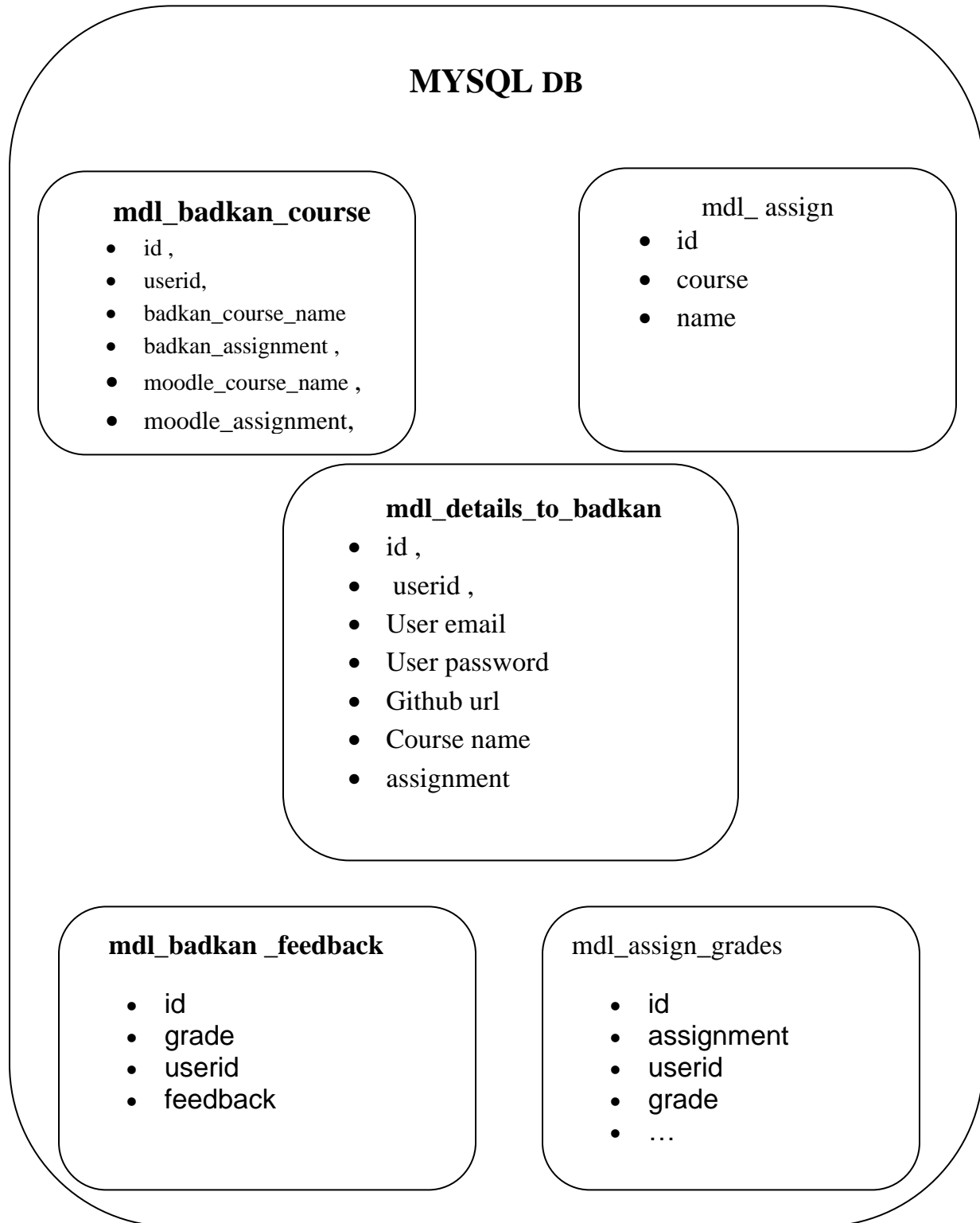
- A new record will be insert in **mdl\_assign** table. With the fields : id , course , Name... This table stores data for all assignment in all courses.
- A new record will be insert in **mdl\_badkan\_course** table. With the fields : id , userid, badkan\_course\_name , badkan\_assignment , moodle\_course\_name , moodle\_assignment,  
This table stores essential data for future submissions .

2)When submitting an assignment :

- A new record is inserted to **mdl\_details\_to\_badkan** with the fields: id , userid, user\_password, user\_email, git\_url , course\_name, assignment , who getting from the user and from the **mdl\_badkan\_course** table.
- The feedback (grade ) returned from the site will be stored as a temporary record to the **mdl\_badkan\_feedback** table. With the fields : id ,grade, userid ,feedback.
- In addition, the grade will be stored in the table mdl\_assign\_grades with the following fields : id, assignment,useid,grade ....



## 4.2 Data Information



## 5. HUMAN INTERFACE DESIGN

### 5.1 Overview of User Interface

functionality of the system from the student perspective:

once the student enter the submission page of a task in the moodle the student will see an addition submission box called "badkan submission" which allow him to put the GitHub URL of his project and sent it to the badkan.

After the badkan process the results(grade and feedback/some error) the user will see a pop up window with the grade given and the feedback from the badkan(if an error occurred in the badkan running code there will be no grade but the user will still see the given output from the badkan). In that window the user will have the option to either save the grade as a "final grade" or take another try to improve his code and submit again.

### 5.2 Screen Images

some example of how the user interface with the plugin in the moodle may look like

here we can see a case where the student sent his github URL in the "הגשה לבדקן" box and got 96 grade and in the "הערות מהבדקן" he can see the feedback from the badkan. If he would like to save and submit his grade he click the "הוספת הגשה".

**מצב הגשה**

נסיון מספר	זהו נסיון 1
מצב ההגשה	אין נסיונות
מצב מותן הציון	לא ניתן ציון
עד לתאריך	00:00, 17/01/2021
הזמן שנותר	3 ימים 1 שעה
עדכון אחרון	-
הערות סטודנט להגשה	הערות (0)
הערות מהבדקן	הערות (1)
ציון מהבדקן	96

## 6. REQUIREMENTS MATRIX

Component and data structure	Requirements from srs document
<b>mdl_details_to_badkan</b> table	The Submission Box will enable every user to enter a "GitHub" repository link of his assignment code and deliver it to the Badkan grading system.
Assign_my_code()	2.In case of Broken link\not allowed link, user will get an error message elaborating and explaining the error source\reason and an help with solving it.
mdl_badkan_course	3. The academic stuff will have to assign a unique Badkan-tester (Url) to the moodle assignment.
Assign_my_code() mdl_badkan_feedback	the grade and feedback will be available via the moodle (it will be saved in a table in moodle).
	. There will be a separated window opened up which will contain the grade from the Badkan code tester.
Built in functionality of moodle system	The academic stuff will have the ability to edit this (1) grade
mdl_badkan_feedback	The window will contain the full feedback from the Badkan code tester.

