

Breakpoint

A system that coordinates and organizes students' projects

SRS

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1. Introduction

This system is a system that coordinates and organizes students' projects, and allows the student to give opinions on other students' projects.
we hope this system can become an healthy environment for students to learn from each other no only from their group members.

1.1. Overview

The problem that was presented to us was unorganized and unconcentrated projects of students.

The goal was to create a system that will concentrate all of the projects and give easy access to students, teachers and to everyone whom you wish to share.

1.2. Problem Description and Motivation

- In a lot of courses and classes today you need to submit a project by a large number of people which don't have any system will receive and organize those projects.
- A lot of students will most likely only use the people they work with them for their projects, but they're missing the ability to be inspired by the entire class and their ideas.

1.3. Goals

- To save the students projects in an organized and easy to access way.
- To inspire and give new points of view to other students on their projects.

1.4. Scope

Information management.

1.5. Glossary

- Repository - A place or container where something is deposited or stored.
- Cloud - "The cloud" refers to servers that are accessed over the Internet, and the software and databases that run on those servers.
- C/CPP file - A file saved with c file extension is a source code file written in C/CPP programming language.
- GB - The is a multiple of the unit byte for digital information.
- engineering programmer - engineering Programmers apply principles and techniques of engineering, mathematics, and computer science to the design, development, and testing of software applications for computers.
- Malicious software - Malware, or malicious software, is any program or file that is intentionally harmful to a computer, network or server

2. General description

A system that coordinates student projects and gives access to other students, so they may feedback on their peer's projects and help them improve.

2.1. User Characteristic

2.1.1. Stakeholders: Client Description

Our client is Shenkar – Engineering. Design. Art.

Description:

"Shenkar - Engineering. Design. Art" has established its position as one of the leading colleges in Israel and every year its graduates integrate into research and industry, present their work, participate in exhibitions and win prestigious awards.

2.1.2. End-Users Description and Scenarios

<p>Name: Menahem Avshalom Description: Menahem is a college student at the age of 24 (Active user) in his final year to the degree. Menahem lives at Holon with two roommates. Goal: Menahem wants to get feedback on his project so he may improve it.</p> <p>SCENARIO: Menahem just finished his project and want's to share it with his friend's so they may take inspiration. Menahem uploaded his project to the system and received a success message. After a couple of days Menahem checked his upload and saw he received feedback from his peers. (Best Case)</p>	 A portrait of a young man with dark hair and glasses, wearing a blue long-sleeved shirt, standing against a solid blue background. He is smiling and has his arms crossed.
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<p>Name: Ran Cohen – active user</p> <p>Description: Ran is a 22 years (Active user) old lives at Jerusalem. Ran is a student at SHENKAR.</p> <p>Goal: Ran wants to see other student's examples so he can continue his own project.</p> <p>Scenario: Ran and his partner have reached a breakpoint in their project. Ran entered breakpoint and choose to view the most rated projects of his classmates. After searching Ran found a project that gave him inspiration so he download it. And got a success massage.</p>	
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<p>Name: Sivan Moallem</p> <p>Description: Sivan is a 2 years old lives at Jerusalem. Ran is a student at SHENKAR.</p> <p>Goal: Sivan wants to upload her project to her system breakpoint.</p> <p>Scenario: Sivan entered the system and choose to upload their project. Sivan received an error message "User don't have a permeation to upload the project". (Worst case) Sivan sent a permeation request from the system. After a couple of days Sivan have Successfully Upload her project.</p>	
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2.2. System Perspective

Always start with a few sentences before the first sub section.

2.2.1. Software

Code.

2.2.2. Hardware

Computers, mobiles.

2.2.3. Data and Information

- Feedback about the project which we get from the users.
- Information about the project which we get from the students.

2.2.4. Processes

Process name:	Sign up
Practicing actors:	All actors
Flow of events:	<ol style="list-style-type: none">1. Choose user type.2. Provide personal information (Name, Sex, Age, Occupation) and choose a password.3. Provide a menu to the user.

