

Mini Course: Elm

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Session 2: elm-ui

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About elm-ui

Quick intro

- mdgriffith/elm-ui Elm package
- Complete alternative to HTML + CSS
- Very good design principles (unlike HTML + CSS)
- We will use this for the rest of the course
- Many examples taken from <https://korban.net/elm/elm-ui-patterns/>

Jumping right in: Buttons

Making a pretty interactive website

- Download everything from <https://github.com/oist/mini-course-elm> (or git clone if you know how to do that)
- Open a terminal, cd into the folder “session2” and run`elm reactor`
- Open a browser to <http://localhost:8000> > src > Buttons.elm
- Exercise: Make the reset button [pretty](#)
- In general, to install a package (already done for you here)`elm install mdgriffith/elm-ui`

Available modules

Where to find the function you need

- Element — el, text, link, row, column, image, data table, size, spacing, alignment, color, transparency, adjustments, clipping, debugging...
- Element.Background — colors, images
- Element.Border — borders with styles, shadows
- Element.Events — clicks, mouse over, focus
- Element.Font — typefaces, style, alignment, shadows
- Element.Input — buttons, checkboxes, text fields, sliders
- More: Element.Keyed (when nodes are added/deleted a lot), Element.Lazy (cache functions), Element.Region (accessibility)

Pipe syntax

How to compose functions

- Often, you want to apply several changes to some data (string > remove trailing characters > all caps > split in words > join words with commas)
- This is possible:

```
String.join ", " (String.words (String.toUpperCase  
  (String.trim string)))
```

- This is more readable (even more so in vertical form):

```
string |> String.trim |> String.toUpperCase |>  
String.words |> String.join ","
```

Classic Layout

Let's copy the masters

https://groups.oist.jp/grad

The screenshot shows a browser window with the URL `https://groups.oist.jp/grad`. The page has a red header bar with the OIST logo and navigation links for Groups, OIST, Search, Directory, Log in, English, and 日本語. A sidebar on the left contains dropdown menus for 'For Prospective Students', 'For Current Students', 'For OIST Faculty and Staff', 'Academic Calendar', 'Student Recruiting', 'Science Education Outreach', 'Lists and Statistics', 'Graduate School Rules, etc.', and 'For Grad School Members'. Below the sidebar is a search bar with a 'Search' button. The main content area features a large image of a modern building at sunset, with the text 'Graduate School' above it. A welcome message and a mission statement follow. At the bottom, there are three images labeled 'Prospective Students', 'Current Students', and 'Faculty and Staff'.

https://groups.oist.jp/grad

session2/src/OIST.elm

This screenshot shows the same website structure as the first one, but it is generated by the `session2/src/OIST.elm` application. The browser window has a red header bar with the OIST logo and navigation links. A sidebar on the left contains dropdown menus for 'For Prospective Students', 'For Current Students', 'For OIST Faculty and Staff', 'Academic Calendar', 'Student Recruiting', 'Science Education Outreach', 'Lists and Statistics', 'Graduate School Rules, etc.', and 'For Grad School Members'. The main content area features a large image of a modern building at sunset, with the text 'Graduate School' above it. A welcome message and a mission statement follow. At the bottom, there are three images labeled 'Prospective Students', 'Current Students', and 'Faculty and Staff'.

Layout Breakdown

It's all columns and rows

The screenshot shows a web browser window for the OIST Graduate School website. The top navigation bar includes standard icons and links like 'Getting Started', 'Haskell', 'Banque', etc. Below the header, the OIST logo and name are displayed. The main content area is divided into several sections:

- Left Sidebar (Red Box):** A vertical sidebar containing links: 'For Prospective Students' (highlighted in red), 'For Current Students' (highlighted in red), 'Row', 'For OIST Faculty and Staff', 'Academic Calendar', 'Student Recruiting', 'Science Education Outreach', 'Lists and Statistics', 'Graduate School Rules, etc.', and 'Column'.
- Header Content (Red Box):** The word 'Row' is placed above the 'Graduate School' heading.
- Image Section (Green Box):** A large image of a modern building with many windows overlooking a body of water.
- Text Section (Green Box):** The text 'Welcome to the OIST Graduate School website.' followed by a mission statement: 'The mission of the Graduate School is to provide first-class postgraduate education to the highest international standard. We recognize every student as a unique individual in need of a personalized program that we provide through courses, independent study and extra-curricular activities.'
- Right Sidebar (Green Box):** The word 'Column' is placed below the mission text.

Learning by doing

Use the documentation

- Pick a design you like (chat layout, radio selection, tabs, element adjustment/clock) and try to reproduce it
- Those designed were taken from <https://korban.net/elm/elm-ui-patterns>

beginners
core-coordination
ellie
elm-community
elm-discuss
elm-format
elm-markdown
elm-ui
general
jobs
news-and-links

#elm-ui Search

I've been trying to make a few links on a page in elm and elm-ui but I've not found a way to make it work because I haven't found any examples of elm-ui which incorporate an anchor element

augustin82 6:27AM @u0421793 what are you looking for exactly? do you have an Ellie where you've tried doing some stuff?

icepac 7:53 AM Anybody replied to @lango <https://elmlang.slack.com/archives/C4F9NBLR1/p1541911789377400> About Animation vs Element ?

mgriffith 8:00 AM You can use them together, for sure :smile: You just need to use `Element.htmlAttribute` to render the style attribute.

duncan 9:32 AM so ideally, it'd be nice to get the r,g,b,a components from a `Color` so that I could do the string interp (edited)

lango 1:23 PM @mgriffith But that isn't really them 'working together' is it, its more they just happen to be together? For example, `elm-ui` has

+

Radio selection



First

Second

Third

Radio selection in a row



Radio selection with a custom look

