

# Bug Tracker Minimum Viable Implementation

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- ▶ Brief introduction and the motivation
- ▶ Example of using the application
- ▶ Challenges and interesting points of the implementation
- ▶ Conclusion

What is a bug tracker?

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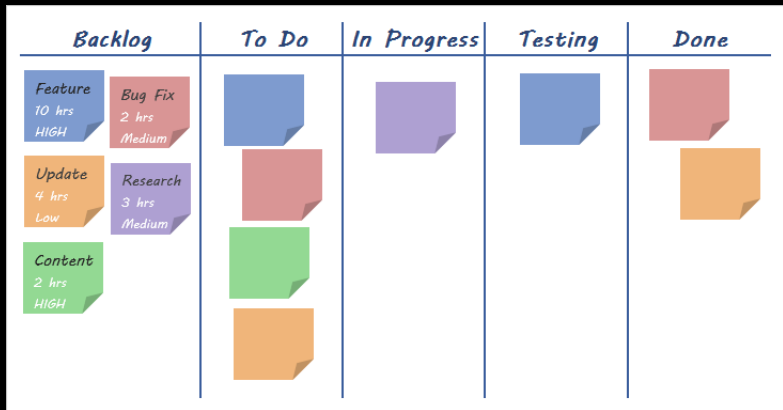
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What is a bug tracker?

It is an application used for managing projects with each project having 'issues' which can be information that describes a task.

The issues are generally displayed in a To-Do list or in other formats.

## A basic Kanban Board



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The implementation of a Bug Tracker that focuses mostly on the Kanban board.



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The implementation of a Bug Tracker that focuses mostly on the Kanban board.

Why did I choose this project theme?

I wanted an application that would solve a real-world problem and more importantly the development of the application would need to improve my skills.

## Project Manager :

The screenshot displays a web browser window with the title "Your trusted Bug-Tracker - Pale Moon". The address bar shows the URL "http://127.0.0.1:8080/bugtracker/project.php?project=3f2f2b43a4e8selectedIssue=39". The browser's tab bar shows "Your trusted Bug-Tracker".

The application interface features a top navigation bar with a logo (four green circles) and three buttons: "About", "Projects", and "Log Out". Below this, there are five columns representing different stages of the bug tracking process: "Backlog", "To Do", "In Progress", "Testing", and "Completed".

- Backlog:** Contains a red circle icon and the text "Exclusive Butto...".
- To Do:** Contains a yellow circle icon and the text "Button that hid...".
- In Progress:** Empty.
- Testing:** Empty.
- Completed:** Empty.

Below the columns, there is a section for the "Selected Issue". It includes a green circle icon with a plus sign, the text "Selected Issue:", and a yellow circle icon with the text "Button that hides/shows element".

Below the "Selected Issue" section, there are four buttons: "Delete Project", "View Issue Info", "Edit Issue", and "Postpone Issue".

Below the buttons, there is a table with the following data:

Status	Created by	Developed by
Waiting	projectManager	None

Below the table, there is a section titled "Details:" with the following text:

The idea is to have a java-script function that takes as argument an elements id and upon calling the function it would hide the element if it was currently shown or it would show the element if it was hidden.

## Project Manager :

Pale Moon

Your trusted Bug-Tracker - Pale Moon

http://127.0.0.1/bugtracker/project.php?project=51ef31743832c&selectedIssue=43

Your trusted Bug-Tracker

About Projects Log Out

Backlog To Do In Progress Testing Completed

Exclusive Butto... Button that hid...

+ Selected Issue:

Exclusive Button

Delete Project View Issue Info Edit Issue Delete Issue Move Issue

Status	Created by	Developed by
Waiting	projectManager	None

Details:

The idea is to have a java-script function that takes n arguments that are element ids and it shows the first element while hiding all others.

Done

Developer :

Your trusted Bug-Tracker

127.0.0.1/bugtracker/project.php?project=54e26b43a4ae&selectedIssue=39

About Projects Log Out

Backlog	To Do	In Progress	Testing	Completed
<div>● Exclusive Button...</div>	<div>● Button that hid...</div>			

**Selected Issue:**

● Button that hides/shows element

[View Issue Info](#) [Update Status](#)

Are you sure you want to move the selected issue to 'In Progress' ?

