

Headers Redesign Proposal

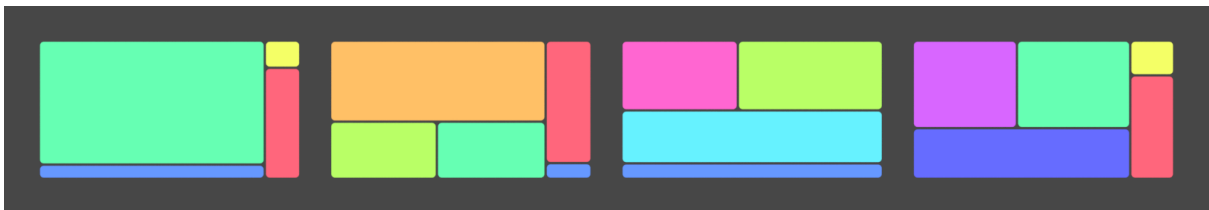
DISCLAIMER

Intention of this document is to improve blender's interface clarity in version **2.8** and **Blender101** project. Proposed changes are aimed for novice users like students, occasional hobbyists and also professionals who want to switch to blender from other DCC packages. I want to present global idea of how to improve **editor headers** clarity and usability. Proposal consists of couple interconnected tasks so I want to present them in single document. I've prepared demo blend file with partial mockup but make sure you read whole proposal before playing with it.

ISSUE

I've helped many people with learning Blender. These attempts make me aware of some flaws in the interface clarity and obstacles that people face at the beginning. One thing is particularly hard to grasp by newcomers- **Multi-editor nature of blender** and its impact on UI structure.

Blender is modular multi-application. We have variety of editors that altogether can be used to create complex projects but at the same time they are autonomous apps to a certain extent. We can do many things without opened 3Dview editor at all. Blender doesn't have main window with global menu bar that stores most of program options (Info bar isn't that thing for sure). Those options are segregated by context of work and stored in headers (and side panels) of particular editors. This is quite different approach than other DCC apps have taken, but many people consider this design as advantage. Blender's features and multi-editor concept gives users enormous flexibility.



However, there is big issue I'd like to point out - **Blender's UI on its own doesn't communicate multi-editor design enough**. New users are often lost because of lack of important informations. I think the root of those issues lies in current design of editor headers. They are as important as global menu bars in 'viewport-centric' apps, yet have almost zero information value.

Most of multi-window application have labels on top of each window so users know what they are looking at. We don't have such a thing in blender. Placement of headers suggest low priority in UI hierarchy. Some new users mistake them with utility panels like Toolbar or N-properties.

Our editors have modes, submodes and view types that define how we interact with the program. Headers store all buttons to configure that. In this proposal I will be referring to them as **“Workflow buttons”**. Unfortunately workflow buttons have quite low discoverability in current design. In most areas of blender interface we use meaningful text labels to communicate with users. Headers rather don't apply to this rule.



Blender is changing very fast but headers design haven't been updated in last ~13 years. We are only adding new buttons to them. Headers are stuck in era of 800x600 displays and condensed, icon-based interfaces. I think it's good time to tackle this and make blender a bit more user friendly. Let's break this problem down into parts.

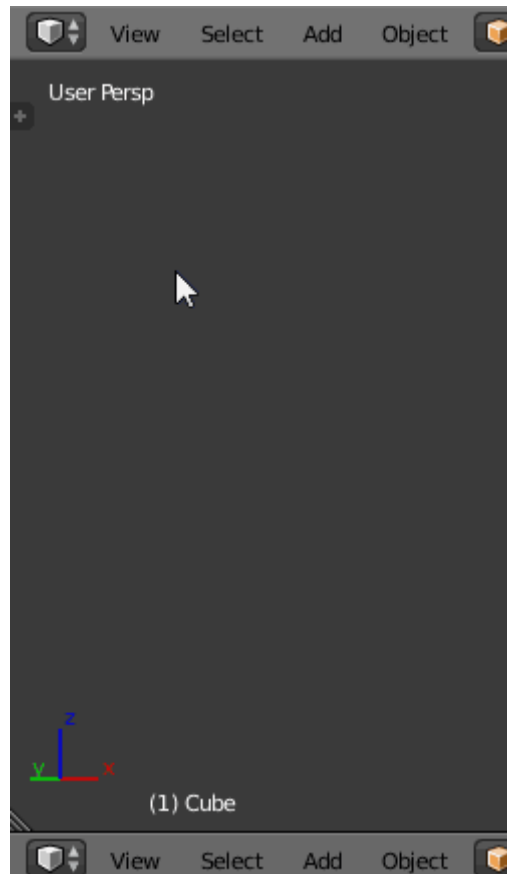


1. Placement [Partially outdated due to new top bar]

Global menu bars and key options are placed on top of screen in most programs. Same principles apply to multi-window applications, their menus and toolbars are generally at the top of each window. Current placement of blender headers is different from what people learned before and feels unfamiliar. This is probably first confusing thing that new users may encounter in the process of learning interface structure.

