

GNU social - New Frontend Classic

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Summary

GNU social is a communications software used in federated/decentralized social networks. It is part of the GNU project as the name implies and it follows the Unix-philosophy where small programs do a small job. It's my intention to follow this doctrine as well as being compatible with the AnyBrowser campaign. To achieve this, the design must be simple, modern and improve the UX by virtue of visual movement flow through means of careful placement of design elements and the good use of typography principles that will help infuse character, beauty and provide better readability for the user.

Mechanical memory is a big part of how we use the web, we are mostly unconscious of the actions we take and because of this it's imperative for a social network's design to exploit procedural memory in order to not only guide the user but also improve their experience overall.

Design principles

Mechanical memory and movement flow

The act of reading throughout our life injected us with some of this mechanical memory that we use in the web today, aiding us performing tasks better and faster.

Some western web design principles are fairly dominant even though most cultures throughout the world use different writing systems, one example of this are menus placement in Japanese websites, although the language can be written from left to right (tategaki) or top to bottom (yokogaki), menus tend to be placed following mostly LTR principles (Cyr and Trevor-Smith, 2004).

LTR or left to right implies the user will direct its attention to the top leftmost part of the screen upon loading the page, thus it's where one must indicate the user where he is in the vast web, such as the webpage logo as well as where the user is in that webpage.

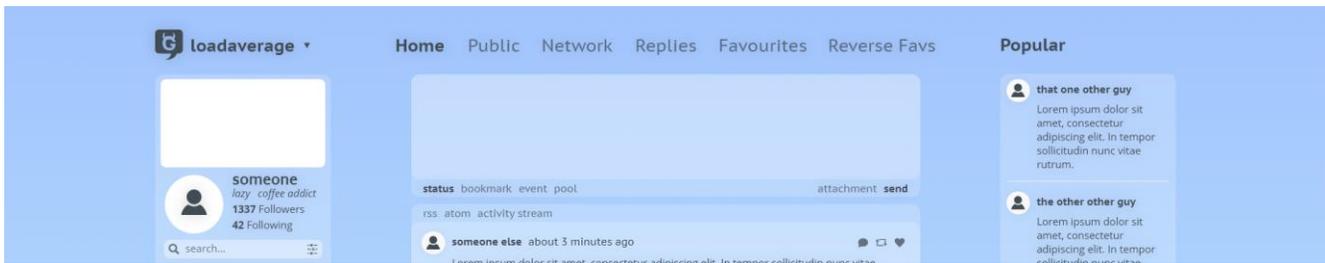


Figure 1 - Top of the Home Timeline

Here we can see how this principle is applied in the design, continuing the LTR movement, in the middle, the user location on the site is seen. Below it a text prompt is displayed, providing the user right away the ability to post. Another argument can also be made for this, normally the text prompt is also accessible on other social networks in the same general area (Pang *et al.*, 2016) and mechanical memory is a key principle of this design.

There are options inherent to the user though, and thus these must be containerized within the user's profile info in order to contextualize the user that these are indeed pages unique to himself, one could argue that options such as replies, favourites, reverse favourites are also unique to each user and that would be correct; however, these are pages much more closely related to how the user interacts with the rest of the community and much more frequently accessed than bookmarks, hence the decision.

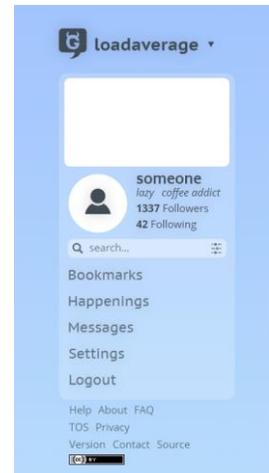


Figure 2 - Profile container

The search bar placement might be a controversial decision at first, since it is supposed to search throughout the whole social network and not just into the user profile, but as we will see, the "profile container" is accessible in every page and therefore the search bar as well. Furthermore, its something commonly placed along side the profile or where it can be accessed through, its also contextually the user the one who's searching. Finally, due to the LTR principle we can assume its one of the first options to be seen, so its location is immediately retained by the user.

Then we arrive at the center, the bread and butter of every social network, the interactions between everyone, and of course, they are displayed front and center.

