

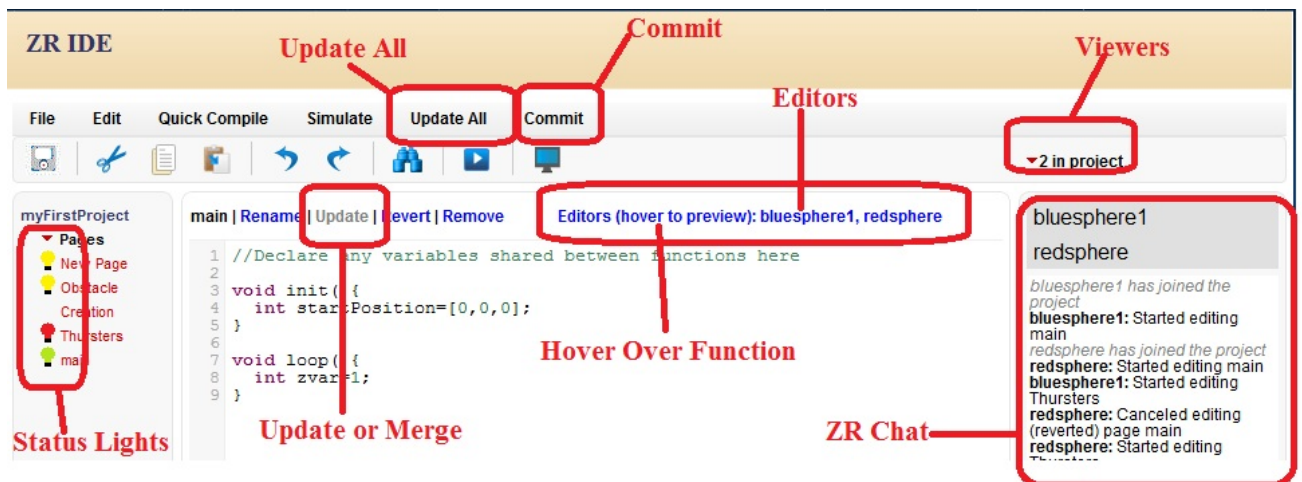
Collaborative Editing

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1 Overview

Some of the key collaborative editing features of the Text Editor IDE environment described in this document are shown in the figure below. **Important:** Collaborative editing is not supported by the graphical editor IDE.



2 Non-Collaborative Editing

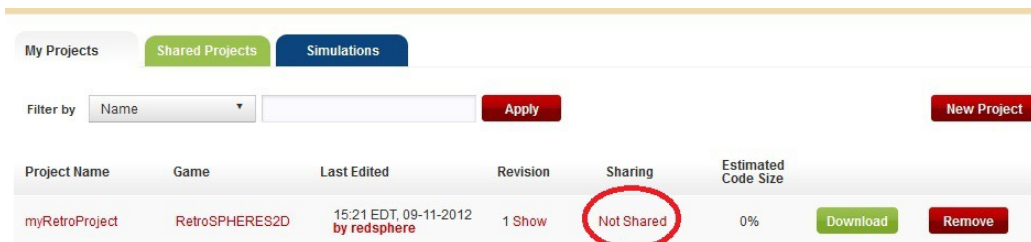
If your project is not shared (you are the sole editor on the project) then you are in non-collaborative mode. Some features like the ZR Chat Room will not be available in this mode.

