

Dashboards for academic reports?

HERSS Dashboard

(Key Actors in Higher Education Research and Science Studies)

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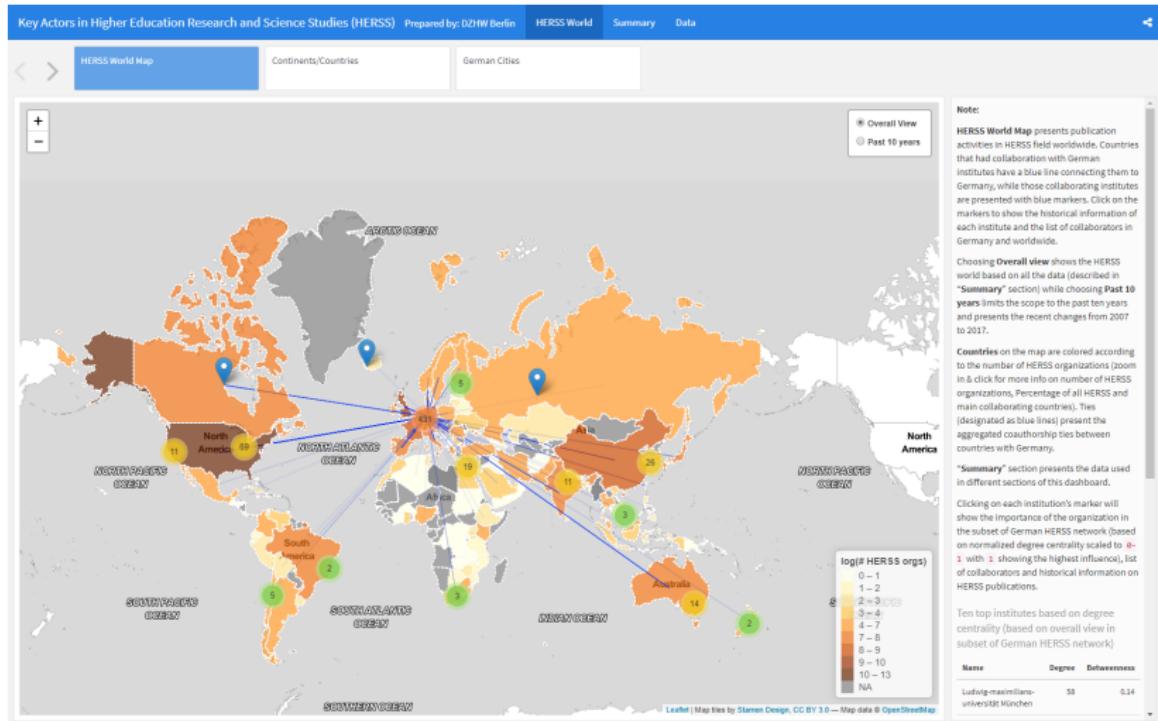
DZHW - Berlin

19/02/2019
(WoW, interesting date!)

Outline of colloquium

- ▶ A bit of info on where HERSS Dashboard started
- ▶ Why dashboards for academic reporting?
- ▶ Some examples
- ▶ HERSS Dashboard sections (showcasing sections)
- ▶ How to build a flexdashboard? (**optional**)

HERSS Dashboard



Link: https://forschungsinfo.de/dash_akb/science_studies_dashboard_map.html

A bit of intro

- ▶ link to BMBF (Institutions):
<https://www.wihoforschung.de/en/institutes-abroad-629.php>
- ▶ link to BMBF (Journals): <https://www.wihoforschung.de/en/international-journals-509.php>

Let's start with some bold statements!

Maps are everywhere!

Dashboards are everywhere, as well. Audience have time to digest information at their own pace!

Audience ask questions and find answers on their own. They are self-explanatory.

But, What is wrong with our good old academic articles?

They even have electronic version nowadays, I
mean PDF, with Ctrl + F !

Some PDF readers even show the citations at mouse hover!

'. Crossref [2], in their words, “makes research easier for everyone”.

Non-profit members can also benefit from the Crossref API, which provides a simple way to search and retrieve citation data for scholarly publications.