At the right we have popular posts as well as trends since it's more important to the user those that he follows rather than what's popular and so, not only should the latter be given less importance and placed to the right, it should also be separated.

Psychology of colour

Colour is a very powerful tool, more so in fact in such a visual paradigm such as web design, with careful selection of colours the user can perhaps be unconsciously manipulated to stay in that web page for longer or think of load times to be quicker even.

"Color-induced relaxation has a direct effect on attitude, in addition to its indirect effect through perceived quickness. This suggests that site-design characteristics such as color have effects beyond their influence on perceived quickness. (...) The results point to the potential effectiveness of a blue (rather than red or yellow) background screen color in inducing feelings of relaxation and reducing the perceived download time."

(Gorn et al., 2004)

These results point out the need for calming colours for a background, and such a colour is a soothing and relaxing blue. This seems also something unaffected by even culture differences, as seen by how dominating the use of blueish colours is across the globe (Cyr and Trevor-Smith, 2004).

While using only HTML + CSS such findings are of great interest, so the user perceives each load of a new page to be faster as well.

As such, both light and dark default themes are blueish in colour:

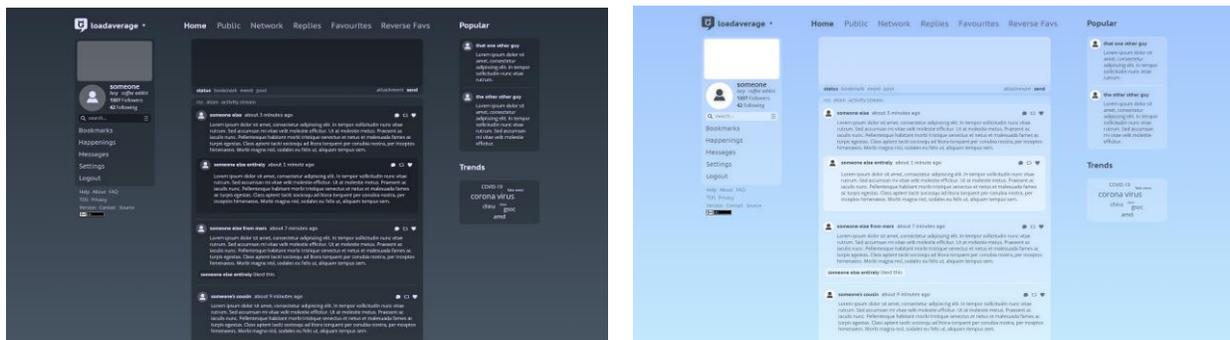


Figure 3 - Dark and Light themes

Readability

"All text needs legible typefaces. But especially at interfaces, our eyes need fonts that cooperate rather than resist."

Tobias Frere-Jones (cited by Covert, 2014)

The best UI typeface goes unnoticed; however, this shouldn't be for a lack of character or beauty, but due to their focus on clarity. Most of a webpage is the type it's set in and because of this its choice is of upmost importance. As the text gets smaller there's less space to draw a glyph and thus a font with a large x-height is very attractive, another key element is the distinction between glyphs, words like millimetre might be hard to decipher provided a poor choice of font for example.

Hopefully the read throughout this proposal went smoothly, and if that wasn't the case let it be my poor writing skills and not due to the fonts used, because for the interface I've used the same as seen here, PT Sans for larger elements and Open Sans for smaller text. PT Sans helps infuse some character while providing great legibility and Open Sans with its large x-height provides clarity for smaller text.

Both fonts also use GPL compatible licenses.

However, the task doesn't end here, contrast between background and foreground is also a key element in text legibility and with colours into the mix other issues arrive.

Colour blindness was taken into consideration, Web Content Accessibility Guidelines were followed and as such both light and dark themes pass all tests, both for colour blindness and contrast in smaller fonts.

Additions and changes

Menu

In my interactions with the community it has come to my attention the need for a main menu that would help communities surf between their main site and their GNU social instance, it would help communities such as The Freaks Club have everything tightly integrated for example.

This was incorporated into the design in the form of a drop-down menu located in the instances name, it shows an arrow to better illustrate the user that there more options available and while the reasoning behind it was as seen above, it could also be used for other purposes such as navigating to other instances akin to what would be seen in webrings for example.