3 Sharing a Project and Collaboration

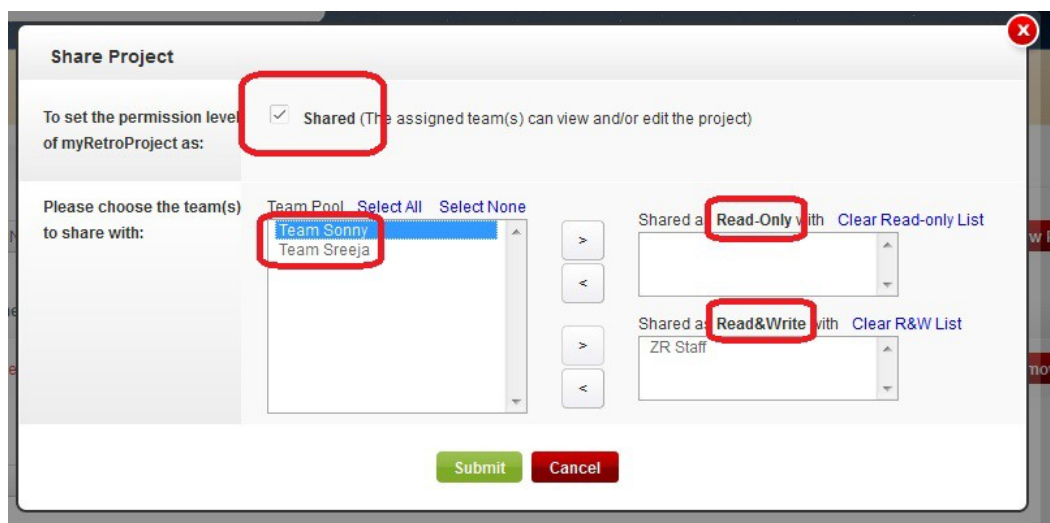
In order to work with your team you would have to share projects. You can view all of the projects that are shared with you by others under the “**Shared Projects**” tab. The projects that you have shared will appear under the **My Projects** tab along with your non-shared projects. You can edit a shared project the same way you would a personal project.

3.1 Sharing a Project

First go to the **My Projects** tab in the IDE. You will see a list of all the projects you can edit. Find the project you want to share. Then go to the Sharing Column and click on **Not Shared**.



You will then be prompted to select the team that you want to share your project with.



After selecting the appropriate team and the viewing rights (“Read-Only” or “Read&Write”) you can click “Submit” and the project status will toggle to “Shared”.

3.2 Collaborative Editing

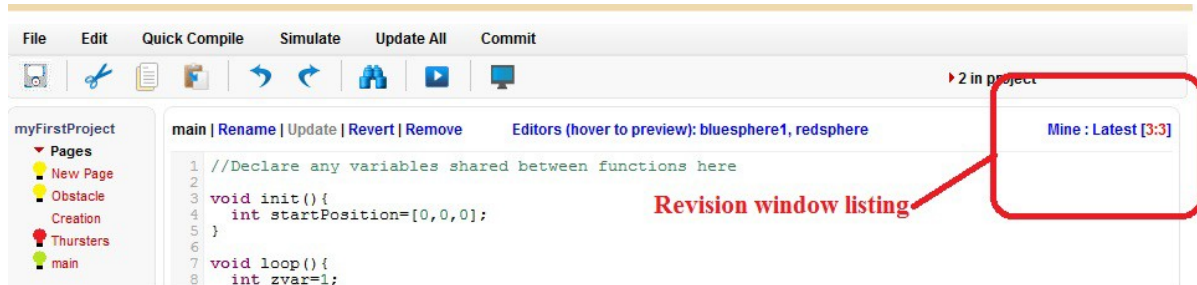
If your project is shared amongst other team members then you are in Collaborative Editing mode. Developing software applications as a team is always fun. You would want to share code with your teammates, keep track of all the changes and work on the same section of code concurrently. The ZR collaborative editing environment allows you to do this. It provides these features by having multiple copies of your code and using a versioning system that has functions like Commit, Update and Merge.

In the ZR environment you have your local version of code which is called “Mine” or the “Local Revision”. The other version of code is on the team repository and referred to as the “Latest Revision”. The features and functions discussed in the next sections will be very

important in the Collaborative Editing Mode.

3.2.1 Revision Window Listing and Versioning

When you click on a “Page” you will see a “Revision Window listing” on the top right hand corner (shown below).



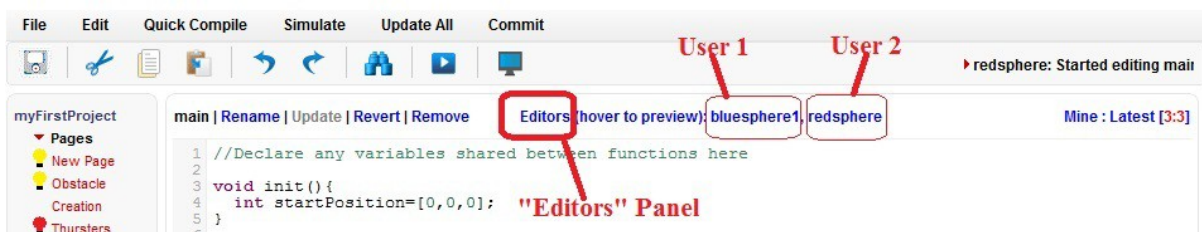
This is related to the version of your page. In the ZR IDE there is a concept of a “Local Revision” (shown as “Mine”) and “Latest Revision”. The “Local Revision” (shown as “Mine”) is your local copy of code. Only you have access to your local copy. The “Latest Revision” is the copy of code that exists in the main repository. Your whole project team has access to the code in the main repository. When you put something on the main repository all your team members are able to retrieve it.