[Yes](#) [No](#)

## Developer :

Browser: Your trusted Bug-Tracker  
Address: 127.0.0.1/bugtracker/project.php?project=5&selectedIssue=39

Navigation: [About](#) [Projects](#) [Log Out](#)

Backlog	To Do	In Progress	Testing	Completed
● Exclusive Butto...		● Button that hid...		

**Selected Issue:**

● Button that hides/shows element

[View Issue Info](#) [Edit Issue](#) [Update Status](#)

Status: In Progress   Created by: projectManager   Developed by: user2

**Details:**  
The idea is to have a java-script function that takes as argument an element's id and upon calling the function it would hide the element if it was currently shown or it would show the element if it was hidden.

## Project Manager :

The screenshot shows a web browser window with the title "Your trusted Bug-Tracker - Pale Moon". The address bar displays the URL "http://127.0.0.1:8080/bugtracker/project.php?project=51cf21b43a4aed&selectedIssue=39". The browser's address bar also shows "DuckDuckGo".

The application interface features a top navigation bar with a logo (four green circles) and three buttons: "About", "Projects", and "Log Out".

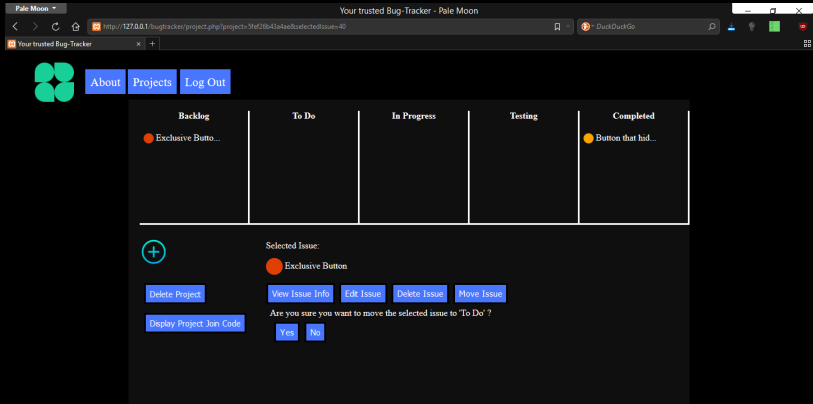
Below the navigation bar, there is a main content area with a header row containing five columns: "Backlog", "To Do", "In Progress", "Testing", and "Completed".

- The "Backlog" column contains a red circle icon and the text "Exclusive Butto...".
- The "In Progress" column contains a yellow circle icon and the text "Button that hid...".

Below the header row, there is a section titled "Selected Issue:" with a plus icon in a circle. This section displays the issue details:

- A yellow circle icon and the text "Button that hides/shows element".
- Four buttons: "Delete Project", "View Issue Info", "Edit Issue", and "Abandon".
- A button labeled "Display Project Join Code".
- A confirmation message: "Are you sure you want to mark the issue as Completed ?".
- Two buttons: "Yes" and "No".

## Project Manager :



The screenshot displays a web browser window titled "Your trusted Bug-Tracker - Pale Moon". The address bar shows the URL `http://127.0.0.1/bugtracker/project.php?project=51cf25b43a4aed&selectedIssue=40`. The browser's tab bar shows a single tab titled "Your trusted Bug-Tracker".

The application interface features a top navigation bar with a logo (four green circles) and three buttons: "About", "Projects", and "Log Out".

Below the navigation bar, the main content area is divided into five columns representing different stages of the bug lifecycle: "Backlog", "To Do", "In Progress", "Testing", and "Completed".

- The "Backlog" column contains an orange circle icon and the text "Exclusive Butto...".
- The "Completed" column contains a yellow circle icon and the text "Button that hid...".

Below the columns, there is a section for the "Selected Issue:". It includes a blue circle icon with a white plus sign. The selected issue is an orange circle icon labeled "Exclusive Button".

Below the selected issue, there are four buttons: "Delete Project", "View Issue Info", "Edit Issue", and "Delete Issue".

Below these buttons, there is a button labeled "Display Project Join Code".

Below the "Display Project Join Code" button, there is a question: "Are you sure you want to move the selected issue to 'To Do' ?". Below the question are two buttons: "Yes" and "No".



Developer :

Your trusted Bug-Tracker

127.0.0.1/bugtracker/project.php?project=54f26b43a4ae&selectedIssue=40

About Projects Log Out

Backlog	To Do	In Progress	Testing	Completed
	<div>Exclusive Button...</div>			<div>Button that hid...</div>

+

Selected Issue:

Exclusive Button

View Issue Info

Update Status

Are you sure you want to move the selected issue to 'In Progress' ?