Process name:	Project Upload
Practicing actors:	Students
Flow of events:	<ol style="list-style-type: none">1. Enter the system.2. Choses the correct projects environment.3. Select the Upload Button.4. Select which project he wishes to upload.5. Confirm and gets a success massage

Process name:	Project review and download
Practicing actors:	All actors
Flow of events:	<ol style="list-style-type: none"> 1. Enter the system 2. Select which project to review 3. Download the project 4. Confirm and gets a success massage

Process name:	Permission grant
Practicing actors:	Teachers.
Flow of events:	<ol style="list-style-type: none"> 1. Enter the system 2. Enter the permission manager 3. Choose to add user 4. Add user username 5. Confirm and get a success massage.

Process name:	Comment on post's
Practicing actors:	All actors
Flow of events:	<ol style="list-style-type: none"> 1. Enter the system. 2. Choose desired environment 3. Choose desired post 4. Write your comment 5. Confirm and gets a success massage.

Process name:	Projects (Worst case)
Practicing actors:	All actors Except student's
Flow of events:	<ol style="list-style-type: none"> 1. Enter the system. 2. Choose to view the student's projects 3. Get error message "No projects have been found".

Process name:	Idea/motivation generator
Practicing actors:	Students
Flow of events:	<ol style="list-style-type: none"> 1. Enter the system. 2. Choose the idea generator 3. Click the generate bouton 4. Get a random motivation quote.

2.2.5. People

Tech system team, which will go through all the projects to check if they're valid.

2.3. Market Survey

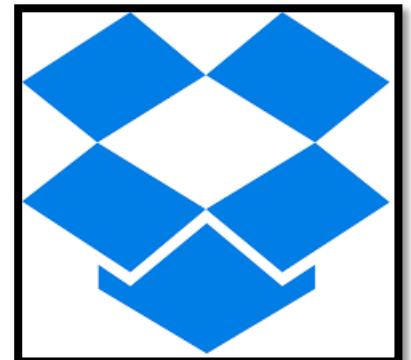
There are a lot of people today that require a shared space so they may upload their files and share them with other people, that space will be a shared environment that a group of active users may exchange information by the supervisor of the creator of the environment.

Solution survey

- Google Drive - Google Drive is a file storage and synchronization service developed by Google.
Google Drive has given the users a shared place to share files with one another .



- Dropbox is a file hosting service that offers cloud storage, file synchronization, personal cloud, and client software.
Dropbox brings files together in one central place by creating a special folder on the user's computer. The contents of these folders are synchronized to Dropbox's servers and to other computers and devices where the user has installed Dropbox, keeping the same files up-to-date on all devices.



Discussion and conclusion

Google Drive:

Pros	Cons
Easy to use.	permissions and privacy managing.
File sharing both on local computers and from clients.	Limit of file size you can upload in a day.(although it is up to 750 GB)
Accessible from anywhere.	Downloading and Uploading Speed can be slow sometimes.

DropBox:

Pros	Cons
Automatic file backup and synchronization.	Poor storage limits for free users.
Offline functionality.	Security weaknesses.
Apps available for practically every operating system.	Limited search function.

conclusion – google drive is a bigger solution to our problem. while it could work as a solution to our problem we will create a more focused system that will most likely not only fit projects of programmers but only Shenkar's engineering programmers. with that we will most likely won't encounter a lot of the cons that google drive have because we will never reach that scale of users.

2.4. The approach

the system we wish to create will give the user an environment to share his project with his peers and other users may review and download each other project or even exchange notes of improvement with each other.

The system will be accessible from the desktop and from the phone so the user may have easy access from anywhere.

features that may motivate and inspire the student to continue their project.

Virtual guide – the system will have guide that will show the user how to use every feature in the system of course this feature may be disable by the user.

2.5. Constraints

the system will require:

- Projects of users
- Users username so they will get a permission to add files
- A repository for the projects.

Without this requirement the system will not be operational.

2.6. Assumptions and Dependencies

We assume that an assignment has been given to the students so they may begin to work on the project and eventually upload it to the system.