The terminology related to versioning is given below

- Mine - the version number of your local copy of code. You can also call this “Local Revision”
- Latest Revision - the version number of the code that resides in the repository
- Parent Revision - the version number of the “parent” of your local copy. This means that your local copy originated from this revision. (i.e you started from the “Parent Revision” and modified it to arrive at the current local copy of code you have)

3.2.2 Editors

Some of the features in this section are identified as page specific features and others are not. If a feature is page specific it means that you have to click on a page to view it and the information displayed will be related to the page you clicked.



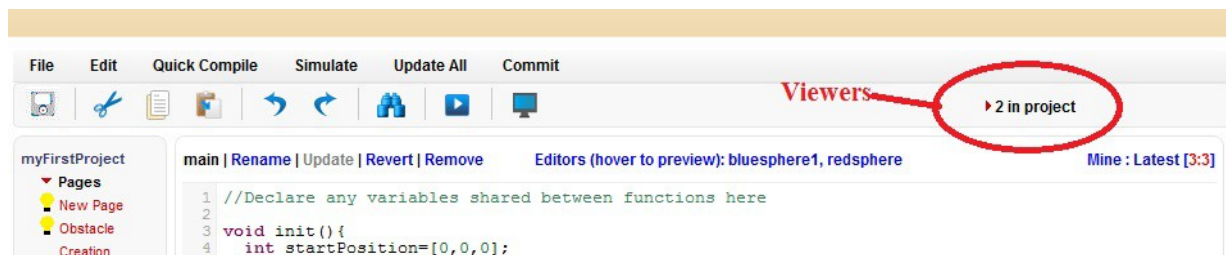
This feature is page specific. The “Editors” Panel will show the current editors of the page. In the above example we know that the page “main” is edited by 2 users. The users are bluesphere1 and redsphere.

3.2.3 Hover-over function



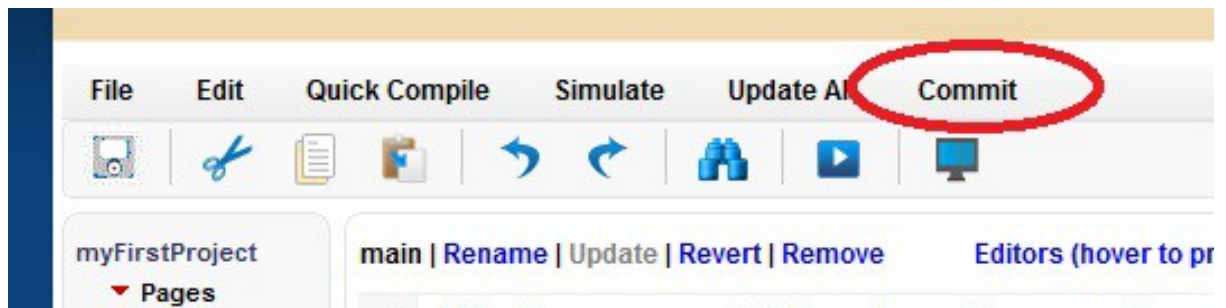
This is one of the coolest features this season! This feature is page specific. When you hover over the name of each Editor you will be able to peek at the code that they are writing! Their code will appear as merged text on your window. When you move your mouse away from the Editors name, you will be brought back to your own code. Try it!