Yes

No

Developer :

Your trusted Bug-Tracker

127.0.0.1/bugtracker/project.php?project=5&selectedIssue=40

About Projects Log Out

Backlog	To Do	In Progress	Testing	Completed
		Exclusive Butto...		Button that hid...

Selected Issue:

Exclusive Button

View Issue Info Edit Issue Update Status

Are you sure you want to move the selected issue to 'Testing' ?

Yes No

Developer :

Your trusted Bug Tracker

127.0.0.1/bugtracker/project.php/project=54f26b43a4ae&selectedIssue=40

About Projects Log Out

Backlog	To Do	In Progress	Testing	Completed
			Exclusive Button...	Button that hid...

+ Selected Issue:

Exclusive Button

View Issue Info Edit Issue

Exclusive Button

Issue Priority:

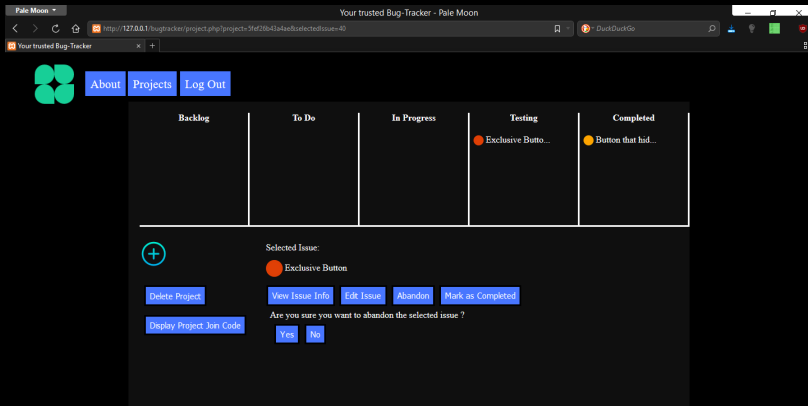
High

The idea is to have a java-script function that takes n arguments that are element ids and it shows the first element while hiding all others.

The calling of this function upon pressing the buttons is too hard to maintain since the some buttons appear only if some conditions are met.

Apply

## Project Manager :



The screenshot displays a web browser window with the title "Your trusted Bug-Tracker - Pale Moon". The address bar shows the URL "http://127.0.0.1:8080/bugtracker/project.php?project=51cf21b43a4aed&selectedIssue=40". The browser's tab bar shows "Your trusted Bug-Tracker".

The application interface features a top navigation bar with a logo (four green circles) and three buttons: "About", "Projects", and "Log Out". Below this is a main content area with five columns representing different stages of a bug's lifecycle: "Backlog", "To Do", "In Progress", "Testing", and "Completed".

- The "Testing" column contains a red circle icon and the text "Exclusive Butto...".
- The "Completed" column contains a yellow circle icon and the text "Button that hid...".

Below the columns is a section for the "Selected Issue". It includes a green circle icon with a plus sign, the text "Selected Issue:", and a red circle icon with the text "Exclusive Button". Below this are four buttons: "Delete Project", "View Issue Info", "Edit Issue", and "Abandon". Below these buttons is a confirmation message: "Are you sure you want to abandon the selected issue ?". At the bottom of this section are two buttons: "Yes" and "No".

At the bottom of the browser window, there is a "Done" button.

## Project Manager :

The screenshot displays a web browser window with the title "Your trusted Bug-Tracker - Pale Moon". The address bar shows the URL "http://127.0.0.1/bugtracker/project.php?project=31of21b43a4e8&selectedIssue=41". The browser's tab bar shows "Your trusted Bug-Tracker".

The application interface features a top navigation bar with a logo (four green circles) and three buttons: "About", "Projects", and "Log Out".

The main content area is divided into five columns representing different stages of a project:

- Backlog**
- To Do**
- In Progress**
- Testing**: Contains an orange circle icon and the text "Exclusive Butto..."
- Completed**: Contains a yellow circle icon and the text "Button that hid...", and a grey circle icon and the text "Exclusive Butto..."

Below the columns, a "Selected Issue:" section is visible, featuring a green circle icon with a plus sign. The selected issue is "Exclusive Button V2", represented by an orange circle icon. Below the issue name are five buttons: "Delete Project", "View Issue Info", "Edit Issue", "Abandon", and "Mark as Completed".