[2] Crossref. *Crossref*. en. Oct. 2018. URL: <https://www.crossref.org/> (visited on 10/16/2018).

[3] CrossRef-API. *CrossRef API*. en. Oct. 2019. URL: <https://github.com/CrossRef/rest-api-doc#filter-names> (visited on 01/16/2019).

[4] Marek Hlavac. *stargazer: Well-Formatted Regression and Summary Statistics Tables*. R package version 5.2. Harvard University. Cambridge, USA, 2015. URL: <http://CRAN.R-project.org/package=stargazer>.

[5] Jahn. *About the Hybrid OA Dashboard*. en. Jan. 2017. URL: <https://subugoe.github.io/hybrid-oa-dashboards/>

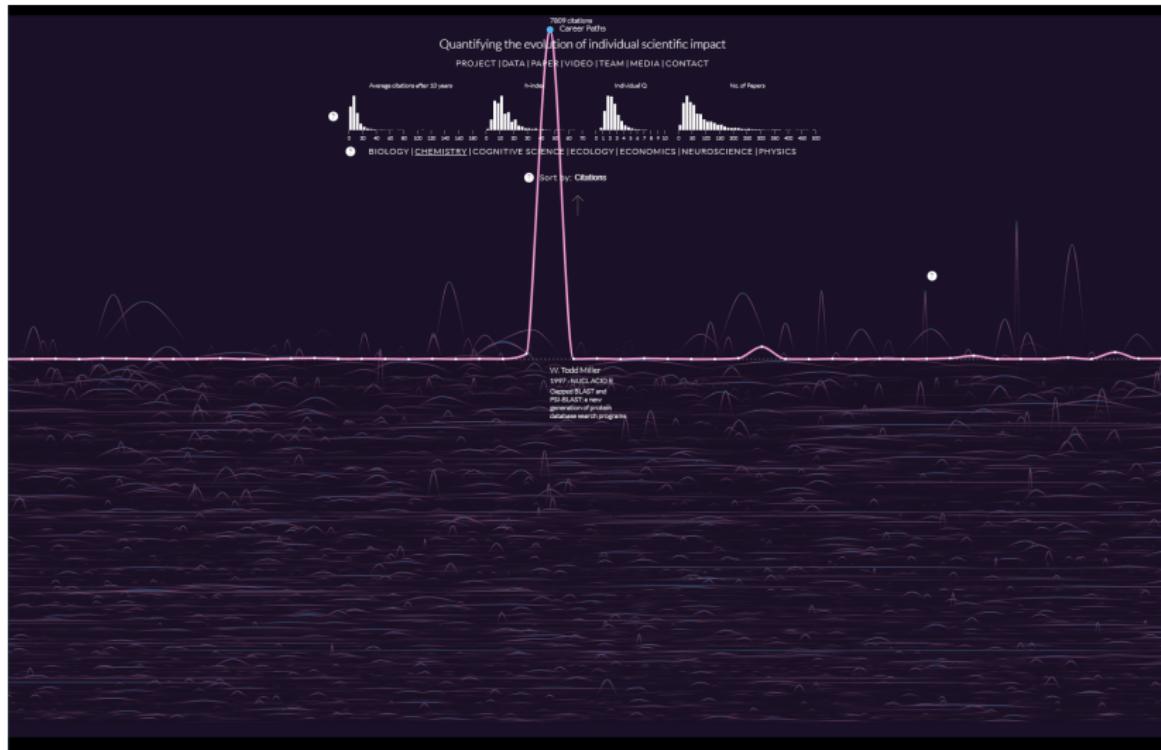
Well, more and more articles are being produced!

Less and less people are **able** to read them and
remember them, let alone cite them!

Interactive dashboards make our results more memorable and reach wider audience. So we can use them to complement our articles.

Any examples of dashboards to communicate
research results!? Sure!

Quantifying the evolution of individual scientific impact



Link: <http://scienceofsuccess.barabasilab.com/>

NYT: How Every Member Got to Congress?

The New York Times

65

Opinion

How Every Member Got to Congress

By Sahil Chimoy and Jessia Ma JAN. 26, 2019

Here are the paths that the members of the House of Representatives took to Congress. Each line represents a Democratic or Republican representative, and the circles are the major educational, career and political milestones on their path to the House. Items are not exhaustive nor in chronological order.