3. Functional requirements

Functional requirement :	Description:
1.[M] Admin will give access to other users/delete access from other users.	<ul style="list-style-type: none"> ▪ The system will ask the admin on who to add or who to remove from the system permission list. ▪ The admin then must provide details of the user to the system (Username) ▪ A Screen will pop up with the user info. ▪ The system then will ask the admin to confirm the action on the user. ▪ A success message will pop out to the screen. That user has been added or removed from the permission list.
2.[M] User can restore his login info.	<ul style="list-style-type: none"> ▪ Under the login window a bar will appear which let the user and option to have a new password or username. ▪ When the user selects the bar, a new window will open which will ask the user to choose to have a new password or username: ▪ Restore Detail: <ul style="list-style-type: none"> 1. Username 2. Password. ▪ When the user chooses one of the above He must provide to the system his email. ▪ if his info is correct a message will be sent to his email address. ▪ After email confirmation the user may change his username or password.
3.[M] Filter all users project.	<ul style="list-style-type: none"> ▪ In the projects screen. ▪ The user may able to search for projects and filter between this options. ▪ Options: <ul style="list-style-type: none"> 1. Total rating 2. Visual rating 3. Code rating 4. Creativity rating 5. Social projects ▪ The system will automatically sort all Users' projects by their filter of choosing and present it to the user.
4.[M]edit user project.	<ul style="list-style-type: none"> ▪ After the user has usefully uploaded his project. The system will display an edit button to the user of the post.

	<ul style="list-style-type: none"> ▪ This will allow the user to add files to the project, delete files, edit the description of his file and save the changes. ▪ The system will save the user changes and display a success message to the user.
5.[M]Delete user project.	<ul style="list-style-type: none"> ▪ In the profile of the user. ▪ An option button will appear near the student project. ▪ When the user Click the button. The system will give the user the option to delete his project. ▪ If the user confirms the massage. the system will ask the user to provide his username and password to conform the delete action. ▪ The system will display a success message.
6.[M] Restore user lost data.	<ul style="list-style-type: none"> ▪ Once the user has deleted his project or some of the files of his project. ▪ The system well gives the user the option to restore the project\Files that he deleted. ▪ Once the user chooses to restore his deleted data. ▪ The system will display all the data he deleted. A little box will be displayed near every file name. ▪ The user will cheek the box of the files he wants to restore. ▪ The system will ask the student if he want to restore these file while the system will display the files name. ▪ Once the user chooses to accept a success message will be displayed. And all the files will be downloaded to the user devise.
7.[M] Search project by name.	<ul style="list-style-type: none"> ▪ Once the user has logged in to the system and entered the projects screen. A search bar will appear. ▪ Once the user typed in the project name, or the student's name who created the project. The system Will display the project to the user. ▪ If there is no such project or user name, the system will display an error message.
8.[M] Confirm user registration.	<ul style="list-style-type: none"> ▪ Once the user has registered to the system and an email will be sent to the user. ▪ In the email will be a confirmation code, that the user must insert it to the system to confirm his identity.

	<ul style="list-style-type: none"> ▪ If all the info is true a success message will be displayed.
9.[S]Review user project.	<ul style="list-style-type: none"> ▪ The system will display on the projects screen all the user's projects. ▪ Then the user chooses the project he want's review. ▪ The system will display the project the has been chosen. And the Info about its creator. <ul style="list-style-type: none"> 1. Title 2. Description 3. Image (logo - optional) 4. Project files:(pdf, C files, CPP files, PowerPoint files...).
10.[S] Motivation Generator.	<ul style="list-style-type: none"> ▪ If the user doesn't have an idea to his project. or stuck. There will be in the menu option called Motivation Generator ▪ Once the user chooses this potion, the system will display a random idea/motivation quote to the user so he can continue his project. ▪ Once the idea/motivation quote is displayed the system will display a success message.
11.[S] User can add new project.	<ul style="list-style-type: none"> ▪ The system will ask the user to give a title to the project. ▪ The system will display a message to the user of which files can be uploaded to the system: <ul style="list-style-type: none"> 1. Pdf 2. C files 3. CPP files 4. PowerPoint ▪ *The system will ask the user if the project he want to upload is a social project or not. ▪ “Is your project social project?” ▪ “Yes”/ “No” ▪ The user then must upload the files of his project. ▪ A bar will appear under the upload screen to show the user of the file uploaded. ▪ The System will pop a screen which include all the upload info. And will ask the user if the info is correct. ▪ A success message will pop out to the screen after the upload was authorized ▪ By the student and the system.