3.2.4 Viewers

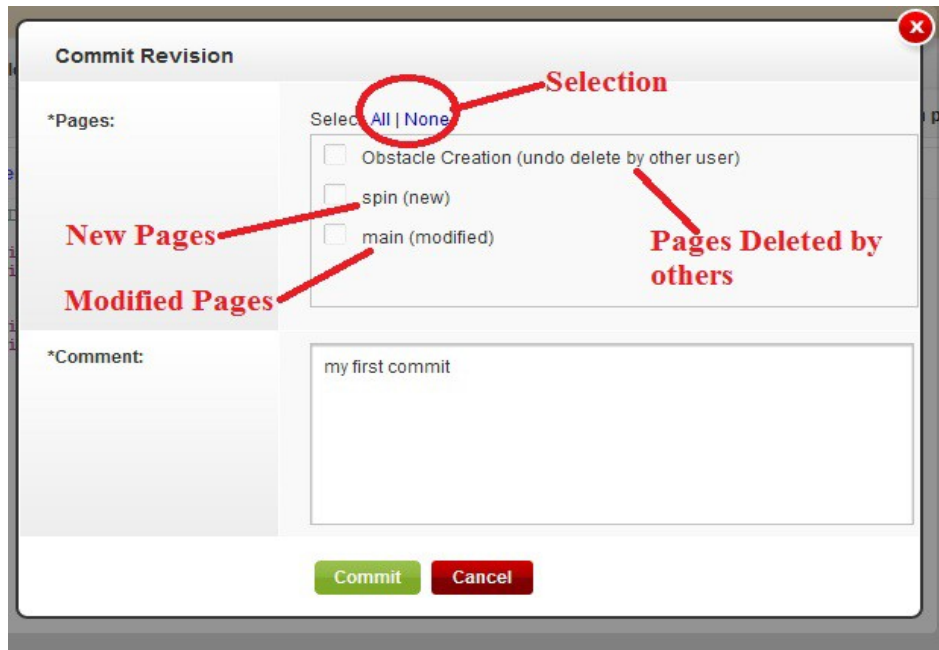


The viewers are the current users that are viewing the project. This is not page specific and applies to the whole project. You can chat with the viewers of the project using the ZR Chat Room described in section 6.2.10.

3.2.5 Commit



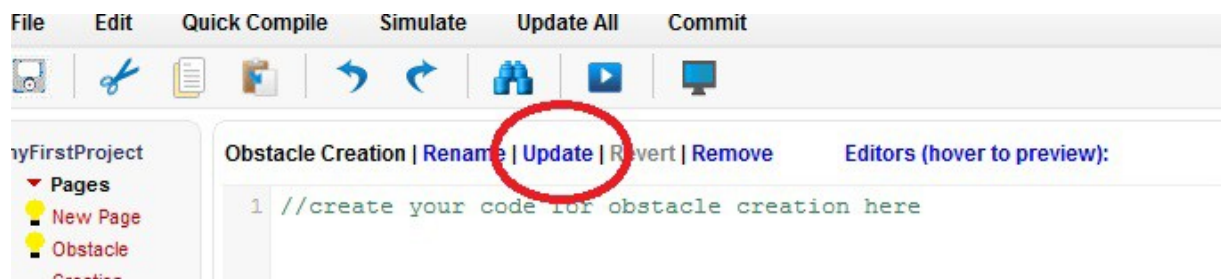
The “Commit” button is located in the “Editing Control Panel”. A commit puts your local version of code (“My Revision”) onto the main repository. Once your local version is on the main repository all your team members will be able to access it. Additionally once a commit is performed your local version of code (“My Revision”) will be equal to the “Latest Revision” (given that there are no subsequent commits by other members after your commit). When you press commit there will be a pop up asking you to specify which pages you want to commit.



You can commit a specific “Page” or all “Pages” by using the check boxes. If there are conflicts with your local copy of code (“My Revision”) and the version in the main repository (“Latest Revision”) you will be asked to perform a Merge or an Update (described in sections 6.2.5 and 6.2.6) to resolve the conflicts.

3.2.6 Update

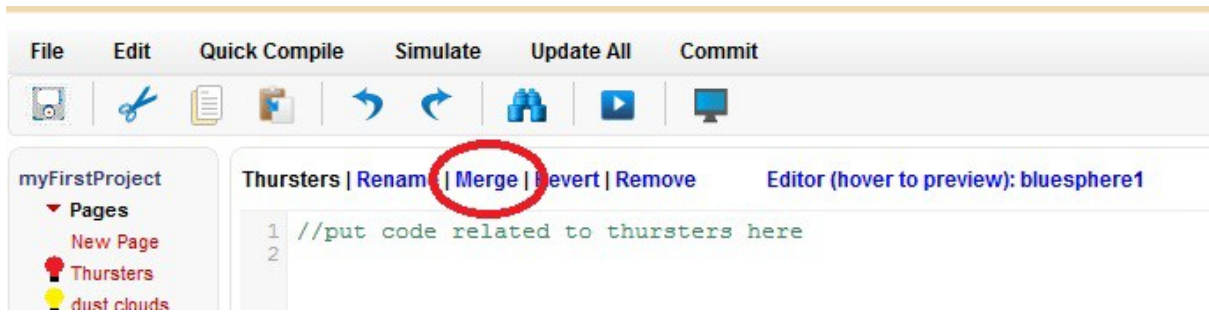
The “Update” button is located in the page controls section. The function is page specific.