I didn't found any clarification why we still have most of headers on bottom of editors. I guess this is historic leftover from 2.2 era. Probably purpose of this was to have most of program buttons in close proximity, so Properties (then called “Buttons”) and 3DView header was next to each other. Since 2.5 and introduction of vertical layout that's no longer the case but header placement stayed the same to these days.

We have ability to switch header placement but there is another problem here. Headers may flip to bottom again when we change editor type. This behavior is very confusing for newbies and also annoying for current users who prefer Headers on top.

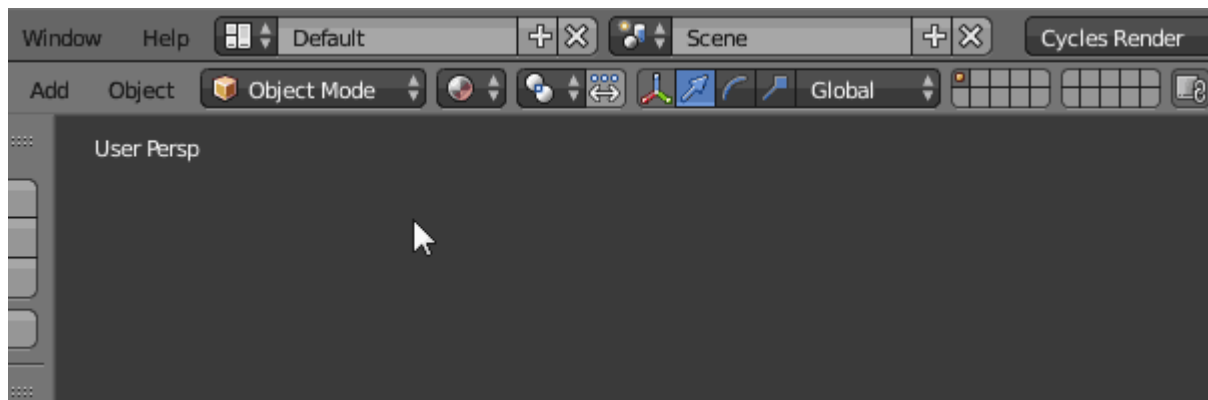


2. Lack of information

To be exact - Lack of **text information**. Right now we use only icons in majority of headers buttons. Our icons are very well designed but without text information next to them remain mystery for new users. Only people who already know how to use blender can understand them. Biggest problem here is with editor type button and some of workflow buttons. If you ask complete beginner to find something in Properties they might be lost because UI won't tell them where Properties are. I'm convinced that UI elements with that level of importance should be self-explanatory and people shouldn't have to dive into documentation and tutorials to clearly understand them.

3. Order of items

Current order is quite illogical. Header menus contents are dependent of state of workflow buttons but are placed before them. Instead of simple left-to-right order and logical hierarchy we have messy structure. Changing modes results in buttons sliding away from cursor (as previous header content may change).



4. Headers are overcrowded

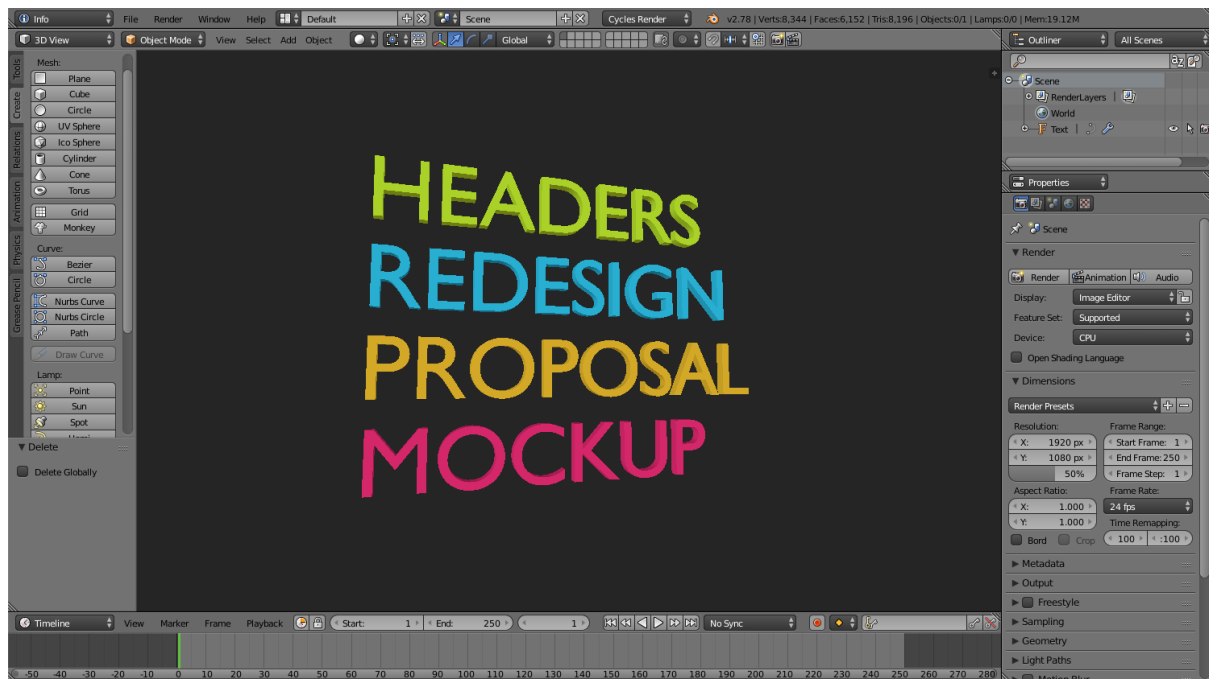
Many of header items should not be there. We mix key items with secondary options and simple operators. Keep in mind we display most of that as icons without text.