	<ul style="list-style-type: none"> ▪ The system will automatically organize all Social project and non-social project's. and Will sort them by The projects popularity. Which our system deal with it throw our voting system
12.[S]Share user project.	<ul style="list-style-type: none"> ▪ When the user chooses the project he wants to review, the system will give him the option to share the project (WhatsApp, Gmail) ▪ The system will display a success massage that the project has been shared.
13.[S] Review users report.	<ul style="list-style-type: none"> ▪ Once the admin has logged in. a notification will appear on the right side of the screen. ▪ The system will alert the admin that there are new users requests. ▪ In the admin inbox the admin can respond to each request. ▪ Once the admin has taken care each request. The system will notify the user about his request.
14.[C] Project Download.	<ul style="list-style-type: none"> ▪ Once the user chooses the project he wants to review the system will give him the option to Download the project files. ▪ The user can choose which file to download and the system will display a success massage.
15.[C] Vote on other user's project.	<ul style="list-style-type: none"> ▪ When the user logged in to the system. And chooses which project he wants to review. ▪ Near each project will appear 3 symbols, Each Symbol will refer to: <ul style="list-style-type: none"> 1. Creativity 2. Visually 3. Code ▪ After the user has voted on the project. Success massage(visually) will appear.
16.[C] Vote on user's comments.	<ul style="list-style-type: none"> ▪ After the user have chosen the project he wants to review. Under the project will appear all other users comments on the project. ▪ Other users can also vote on each other comments. There will an up vote option and a report option in case the user finds the comment troubling. ▪ If the user chooses up vote the system will show a visual success massage.

	<ul style="list-style-type: none"> ▪ if the user chooses report comment, he need to explain why, so the admin can review his report and take the right action.
17.[C] Comment on other user's project.	<ul style="list-style-type: none"> ▪ Once the user chooses the project he wants to review the system will give him the option to give feedback. ▪ The user then writes his opinion and upload his comment to the system. ▪ The system will display a success message that the feedback has been published.
18.[C] Find the most helpful user.	<ul style="list-style-type: none"> ▪ The system will find the user with most rated project. ▪ The rating will be calculated by a total sum of all 3 factors of rating. ▪ The most rated project will be presented on the main screen of the project.
19.[C] Find the most rated project.	<ul style="list-style-type: none"> ▪ The system will find the user with up votes on comments. ▪ The up votes will be calculated by the total sum of all of the user's up votes from all of his comments. ▪ The most "useful" user will be presented on the main screen of the project.
20.[W] Virtual guide.	<ul style="list-style-type: none"> ▪ When first entered the system will ask the user if he will need an explanation about the system. ▪ If the user will choose "Yes" the virtual guide will start to continue in this form: <ul style="list-style-type: none"> <u>Main screen</u> <ol style="list-style-type: none"> 1. the system will explain that in the main screen the most rated project and the most useful user will be presented to them with an explanation about each of them. 2. Below that there is the projects button in there the user can find all of users projects. 3. Below that he will find the motivation generator there he can generate from an array of motivation quotes. 4. In the right almost always will be presented a user profile picture his information and the profile button.

