IDM INSTITUTE FOR DISEASE MODELING

Introduction to SAEDashboard

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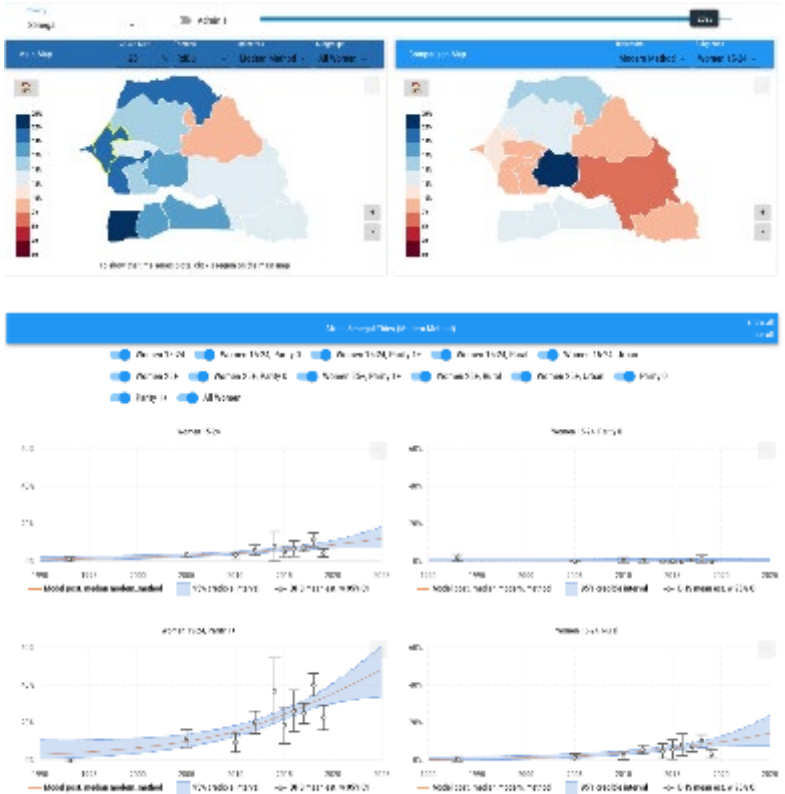
What is it?

- SAEDashboard stands for Subnational area estimation dashboard
- It is a simple and interactive web-based dashboard for visualizing subnational data
- Provides filters like ’indicators/subgroup/year’ to retrieve model output
- Allow drill down to see time series plots by subgroups
- The project started in July, 2020
- Our researcher saw the opportunity to apply the dashboard to different model data
- Customize a new dashboard from it takes 1-2 weeks
- And it becomes an open source project recently



Examples of SAEDashboards

- Public dashboard
  - Subnational family planning estimation tool (SFPET)
- Few Internal dashboards:
  - Subnational sexual transmitted infection estimation tool (SSTIET)
  - Subnational estimation of routine immunization indicators (SERII)
  - Subnational estimation of unmet need and routine immunization (SEUNRI)
  - Subnational estimation of vulnerable population in Kenya (SEVPKenya)

Dashboard DEMO

Architecture

- Docker containers are used to run each front end and API layer. That makes it easy for cloud deployment
- Python is used to develop the API and Re
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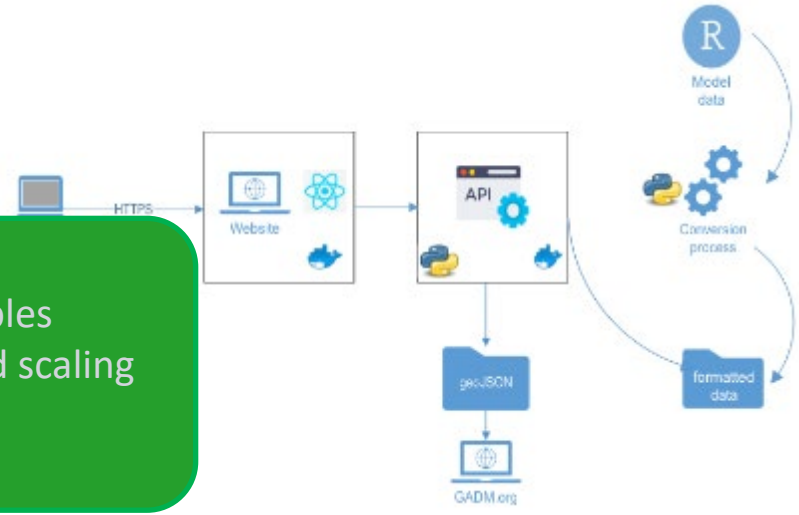
  store geographical boundaries
- amCharts is the library used for plots and maps

- Docker is an open-source platform that enables developers to automate the deployment and scaling of applications within software containers.