SOLUTION

Now I will present proposed changes and what those mean for user experience. Be sure to read all **six** points, not only first four.

1. Headers should be on TOP of all editors by default. [Outdated/ TopBar]
2. Editor type and “workflow buttons” should have both Icon and Text by default.
3. Order of all header items should be hierarchical. Header menus should be placed AFTER workflow buttons. [DONE]
4. Secondary options and tools should be moved to side-panels. [... and/or new Pop-Overs]

With those changes we will get more familiarity and improved clarity. Text in Editor type button additionally fulfill similar purpose as window **labels** in other programs. Workflow buttons are properly exposed (before menus) and switching them won't result in items sliding away. Headers contain less secondary options so users can focus on important things (workflow buttons). Everything is logically ordered and streamlined.



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Preferences about headers placement are mixed among seasoned blenders users. Some of them may want to bring back their headers to bottom. In contrast to new users, they also know meaning of icons and may want to disable text descriptions. Customisability like that is common in many other programs so we will also add options for those things. New order of header items will bring usability/clarity to both actual and new users so no Preferences option is needed here.

5. **Ability to quickly change ALL headers placement in blend file at once.**
6. **Settings in Preferences to display Editor type button and/or Workflow buttons as icons with text or icons only.**

These are important for seasoned users and their habits. I want to make Blender easier for new users but not at the expense of present ones. Goal here is that they will be able to "revert" UI arrangement to current one with just few clicks, then save Startup File and User Settings.

DETAILS

Changing few lines in UI script files obviously won't be enough (I tried ;)). There are some complications to deal with and decision to reconcile.

Placement

I think we should start with solving placement issues. This task will be least complicated imho.

Placement property should be moved from Space data-block to Area data-block. With that modification headers won't flip unexpectedly while changing editor type, placement will be persistent within window Area. We can also expose this property in API for sake of python configurability.

Next task will be adding new window operator- **"Arrange Editor Headers"**. It will change placement of all headers within blend file to the one chosen from three variants- **"Top"**, **"Bottom"** and **"Legacy"**. Last one arranges headers like they are today so Outliner, Properties and File headers are on top, rest goes to bottom. We can place this operator next to "Flip Header" in header context menus and/or in Info bars Window Menu.

Open question - How we deal with User Preferences and File windows? Should we extract current header contents to new horizontal panels so they will always stick to top (file utils) or bottom (save preferences button)?

Splitting template_header_3D

In order to rearrange 3DView header contents and adding text labels to workflow buttons, we first need to split hardcoded template_header_3D of 3DView into smaller parts. This will be good for python configurability in general.

Customisable Button labels

We should add properties in user preferences to enable/disable text labels in buttons. One for Editor Type buttons and another for workflow buttons. template_header() and 3Dview interaction mode (extracted from template_header_3D) should communicate with these properties. Rest of the work can be done in UI scripts iirc.

Width of buttons

Buttons themselves shouldn't be too wide and must save as much horizontal space as possible. Width of a menu button with text is based on length of longest text entry in menu. There are two cases when this produce very long buttons.

1. Entry "Video Sequence Editor" in Editor Type button.

Renaming it to "Video Sequencer" saves about 18% of width of and all other names fit nicely. This is same [issue we encountered in this task](#).

2. Entry "Sequencer and Image Preview" in VSE view types.

Renaming it to "Sequencer/Image" should do the job.