	<p><u>Profile</u></p> <ol style="list-style-type: none">1. The virtual guide will explain that in here the user may change his personal information.2. The user may also request from the system permission to add his own project.3. If the user already has that permission the user may add in his profile his own project.4. If the user already has a project, he may choose to edit or delete it. <p><u>Projects screen</u></p> <ol style="list-style-type: none">1. The user will be presented with option to search for a specific project2. The user can also use the filter search for a more direct result. <p><u>Project screen</u></p> <ol style="list-style-type: none">1. The user will be presented with a description and the project files folder, in there the user can view the specific files and download them in need.2. The user can rate the project he can choose to endorse the project for three things creativity, code and visually.3. In the button the user will see the comment section.4. The user may add his own feedback on the project.5. The user may also see other people feedback and approve of their feedback if seem useful.6. In case the user finds the feedback offensive he may report it to the system for further observation. <p><u>Project edit/add</u></p> <ol style="list-style-type: none">1. In case the user may want to add/edit a project the system will want it to enter a title,
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	<p>general description, an image that represent the project (optional) and most importantly the actual project files he wishes to upload.</p> <p>2. The user at all time in the edit screen may delete and add files.</p> <ul style="list-style-type: none">• And that's concludes the virtual guide explanation and explanation route.
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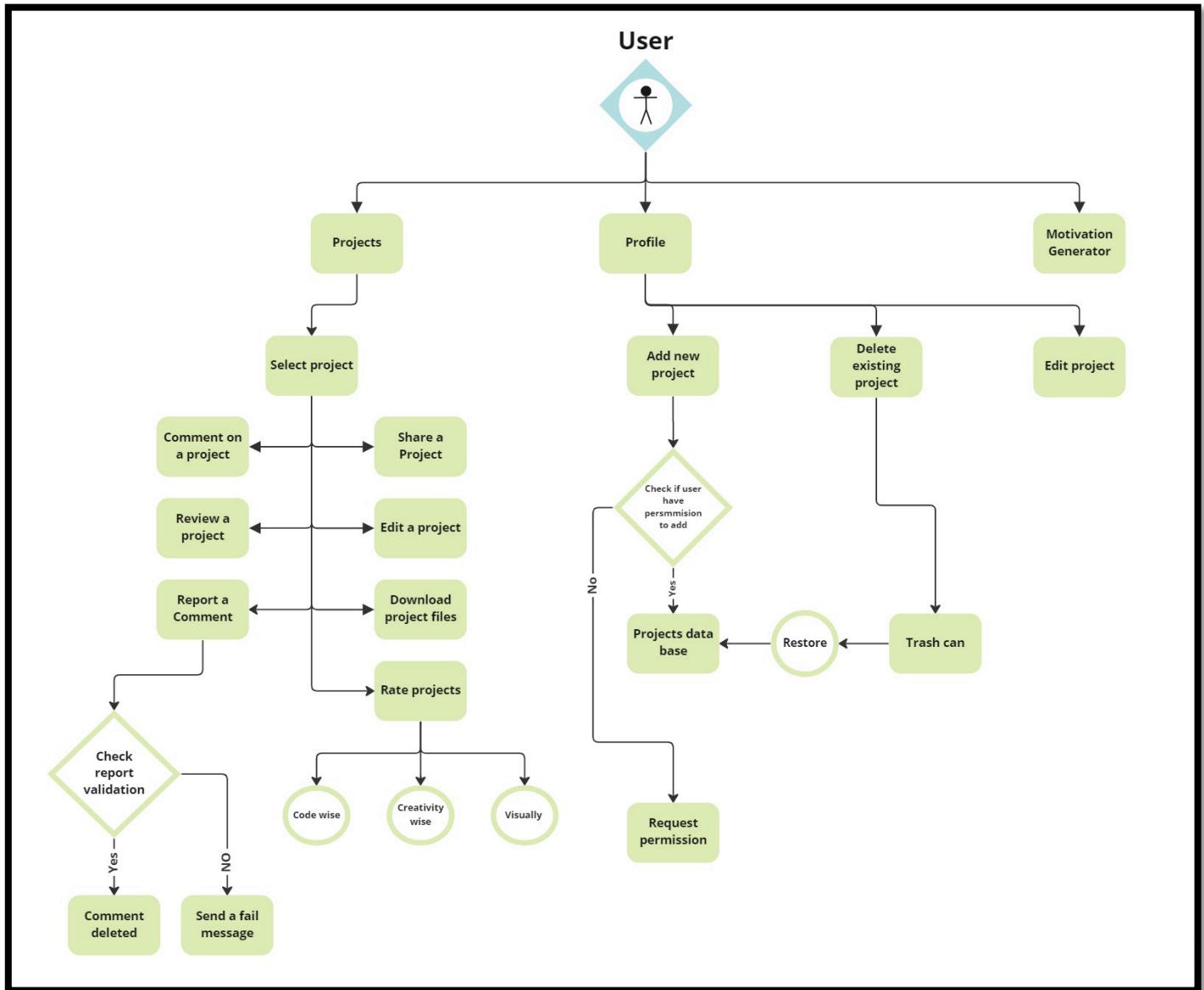
4. Non-Functional requirements