Data file naming

- Csv Data files are stored in [repo]/service/data/data
- Filename convention is :

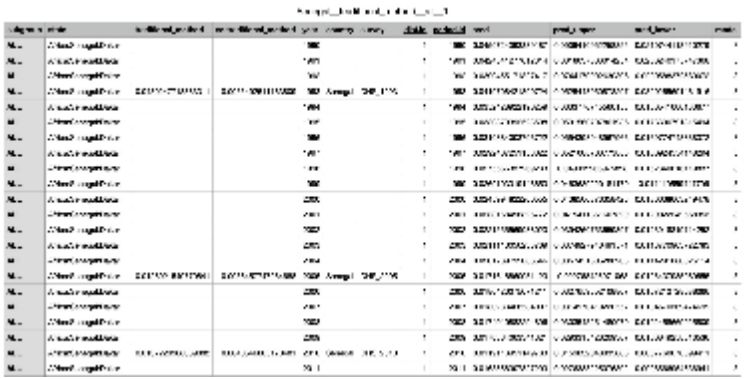
```
[country]+"__"+[indicator]+"__"+[subgroup]+”__”+[version#]
+.csv
```

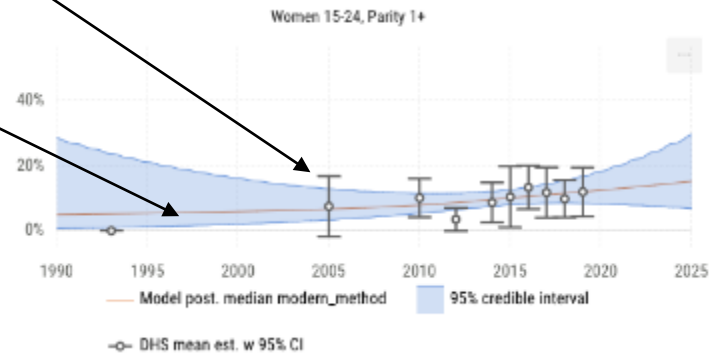
  - E.g. Senegal__traditional__method__all__1.csv

Data file content

- For content of csv file, columns needed are:

Column	Description
state	Name of the subnational area. Can be adm1 or adm2 names. E.g. Africa:Senegal:Dakar
[indicator_name]	Reference value. E.g. traditional_method
se.[indicator_name]	Standard error for reference value
year	Data year.
pred	Predicted value
pred_upper	Upperbound of credible interval
pred_lower	Lowerbound of credible interval





GeoJson files

- They are used to show geographical boundaries on the map chart
- GeoJson files can be download from GADM
- They are free for academic use or other non-commercial use. License is here
- You can also bring your own shapes files / geoJson files
- Take a look at this shell script to see how we convert a geoJson file to be used in Dashboard

Installation DEMO

Installation Steps

- Prerequisites
  - Docker Desktop

1. From a terminal, run this command to clone the repository

```
git clone https://github.com/InstituteforDiseaseModeling/SAEDashboard.git
```

2. Next, build the container images

```
docker compose -f docker-compose.local.yml build
```

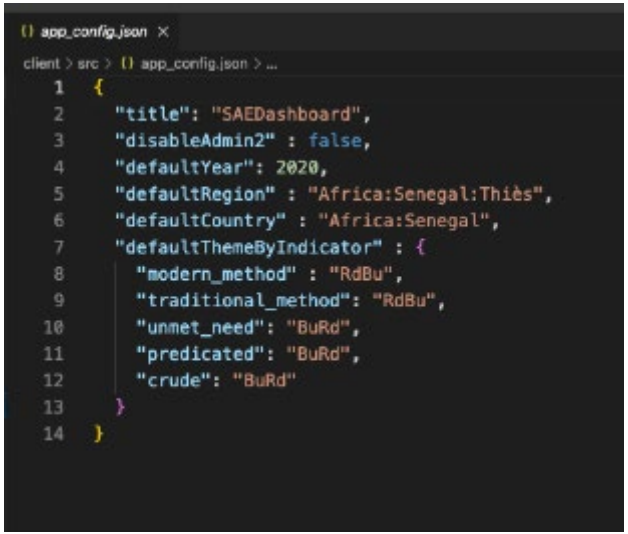
3. Next, start the containers

```
docker compose -f docker-compose.local.yml up -d
```

4. In a browser, navigate to http://localhost to see the dashboard

Configurable settings

- Configurable options include:
  - Title
  - Admin1/2 toggle
  - Default Year
  - Default Region
  - Default Country
  - Default color theme / indicator
- App_config.json is stored in [repo]/client/src folder



Next step?

- Listen to feedbacks to enhance the project
  - Feel free to create issues in our Github repository
- Make it more customizable

Team members

- Joshua Proctor (principal research scientist)
- David Kong (frontend software engineer)
- Emily Claps (backend software engineer)
- Clark Kirkman IV (backend software engineer)
- Sam Buxton (software engineer in quality control)

Questions / Comments

Thank you!!