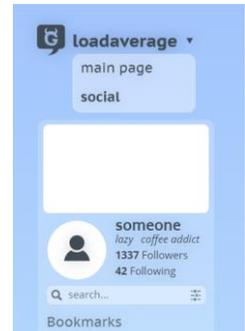


Figure 4 - Menu

Settings

This page was re-organized from the ground up, since in the current situation plugins aren't integrated very well into the design. For example, let's look at OfflineBackup, in the LoadAverage instance these options are located on the right pane and because of this many users don't even know that important options such as backup and restore exist, this also further proves the point related to mechanical memory seen beforehand.

And so, as an example I based myself in this design mock-up with what can be seen in LoadAverage's settings since that's the instance I'm more accustomed to, this also demonstrates the need for more work into the plugins templates as well in order to integrate them into the design.

I've divided the page into 3 subcategories:

- Profile
 - Main
 - Full Profile
 - Avatar and Cover
- Account
 - Email
 - Password
 - Backup and restore
- Miscellaneous

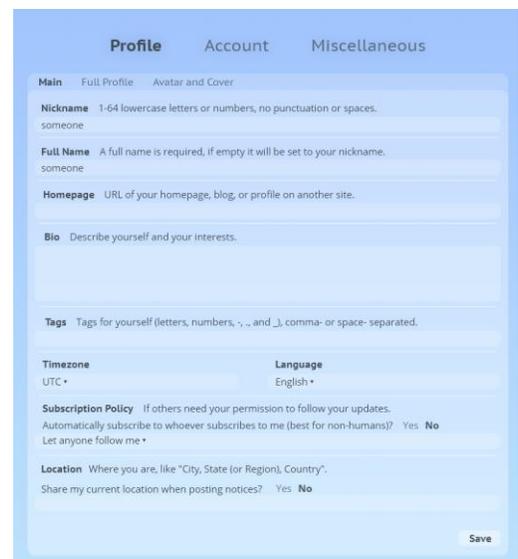


Figure 5 - Profile settings

As we can see, an option for a cover is seen, it's a plugin that I would like to make as well as it would help the user further customize his profile.

Messages

As it stands there are two subpages, an inbox and outbox, which is a poor design decision and further confuses the user.

With the messages divided like this a user would have to visit both inbox and outbox in order to know if a message was sent prior to an another's response. Furthermore, there's no division whatsoever between who's sending a message, every message received is displayed in the outbox as if it were a timeline, and so, if you would like to find a message from x user you would need to search yourself for it in the middle of messages from n other users.

The solution regarding the design was simple then, show on the left side who you are talking to and in the centre you would have all messages between you and who you've selected in a timeline as if it were a chat.