An update is required if you don’t have the latest copy of a page. Additionally it also means that when you get the latest page you will not have to do any conflict resolution. In technical terms your local revision of code (“Mine”) is not equal to the “Latest Revision”. You will need update your page to the latest page on the repository. The update process will be fairly simple with no conflicts. If there are conflicts the editor is intelligent enough to detect them and will display “Merge” instead of “Update”.

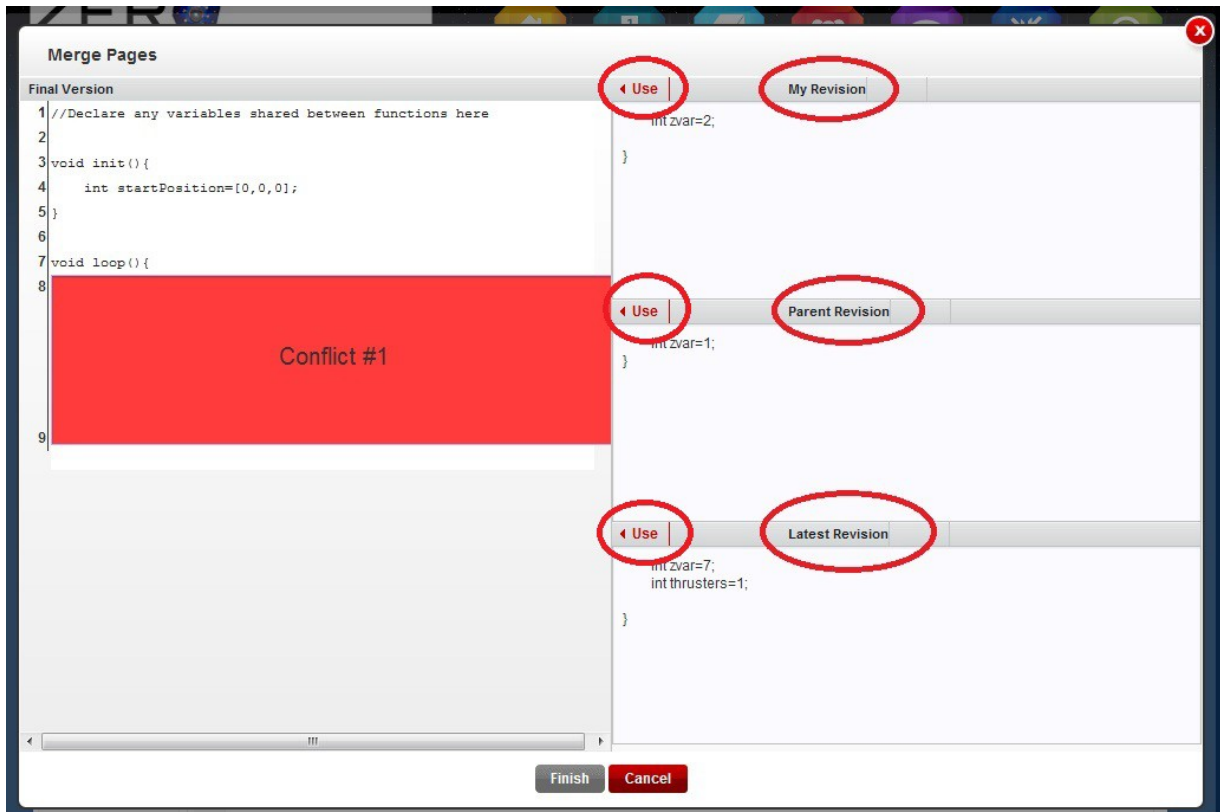
3.2.7 Merge

The “Merge” button is located in the page controls section. The function is page specific.

