Getting interactive …
… on the cheap

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Interactivity without Shiny

- Shiny provides a way to use interactive GUI elements to control the activity and display of R.

  - For each interaction, some R code is run.

- There are also interactive components that have little or nothing to do with R, e.g.

  - Google maps

  - Sortable tables

  - Manipulatible graphics with annotations (e.g. S&P 500)

  - HTML menus, tabs, etc.

Non-shiny interactivity with R

- The role of R is to create the HTML and/or JavaScript to display the interactive components.

- Once they have been created, they are ordinary text and can be animated by the browser in which the document is viewed.
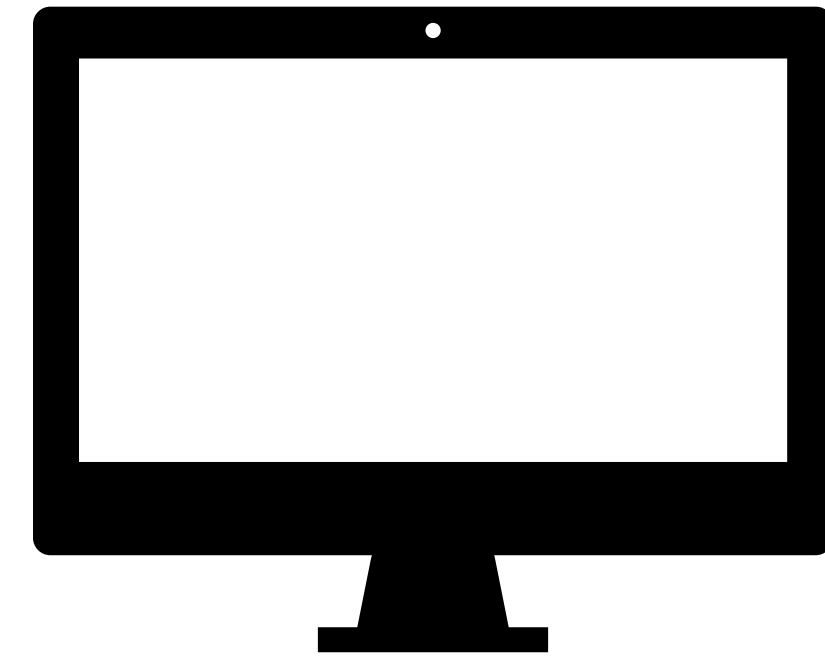
Among the possibilities …

- Iframe-type embedded windows in your document

  - video, audio

- R interfaces to JavaScript libraries

  - htmlwidgets package

- Interactive document components such as dashboards

Play with the various widgets provided by the htmlwidgets package

http://www.htmlwidgets.org/showcase_leaflet.html

- Which one is the coolest?
- Which ones might be useful in your work?

DEMO

Your turn

- Open `Dashboard.Rmd` and knit it to confirm that it compiles

- Ignore the *For Dashboard* section

- Update the file so that:

  - Integrate the linked video into the document

  - There is a map of Austin

  - There is an annotated graphic of the Big Mac index

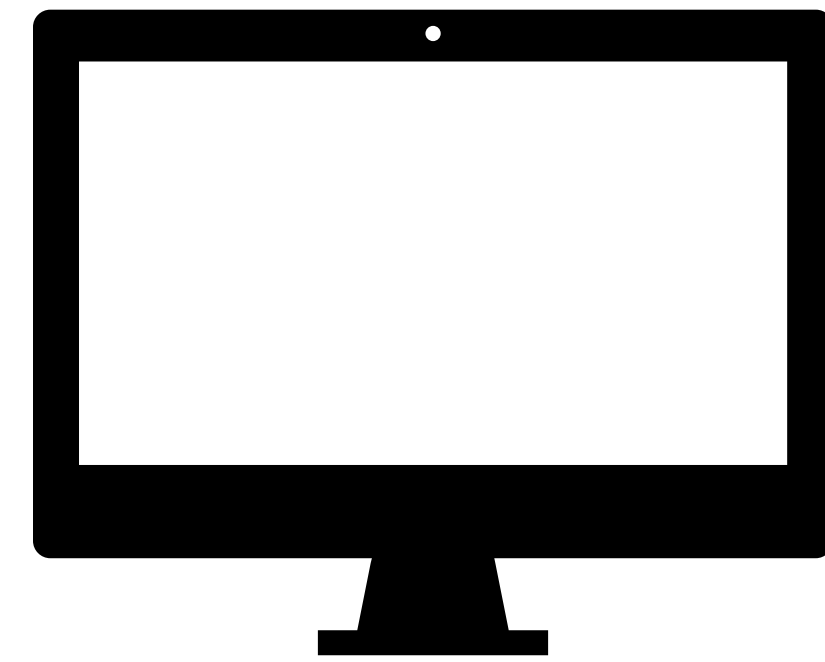 - You can browse the stock-price history of Apple

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Making a Dashboard

You include some markup indicating how you want to lay the dashboard out

- Load the library flex dashboard

- Insert 1st and 2nd-level headers to align the components

- Insert HTML classes to create tabsets, …

See some of the possibilities at

https:// rmarkdown.rstudio.com/ flexdashboard/ layouts.html#overview
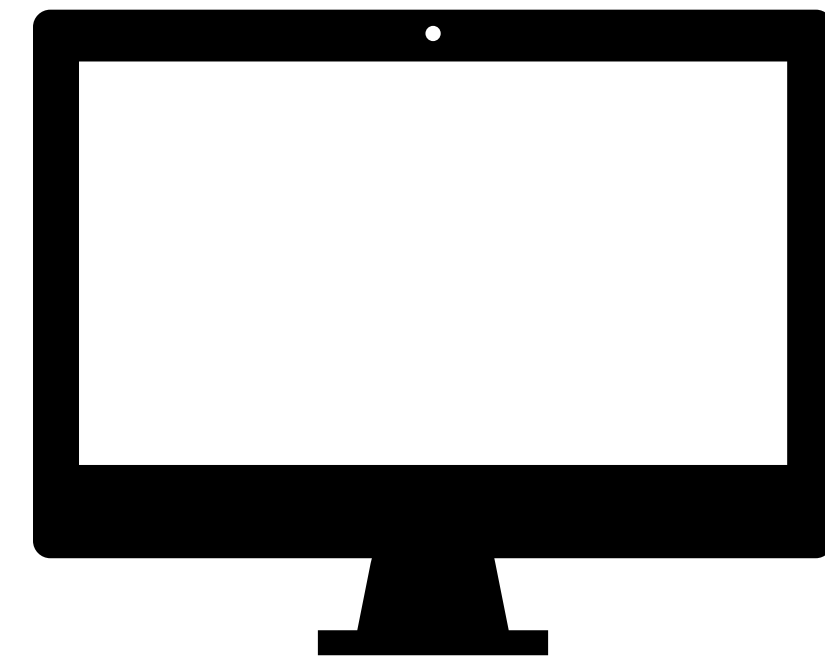
DEMO

Your turn

- Continue editing Dashboard.Rmd

- Uncomment the library(flexdashboard). Compile.

  - NOTE: You may need to open the Viewer in a browser for things to work.

- Move the flex dashboard YAML code up to the header. Compile.

- Add in a 2nd-level header "Column" just above the "### Map" component. Compile. What happened? Try changing the browser width.

- Add in a 2nd-level header "Narrative" just above "### What's this about?"

- Add HTML class designators {.sidebar} and {.tabset} to Narrative and Column respectively.

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Tell a story with R Markdown, using the storyboard format for a dashboard.

DEMO