The United States does not grant titles of nobility. There are no lords, barons or dukes here. At least, not officially.

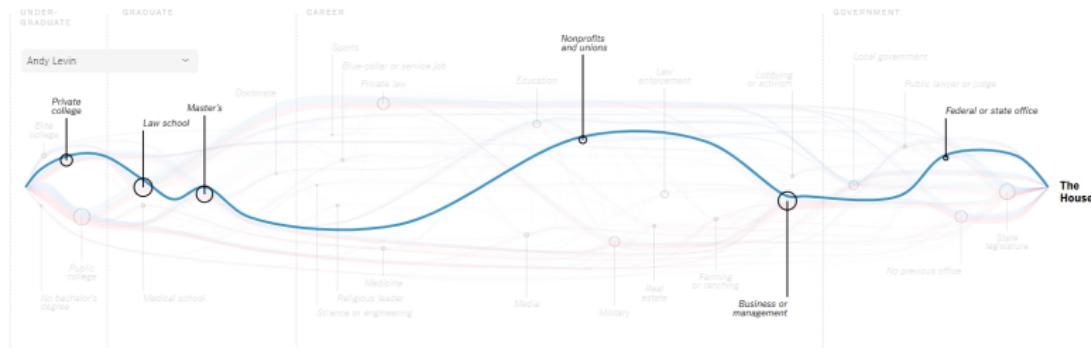
Unofficially, however, Congress is made up of people who have credentials and experiences vastly different from those of most citizens. Unofficially, considering education, career, family background and personal wealth, it seems that America has a ruling class — or at least a limited number of ways to enter the halls of power.

Here, we've traced the pre-congressional career of every House member in the 116th Congress, showing the

narrow but well-trodden paths through prep schools, lucrative jobs and local political the latest crop of legislators to Capitol Hill

The new House has a notable number of and more women and people of color than in history. But a majority of members, even still made it to Washington by way of professions that are out of reach for mos

More than 70 percent of House members private practice, businesspeople (includi



4

ARTICLES REMAINING

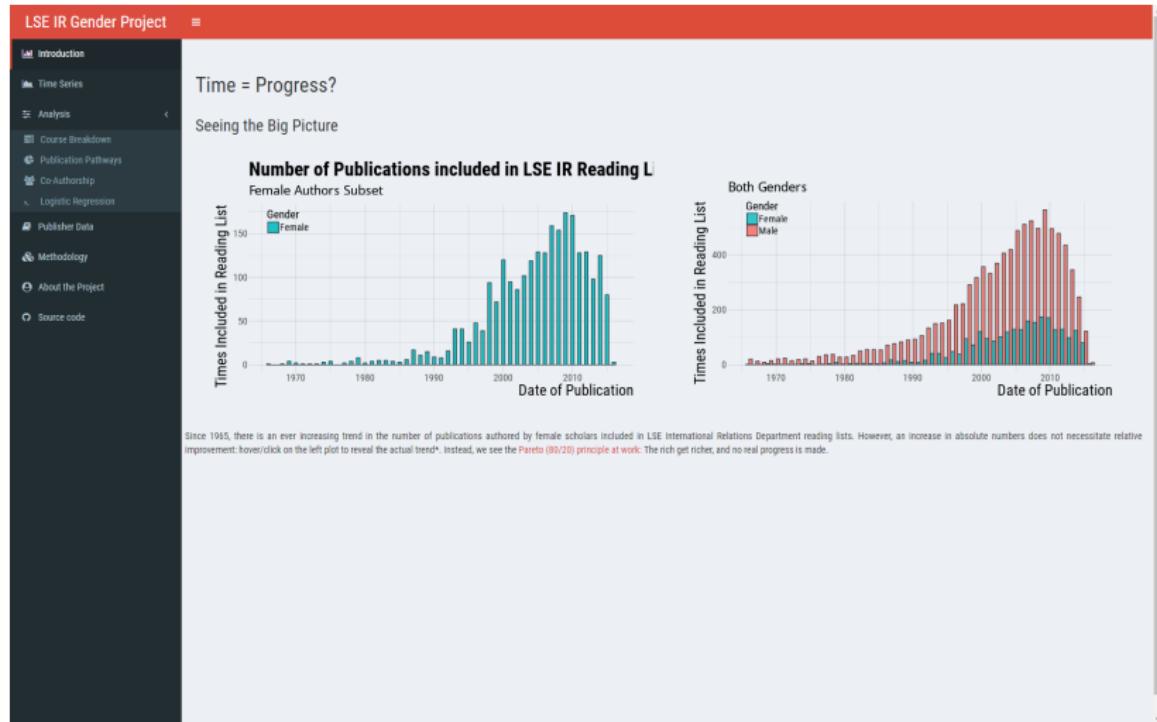
Link: <https://www.nytimes.com/interactive/2019/01/26/opinion/sunday/paths-to-congress.html>