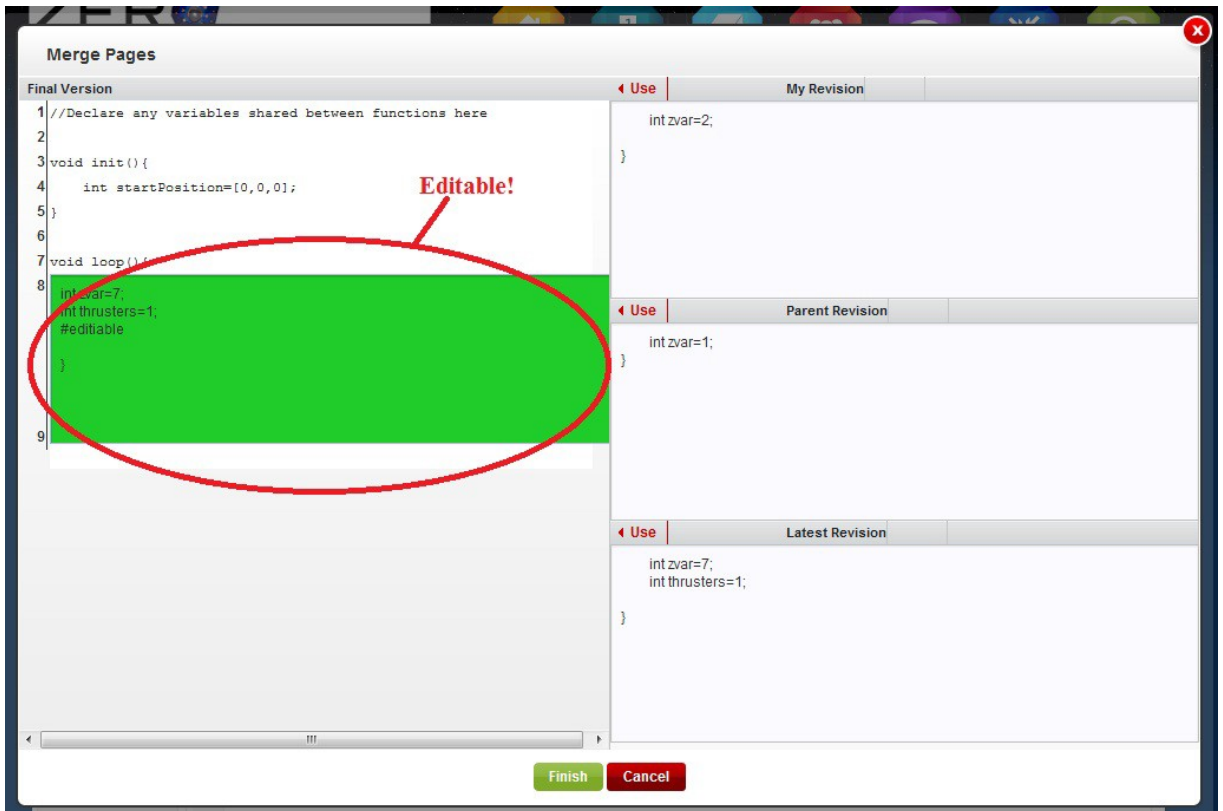


A “Merge” is required if you don’t have the latest copy of a page. Additionally it also means that your page has a conflict with the latest page on the repository. When you perform a “Merge” you will have to do a conflict resolution. If your page doesn’t have any conflicts the editor intelligently detects it and displays “Update” instead of “Merge”. Merging can happen in 2 ways

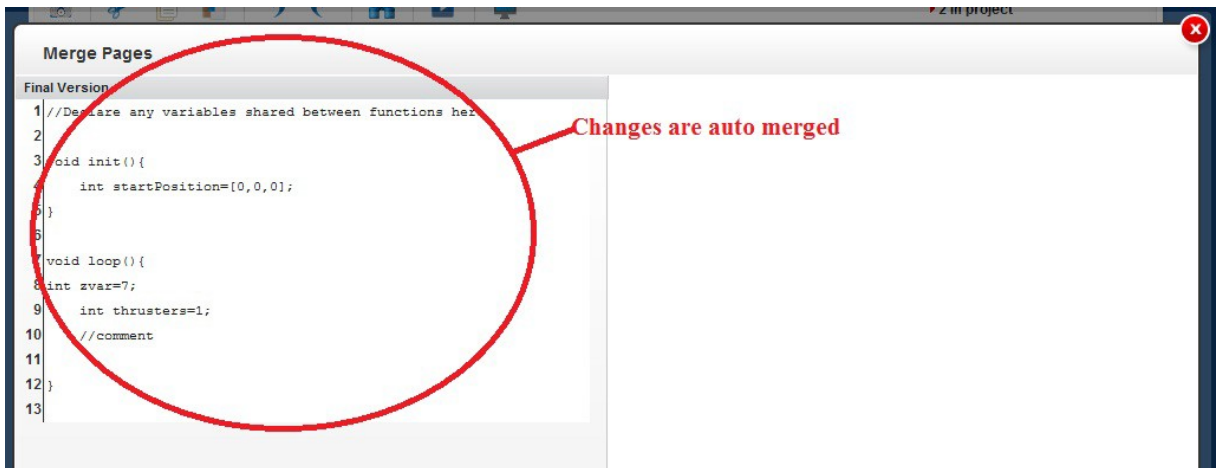
- 1 Merging with conflicts - In this case the local revision and latest revision has changes that are overlapping. You can choose from “Mine”, ”Latest Revision” and “Parent Revision” by pressing “Use”.