Below the buttons, a table displays issue details:

Status	Created by	Developed by
Testing	projectManager	user2

Below the table, a "Details:" section contains a paragraph of text:

This time the java-script function will take as arguments an element id and a CSS class and upon calling will toggle the element id and hide all elements belonging to the CSS class.

The bottom of the browser window shows a "Done" button.

## Project Manager :

The screenshot shows a web browser window with the title "Your trusted Bug-Tracker - Pale Moon". The address bar displays the URL "http://127.0.0.1/bugtracker/project.php?project=31cf21b43a4aed&selectedIssue=40". The browser's tab bar shows "Your trusted Bug-Tracker".

The application interface features a top navigation bar with a logo (four green circles) and three buttons: "About", "Projects", and "Log Out". Below this is a main content area with a dark background. At the top of this area is a horizontal bar with five columns: "Backlog", "To Do", "In Progress", "Testing", and "Completed". The "Completed" column contains three items: "Exclusive Butto...", "Button that hid...", and "Exclusive Butto...".

Below the horizontal bar, there is a section for a "Selected Issue". It includes a circular icon with a plus sign, a "Delete Project" button, and a "Display Project Join Code" button. To the right of these buttons is a "View Issue Info" button. Below the "View Issue Info" button, the following information is displayed:

**Selected Issue:**

- ☐ Exclusive Button

**Status:** Abandoned   **Created by:** projectManager   **Developed by:** user2

**Details:**  
The idea is to have a java-script function that takes n arguments that are element ids and it shows the first element while hiding all others.  
The calling of this function upon pressing the buttons is too hard to maintain since the some buttons appear only if some conditions are met.

The URL in the address bar is "http://127.0.0.1/bugtracker/projects.php".

## Project Manager :

The screenshot displays a web browser window with the title "Your trusted Bug-Tracker - Pale Moon". The address bar shows the URL `http://127.0.0.1/bugtracker/project.php?project=5fef31743828c`. The browser's tab bar shows a single tab titled "Your trusted Bug-Tracker".

The application interface features a dark theme. At the top left, there is a logo consisting of four green circles arranged in a square. To the right of the logo are three blue buttons: "About", "Projects", and "Log Out".

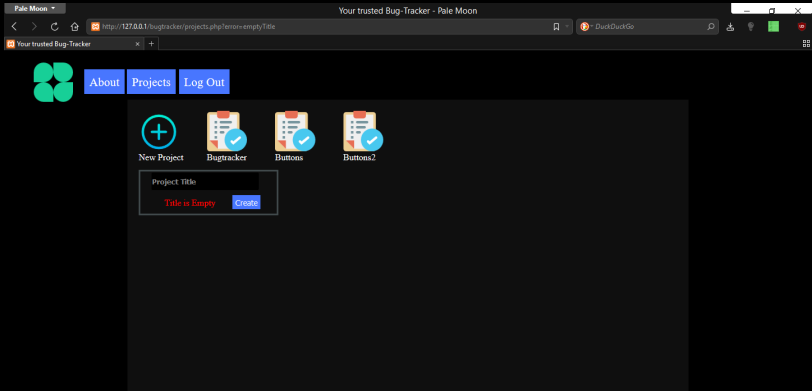
Below the navigation bar, there is a horizontal bar with five colored circles and labels: "Backlog" (orange), "To Do" (yellow), "In Progress" (green), "Testing" (blue), and "Completed" (purple). Below this bar, there are five corresponding colored buttons: "Exclusive Button" (orange), "Button that hides/sh..." (yellow), and three empty buttons (green, blue, purple).

Below the buttons, there is a form for creating a new issue. It includes a blue circular button with a white plus sign, a text input field for "Issue Title", a dropdown menu for "Issue Priority" with the text "Select an option", and a text area for "Details". To the right of the form, the text "No issue selected" is displayed. Below the form, there is a blue "Create" button.

At the bottom of the interface, there are three blue buttons: "Delete Project", "Display Project", and "Join Code".