Hybrid OA Journal Monitor



Link: <https://subugoe.shinyapps.io/hybridoa/>

LSE IR Gender Project

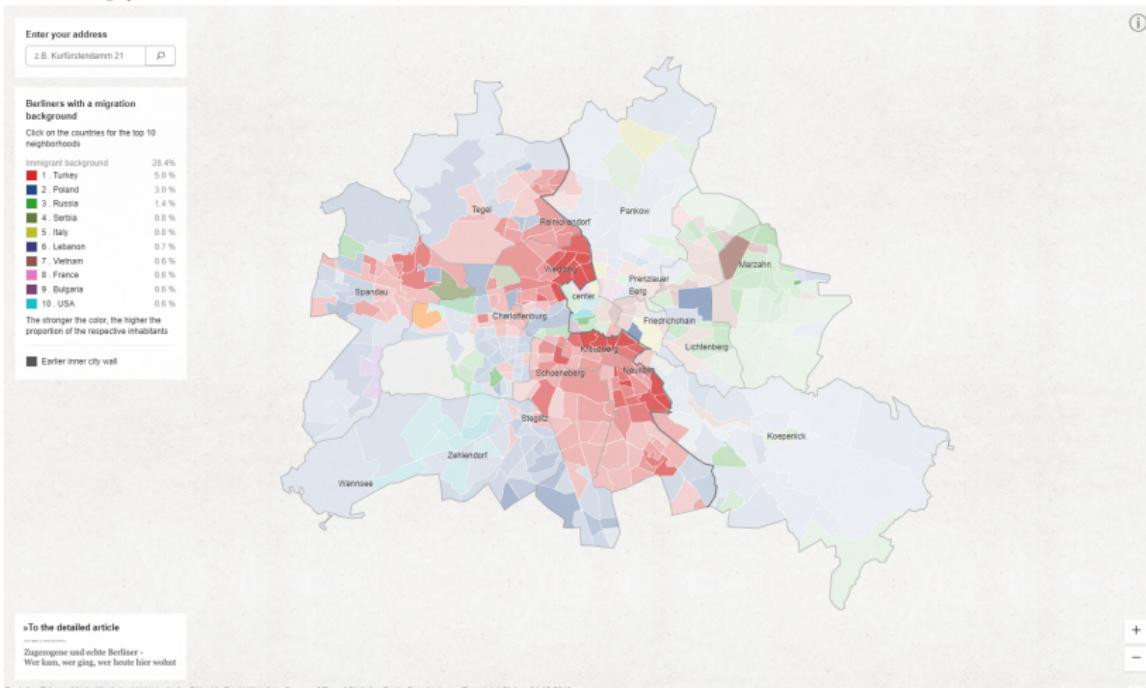


- ▶ **Link:** <https://gokhan.shinyapps.io/gender/>
- ▶ **further description:** <https://www.gokhan.io/post/lse-gender/>

Migrant communities' density in Berlin

Berliner Morgenpost Berlin's neighborhoods are so colorful Migrants make the course of the Berlin Wall visible