- 2 Once a region is selected and “Use” is clicked, the text is inserted to the left hand pane. Then the left hand pane becomes editable. This allows you to make further modifications.

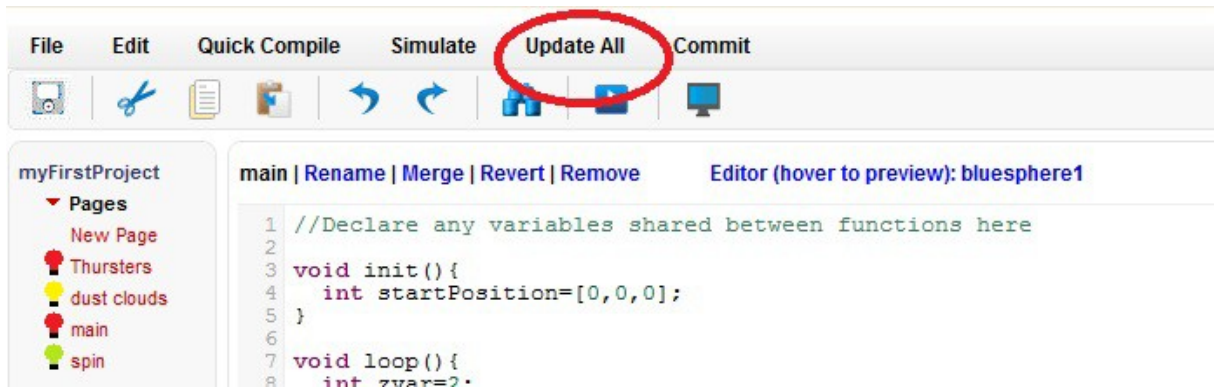


- 3 Merging without conflicts - In this case the “local revision” and “latest revision” have changes but they are non-overlapping. So there will be no need to specifically select one of the 3 revisions. The changes would be automatically merged and you would get to preview the text.

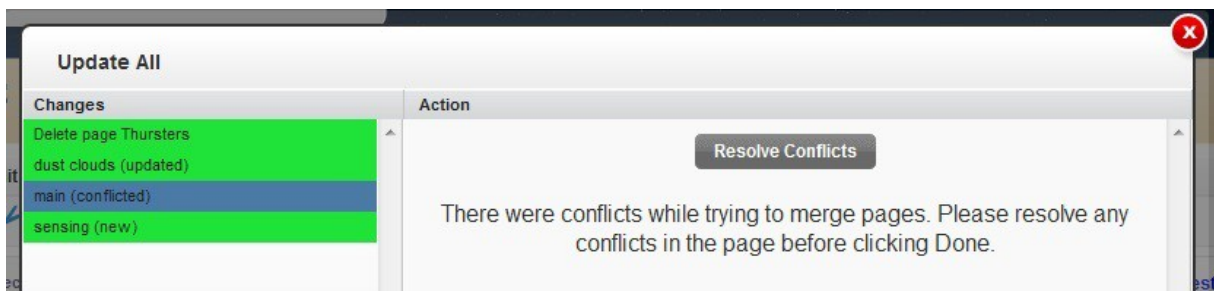


3.2.8 Update All

The “Update All” button is located in the editing controls section.