Quality requirements:

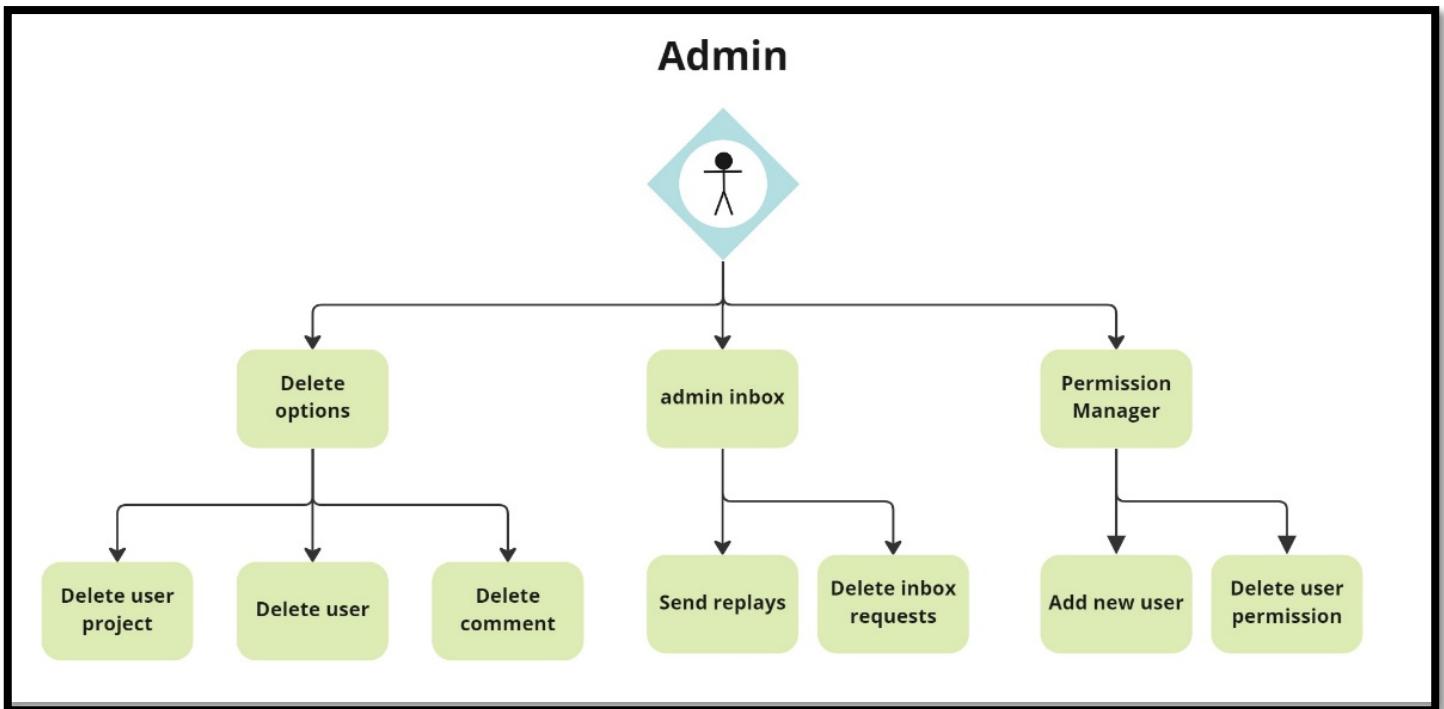
- **Reliability** – saving the user data in a secure location.
- **Availability** – the system will have a checkup that will see what the state of the storage capacity.
- **Safety** – none are required for our system.
- **security** – the system will detect any malicious software uploaded, notify the system and delete it if needed.
- **Maintainability** - the system will have the option to get feedback about faults in the system so it may be fixed.
- **Usability** - the system will contain a virtual guide that will help the user understand the interface of the system.

