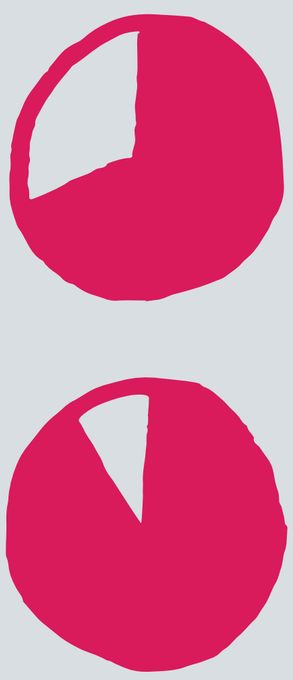
Elapse is your time, visualized.

Software Design Spring 2016 // Gaby Clarke + Alex Hoppe

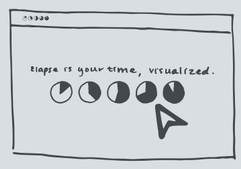
Data visualization + web development

When selecting a final project topic, we wanted to do something involving visual design or data visualization, and we were both interested in learning how to develop for the web. We decided that a webapp which allowed users to visualize how their time is distributed suited our interests well, and is also relevant to the life of the overbooked Oliner.



User interaction overview.

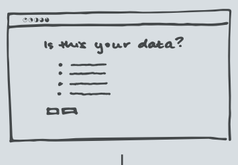
How the user engages with Elapse.



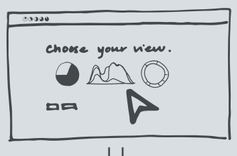
user visits the Elapse website and starts the interaction

user uploads ical and selects a date range to visualize

file parsed using icalendar
+
calendar object created with event objects within the date range



user verifies that the data was loaded correctly



user selects view mode

visualization JSON object created using vincent and user's view choice

user sees visualization rendered on the webpage

Programmed in Python using icalendar and vincent, webified using Flask, Heroku, and Bootstrap.

module:
visualize
uses vincent to plot data

visualize()
stackedArea()
donut()
busy()
totalTime()

module:
views
contains the app routes for Flask

index()
about()
implementation()
upload()
allowedFile()
edit()
asciify()
choose()
visualize()

object:
Calendar
in module elapseCalendar

parseical()

object:
Event
in module elapseEvent

Elapse is a Flask app hosted on Heroku. In Python, we use icalendar to parse .ics files, and then store their data as Event objects within a Calendar object. The data is visualized using vincent, a plotting library that generates a JSON object, which we render in an HTML template.

binary
busy/unbusy

temporal time distribution

cumulative time distribution