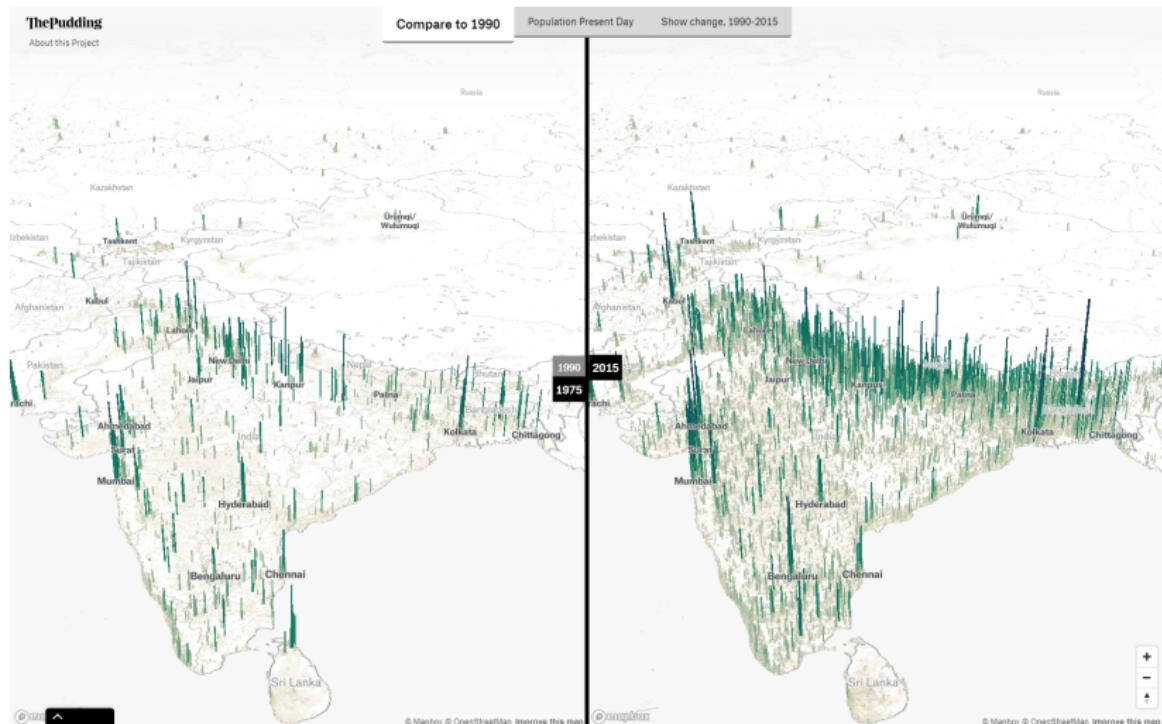
Language: English Share:



By Julius Tröger , Moritz Klück (webkid.de) , Andre Pätzold , David Wenderl . Source: Office of Statistics Berlin-Brandenburg. (Raw data) Status: 31.12.2013.

Link: <https://interaktiv.morgenpost.de/migranten-in-berlin/#13/52.4977/13.3874>

Human Terrain



Link: https://pudding.cool/2018/10/city_3d/?fbclid=IwAR2mTSGI3hyaVvdxRd4deoD-S5cVQjuf9dVCO5-fhK4SeoYjabIKK0OQs

One more example?

Food (TasteAtlas, Germany!)

Q Search: eg. Italy

tasteatlas

Log in

Germany

EUROPE



What to eat in Germany?

MOST POPULAR GERMAN DISHES

Most popular ▾

SIDE
Sauerkraut
GERMANY
3.9 ★★★★ (12) - RATE IT
Best in [Brotwursthaus](#).