5. System flows

User system flow:



Admin system flow:



6. Risk management

Risk - users will try to get permission which they don't have.

Risk level – medium risk level.

The level of likelihood of occurrence – unlikely to happen if a student needs permission he will just send a request so unless it's for malicious intention this occurrence will not happen.

Assessment of consequences – The user may gain access to upload files with malicious software.

Risk Control - will give the user a feature to request from the system permission to add and delete files that will it will decrees the possibility of users who will try to get permission they don't have.

Risk - users will try to upload files which contains malicious software.

Risk level – High risk level.

The level of likelihood of occurrence – this have low probability of happening although can happen but an unwanted guest or a student with malicious intentions.

Assessment of consequences – the user or guest may download a software that may cause damage to the user's programs, delete his files and reformat or erase the user's hard drive.

Risk Control - set a check in the system that will check what type of files enter and give the user a fail message if the type of the file is untheorized.

Risk - users will try to delete files they didn't upload.

Risk level – Low risk level.

The level of likelihood of occurrence – this have low probability of happening although can happen by an unwanted guest or a student with malicious intentions.

Assessment of consequences – Although it sounds disturbing it is unlikely this will cause serious damage to the user. The user will have to re-upload the deleted file unless unfortunately the only copy of the file is the deleted one although that is an unlikely scenario.

Risk Control – set a security measurement of permission to users, that way not everyone will get to add and delete files but only selected users by the system.

Risk – users will try to upload files from an unauthorized type.

Risk level – Low risk level.

The level of likelihood of occurrence – this is most likely to happen moderately.

Most likely by mistake or from not knowing which type of files are allowed.

Assessment of consequences – if succeeded may cause problem with the system most likely because it will not know how to behave with unknown type of files.

Risk Control – set a check in the system that will check what type of files enter and give the user a fail message if the type of the file is untheorized.

7. System main screen specifications

The system is designed to work on:

- Desktop
- Mobile
- Tablet

8. Non-goals

1. This system is not meant for cheating on the project.
2. The system will not allow students to edit the inner content of their project.
3. This system is not meant to solve students programing problems.

9. Open issues

Issues that are unsolvable yet:

- How to deal with slow upload and download speed.
- How to deal with a full repository.

10. References

- [1] Google drive: https://www.google.com/intl/iw_il/drive/
- [2] Reddit: <https://www.reddit.com/>
- [3] LinkedIn: <https://www.linkedin.com/feed/>
- [4] GitHub: <https://github.com/>
- [5] DropBox: <https://www.dropbox.com/>

11. Appendix A

Requirements prioritization table:

criteria	requirements
M	<ul style="list-style-type: none"> • Admin will give access to other users/delete access from other users. • User can restore his login info. • Filter all users project. • edit user project. • Delete user project. • Restore user lost data. • Search project by name. • Confirm user registration.
S	<ul style="list-style-type: none"> • Review user project. • Motivation Generator. • User can add new project. • Share user project. • Review users report.
C	<ul style="list-style-type: none"> • Project Download. • Vote on other user's project. • Vote on user's comments. • Comment on other user's project. • Find the most helpful user. • Find the most rated project.
W	<ul style="list-style-type: none"> • Virtual guide.