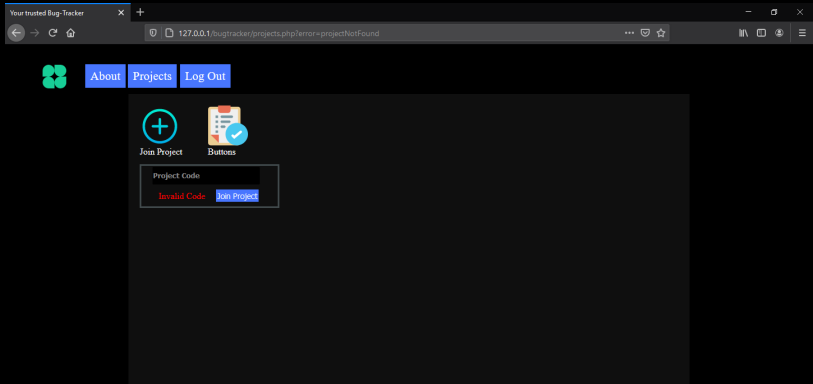
The browser's status bar at the bottom shows the URL `http://127.0.0.1/bugtracker/project.php?project=5fef31743828c&selectedIssue=42`.

## Project Manager :

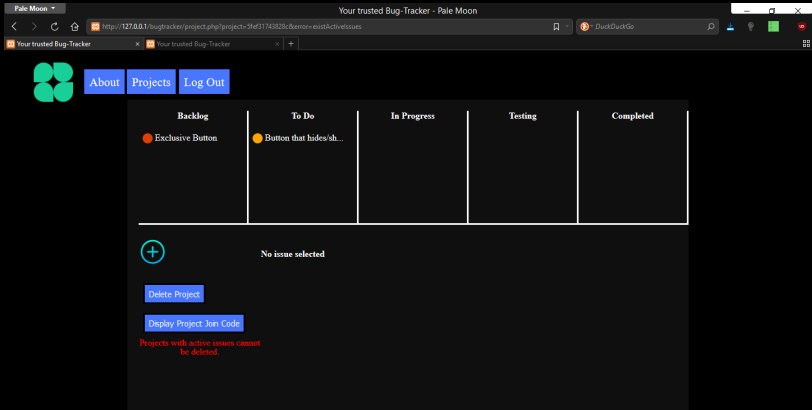




Developer :



## Project Manager :



The screenshot displays a web browser window with the title "Your trusted Bug-Tracker - Pale Moon". The address bar shows the URL `http://127.0.0.1/bugtracker/project.php?project=51ef31743828c&error=existActiveIssues`. The browser tabs include "Your trusted Bug-Tracker".

The application interface features a dark theme. On the left, there is a logo consisting of four green circles arranged in a square, followed by three navigation buttons: "About", "Projects", and "Log Out".

The main content area is divided into five columns representing different stages of a project:

- Backlog**: Contains an orange circle icon and the text "Exclusive Button".
- To Do**: Contains a yellow circle icon and the text "Button that hides/sh...".
- In Progress**: Empty.
- Testing**: Empty.
- Completed**: Empty.

Below the columns, there is a section with a blue circle containing a white plus sign and the text "No issue selected". Below this, there are two buttons: "Delete Project" and "Display Project Join Code". At the bottom of this section, a red message states: "Projects with active issues cannot be deleted."

The main difficulties are encountered when modeling the problem of representing projects, issues, and how to know that a developer joined a specific project.

The database tables, and some features were redone several times because of this, but in the end 4 tables were used:

- ▶ users
- ▶ projects (all projects)
- ▶ issues (issues from all projects)
- ▶ developers (for each developer associate one project)

An interesting aspect of the implementation is displaying the issues from a project and editing them.

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Displaying the issues is done in the following steps:

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- ▶ Decide on the format in which they will be displayed.
- ▶ Using a query get all needed issues into an array.

An interesting aspect of the implementation is displaying the issues from a project and editing them.

Displaying the issues is done in the following steps:

- ▶ Decide on the format in which they will be displayed.
- ▶ Using a query get all needed issues into an array.
- ▶ Iterate through the array and display them in the format chosen.



Editing the issues is done like so:

- ▶ Create a form that has the fields that would be edited.

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- ▶ Select the issue and load its data in the fields as default values.

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- ▶ Create a form that has the fields that would be edited.
- ▶ Select the issue and load its data in the fields as default values.
- ▶ Upon confirmation update the selected issue with the new fields.

In conclusion this implementation will suffice for small projects but depending on the scale of the projects that need to be tracked, more and more data will have to be recorded in the issue entries, the program needing more and more features.