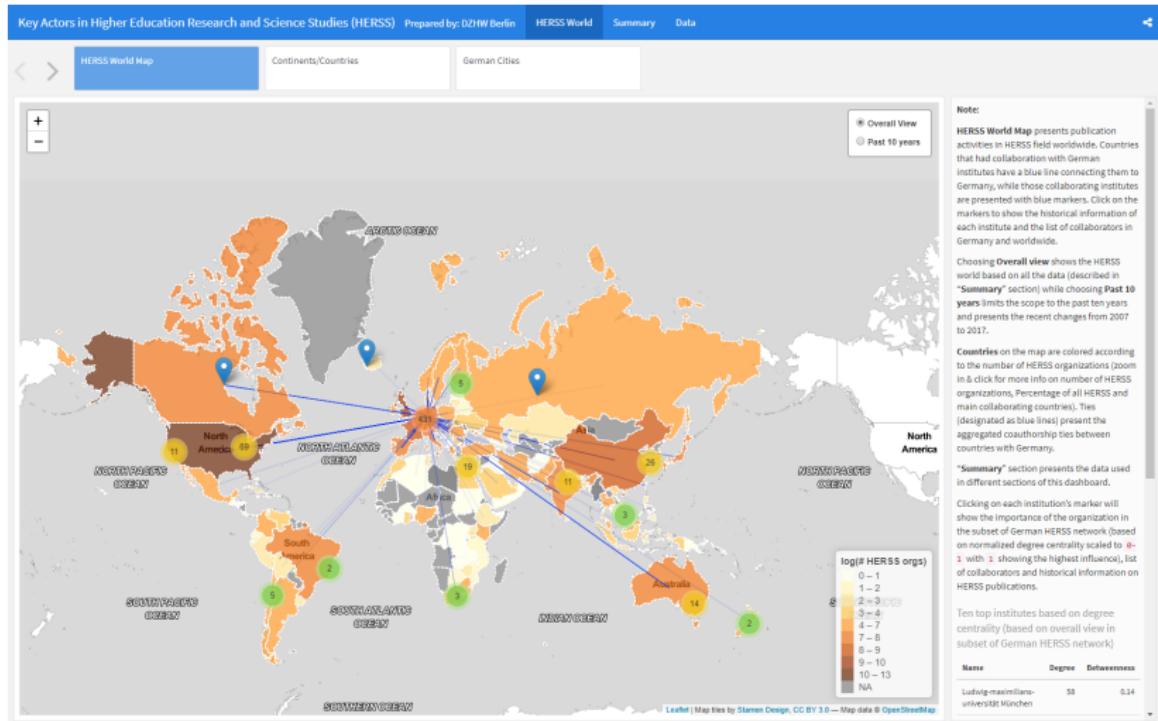
DESSERT
Käsekuchen
GERMANY
4.0 ★★★★★ (7) - RATE IT
Best in [Princess Cheesecake](#).

STREET FOOD
Currywurst
BERLIN
4.0 ★★★★★ (18) - RATE IT
Best in [Konnaake's Imbiss](#).



Link: <https://www.tasteatlas.com/germany>

HERSS Dashboard



Link: https://forschungsinfo.de/dash_akb/science_studies_dashboard_map.html

Dashboard sections (1/2)

- ▶ HERSS World
 - ▶ **HERSS World Map:** presents publications, historical information, and the main collaborators in HERSS field for each country. It also shows the main organizations that have been collaborating with Germany in HERSS research. It presents the first and last HERSS publication year, importance of each institution in the collaboration network based on normalized degree centrality scaled to 0-1 with 1 showing the highest influence and it provides the list of institutions collaborating in HERSS field. Choosing Past 10 years on the map presents the same information with a specific focus on 10 most recent years (from 2007 –2017).

Dashboard sections (2/2)

- ▶ HERSS World (continued.)
 - ▶ **Continents/Countries:** presents the distribution of HERSS organizations in each continent, country, and city which are sized based on the count of HERSS publications.
 - ▶ **German Cities:** presents the distribution of HERSS organizations in German cities which are sized based on the count of HERSS publications.
- ▶ Data
 - ▶ **Journals:** presents the number of publications in each of the **23** main HERSS journals and the earliest and latest HERSS publication years.
 - ▶ **Organizations:** presents all HERSS organizations, the earliest and latest HERSS publication years and total number of HERSS publications. In a separate tab it shows the organizations active in the past 10 years.

The story behind HERSS Dashboard

- ▶ **It is told here:** [https://www.echer.org/
key-actors-in-higher-education-research-and-science-studies-herss/](https://www.echer.org/key-actors-in-higher-education-research-and-science-studies-herss/)

A bit more on Flexdashboards?

Well, they are “flexible” + “dashboards”

A combination of text, R code and results

As easy as writing a normal RMarkdown (1/2)

The screenshot shows the RStudio interface with a flexdashboard R Markdown file open. The left pane displays the R code, and the right pane shows the dashboard structure.