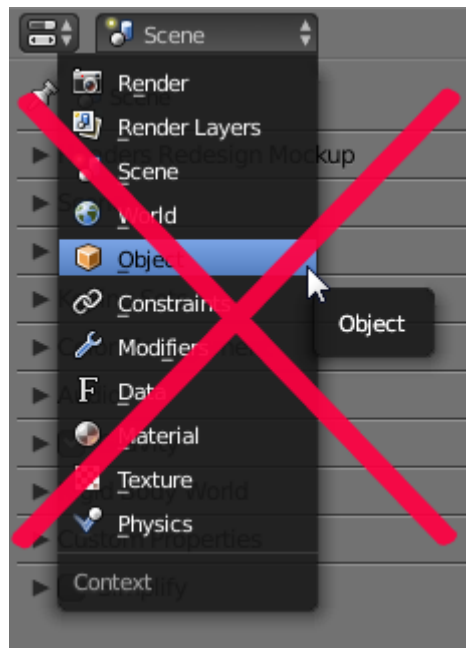
Properties width

We already cannot fit all Context buttons in Properties header - text label in Editor Type button will intensify this issue. Thankfully solution is almost already there - [Properties Tabs from Severin](#). Context icons will fit in narrow space an header (editor type button) will then serve informative purpose.



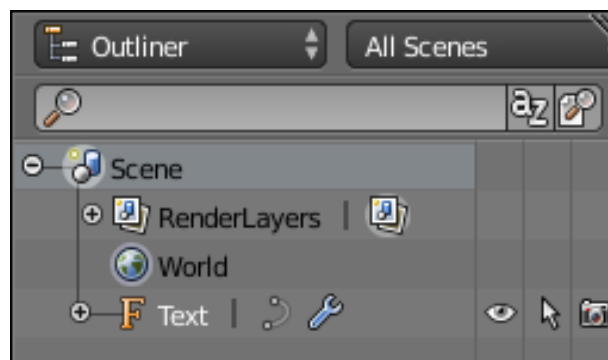
Properties Context buttons

Text plus icons should work great in all workflow buttons except one case - Properties Context buttons. We generally enable some editor mode (like mesh edit) and work in it for a while, then switch to another mode (object mode) and do couple of tasks. Thing works completely different in Properties editor. We need quick access to all Context panels, we often switch between them to just enable or tweak just one property. I think Context buttons should stay as they look today for sake of ergonomics. Constantly entering dropdown menu would be very annoying and slowing down workflow. As long as new users will see "Properties" label in Editor type button they will eventually understand connection to icons.



Outliner width

Right now search-field is completely hidden on 1080p monitors. Like in case of Properties Editor, this will be even worse after adding text labels. We need to move it somewhere else. I propose to create new small panel for Search-field. We can additionally include toggle options from Search Menu in it.



Placement of template_ID

Where should we put template_ID data selectors? In UV/Image and Movie editors they are placed before workflow buttons. In theory this is logical - you have your data and can do multiple things with it. Similar as in 3Dview - select object and then invoke mode.

But reality is different. When you are doing task in UV/Image editor you rather enable one mode and change data you work with more often. For example texturing asset with multiple maps or unwrapping models that use pre-made textures.

Mind that even in 3Dview we often "jump" between modes just to select our object and end up in same mode that we worked while ago.

I propose to place template_ID in UV/Image and Movie editors after workflow buttons.

Modes in this editors are global anyway so no more work is needed.

Cleanup of secondary header items

Some secondary options should be moved to Properties and Toolbar Panels. However, this is a big task and should be split by editor types or even editor modes. Module owners should take action here.

Movie Editor Case

Modes and view types are complete mess in this editor... Some modes disable view-type button and some view-type disables mode button. We need to reorganise this and make more main modes instead of these strange dependencies. Movie editing module owners should decide.

RenderResult

This is slightly out of scope of this proposal but worth to mention.

RenderResult is not an image, it's a **editor mode** by every means. We can't paint on it, unwrap models on it, use it as texture. It have different UI than regular View mode.

I think it's time to make separate mode out of RenderResults also on UI side. I propose to add Render Result as separate mode along with View or Paint. Mask editing should be its submode.

MOCKUP

I've made interactive mockup by editing interface scripts. Treat it as preview only. It's poorly coded and not functional but shows idea how blender might look like after implementing proposed changes. This mockup don't cover removing secondary options from headers and order of items in Movie Editor.

1. Download this blend file:

https://www.dropbox.com/s/m8suf1ywhvy986l/headers_mockup.blend

2. Open it using 2.78

3. In right-lower corner there will be small Text Editor. Hit Run Script ("HRM" text block).

4. Now you can see changed interface. Try other Layouts too.

5. There is Headers Redesign Mockup panel in Scene properties. You can switch mockup on/off and test icon-only version.

CONTACT

That will be all. I hope this will help a bit in Workflow project and Blender101.

You can contact me via twitter, mail.

Happy Blending!

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