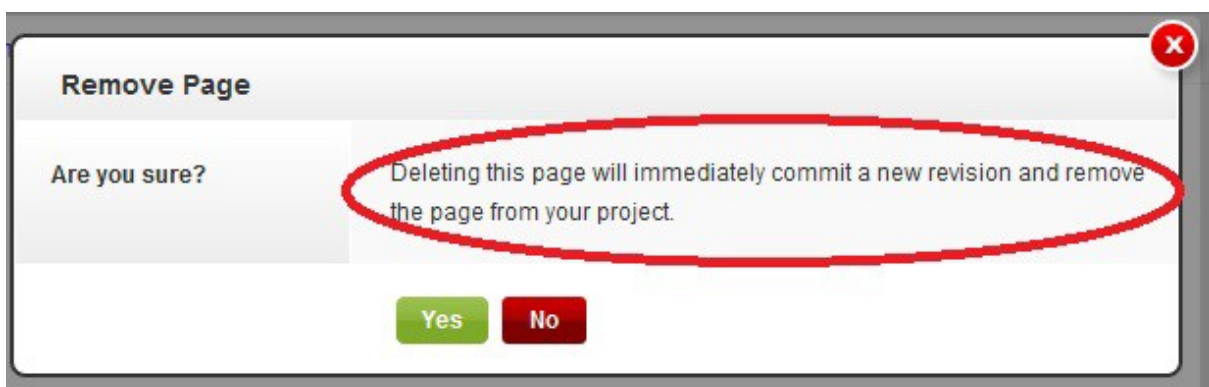
It allows you to manage updates, merges, new page additions and page deletions at a project level (as opposed to a page level).



If you click on a particular page it will prompt you to resolve existing page conflicts, page additions, page deletions or page updates.

3.2.9 Remove




The “Remove” button is located in the page controls section. The function is page specific. If you remove a page in the collaborative editing mode you will be shown the following popup



Clicking “Yes” will remove the page from your project and immediately make a commit as stated. Clicking “No” keeps the page.

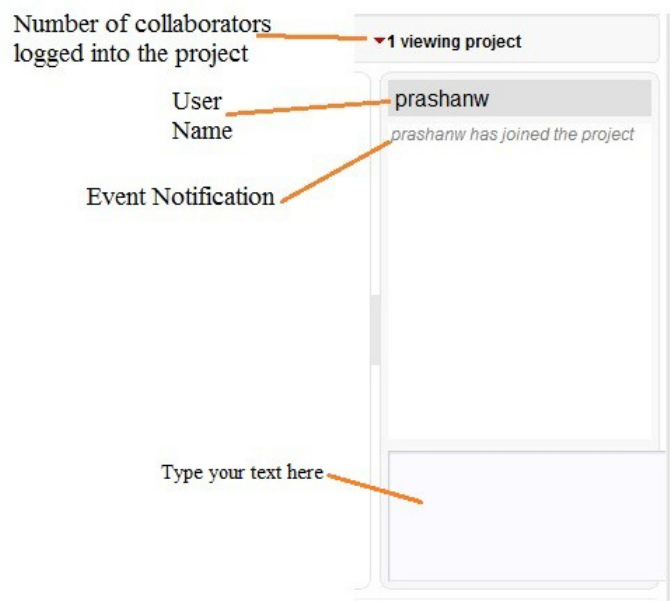
3.2.10 Status Lights

The definition of each status light is given below. By having a look at the lights you will know whether you are ready to commit or whether you need to update/merge a page.

| Color | Simpler Description | More Technical Description |
|--|---|---|
| No Status light | You have the latest code. | Your local version of code (“Mine”) is equal to the “Latest Revision”. There is nothing to commit. |
|  Green | You are ready to commit your code. | Your local version of code (“Mine”) is equal to the “Latest Revision”. You have also made some new edits to the code. A commit can be performed without merging. |
|  Yellow | You should update your code. | Your local version of code (“Mine”) is not equal to the “Latest Revision”. You will need to merge before performing a commit. A merge will be fairly simple with no conflicts. |
|  Red | You should perform a merge since there is a conflict. | Your local version of code (“Mine”) is not equal to the “Latest Revision”. You will need to merge before performing a commit. While merging you will have to resolve conflicts. |

The above table is valid for status lights that are adjacent to a page. There is another status light next to the “New Page” button. This light will turn “Yellow” when other users add new pages.

3.2.11 ZR Chat Room



The ZR chat room is available once a project is shared between group members (in Collaborative Mode). It’s located in the upper right hand side of the page. You can use the ZR Chat Room to communicate with other group members who are currently accessing the project. The ZR chat room is integrated with the IDE environment. All important changes that happen to the project will be posted to the ZR Chat Room. For example a user entering/leaving a chatroom, a page being committed are some of the useful event notifications that will be posted.