Code (Rmd File Content):

```
1 title: "Untitled"
2 output:
3   flexdashboard::flex_dashboard:
4     orientation: columns
5     vertical_layout: fill
6   ---
7
8
9  (r setup, include=FALSE)
10 library(flexdashboard)
11
12
13 Column {data-width=650}
14 -----
15
16 #### Chart A
17
18 (r)
19 require(tidyverse)
20 glimpse(iris)
21
22
23 Column {data-width=350}
24 -----
25
26 #### Chart B
27
28 (r)
29 plot(cars)
30
31
32 #### Chart C
33
34 some text here!
35
36
```

RStudio Environment:

- Environment tab: Global Environment
- History tab: Not applicable for this view.
- Connections tab: Not applicable for this view.

Console Output:

Environment is empty

As easy as writing a normal RMarkdown (2/2)

The screenshot shows an RStudio interface with a flexdashboard template open. The dashboard has three panels:

- Chart A:** Displays the first few rows of the Iris dataset.
- Chart B:** A scatter plot of Sepal.Length vs. Sepal.Width.
- Chart C:** Some placeholder text.

The code in the R Markdown file is as follows:

```
8
9:   #r setup, include=FALSE
10:  library(flexdashboard)
11:
12:
13:  ---
```

The console output shows the results of the R code:

```
WAS BUILT UNDER R VERSION 3.5.2--conflicts --
x dplyr::filter() masks stats::filter()
x dplyr::lag()  masks stats::lag()
> require(tidyverse)
> glimpse(iris)
Observations: 150
Variables: 5
$ Sepal.Length <dbl> 5.1, 4.9, 4.7, 4.6, 5.0, 5.4, 4.6, 5.0, 4.4, 4.9, ...
$ Sepal.Width  <dbl> 3.5, 3.0, 3.2, 3.1, 3.6, 3.9, 3.4, 3.4, 2.9, 3.1, ...
$ Petal.Length <dbl> 1.4, 1.4, 1.3, 1.5, 1.4, 1.7, 1.4, 1.5, 1.4, 1.5, ...
$ Petal.Width   <dbl> 0.2, 0.2, 0.1, 0.2, 0.4, 0.3, 0.2, 0.1, 0.1, ...
$ Species      <fct> setosa, setosa, setosa, setosa, setosa, se...
```

A bit more on Flexdashboards? (1/2)



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flexdashboard vs. shinydashboard

	Design experience	Data	Interactions	Server requirements
Case 1 flexdashboard with htmlwidgets	Quick with constraints	Small and Public (easily shared)	Anything htmlwidgets can do	none
Case 2 flexdashboard with Shiny	Quick with constraints	Any size or Private	Anything R can do	Shiny Server or shinyapps.io
Case 3 shinydashboard	No constraints	Any size or Private	Anything R can do	Shiny Server or shinyapps.io

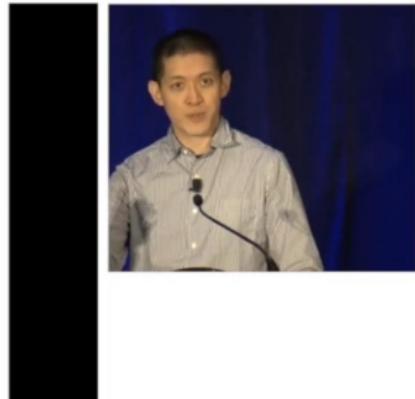
38:04



A bit more on Flexdashboards? (2/2)

rstudio::conf 2017

flexdashboard	shinydashboard
R Markdown	Shiny UI code
Super easy	Not quite as easy
Static or dynamic	Dynamic
CSS flexbox layout	Bootstrap grid layout



So which one should I choose?

- ▶ For a normal static dashboard that doesn't require more than htmlwidgets' level of interactivity, I would definitely suggest Flexdashboard (as HERSS)
- ▶ For some computing and R server requirement, the Shiny runtime added to Flexdashboard will do
- ▶ But In this Rstudio webinar ([click here](#)) they discuss how to use pre-rendered shiny documents to overcome this options' weaknesses
- ▶ They emphasise if you want full control and highest interactivity and UI design, go with *Shiny dashboard* package!

Thank you!