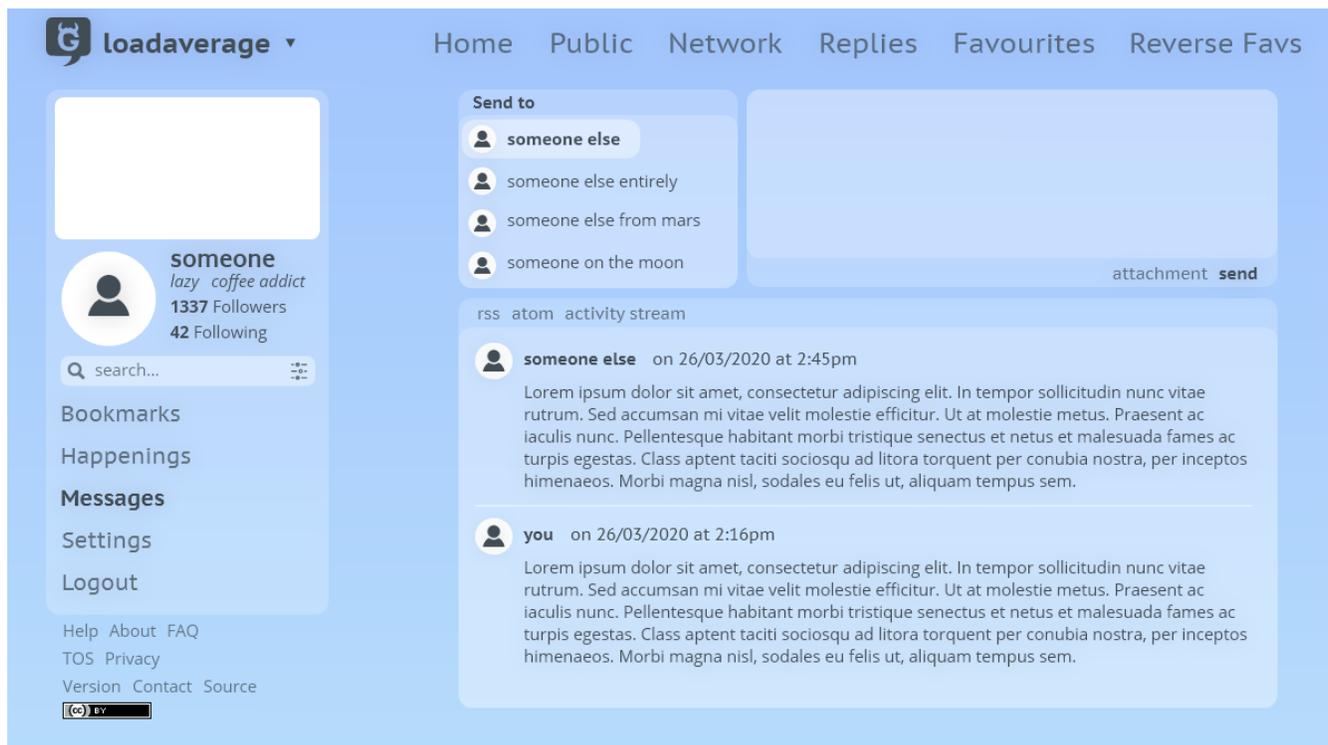


Figure 6 - Messages page

Benefits

With this interface I hope to give the community a more intuitive user experience, provide more options to profile customization and integrate plugins better into the UI.

Hopefully the careful use of elements, colour and typography will also help the whole community grow and facilitate the use of social networks based on this communications platform to their full extent with improvements in messages, settings and integration within a community's website.

Tentative Timeline

March 31, 2020 - May 3, 2020

- Community bonding
- Familiarize with PHP, Symfony and Twig
- Familiarize with the documentation
- Familiarize with the code
 - Plugins
 - Core
- Polish and improve existing design mock-ups

May 4, 2020 – July 3, 2020

- Develop core templates
 - Develop a cover plugin
 - Use existing plugins to further enhance user customization
 - OverwriteThemeBackground plugin rework
- Adjust design decisions if needed and search for new solutions
- Focus on ensuring a better mobile UX

June 29, 2020 - July 3, 2020

- First Evaluation

July 3 - 31, 2020

- Work on plugins templates
 - Ensure tight integration with core templates
 - Search new ways to improve them
- Take advantage of underutilized functionality
 - Improve Happenings functionality and uses

July 27 - 31, 2020

- Second Evaluation

July 31, 2020 - August 24, 2020

- Further work in plugin templates
- Polish interface
- General Review

August 24 - 31, 2020

- Final reports
- Final merge
- Final submission and evaluation

Communication

I've used the IRC as well as GNU social's XMPP up until now and will continue to do so. To add to this, I will send updates regularly at the end of each week to my mentors regarding the state of the art and possible roadblocks I might've encountered.

My progress will be hosted on a fork of Diogo's fork to prevent accidental commits.

Qualification

I'm a second-year undergrad in master's degree in Network and Information Systems Engineering, at the Faculty of Sciences of the University of Porto. During my time here I was exposed to GNU social through my colleagues and since then I've been interested in helping the project in some way, with Google Summer of Code I couldn't have asked for a better opportunity to do it, I'm also an active member of Hackers at Porto.

I have taken courses such as Human-Machine Interfaces that helped me have a better understanding of the challenges faced regarding an interface design and have participated in game jams such as Retro Game Jam '19, which took place in the UPorto last year, there I've created and designed every art asset used in our game. During high school I was also asked to make a new school website, done with just HTML and CSS as well.

For this proposal it's imperative for me to familiarize myself with PHP in the meantime and learn more about Twig and Symfony as well.

Reference

Covert, A. (2014) *Why Apple's New Font Won't Work On Your Desktop*, *Fast Company*. Available at: <https://www.fastcompany.com/3031432/why-apples-new-font-wont-work-on-your-desktop> (Accessed: 25 March 2020).

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