

**COVID19
DASHBOARD
FOR SCHOOLS:
MONTGOMERY COUNTY
PUBLIC SCHOOLS,
VIRGINIA**

PROJECT REVIEW 12/2/2021

MEGAN HICKS

AGENDA

Final Product

- Project Description
- Context and Background
- Project details:
 - Goals
 - Target users
 - Main functions
 - Unique Features
- Build details:
 - IDEs and tools
 - Technical Details/Design Choices
 - Difficulties encountered and solutions developed
- Reflection & lessons learned
- Demonstration of the product

PROJECT DESCRIPTION

Final Product

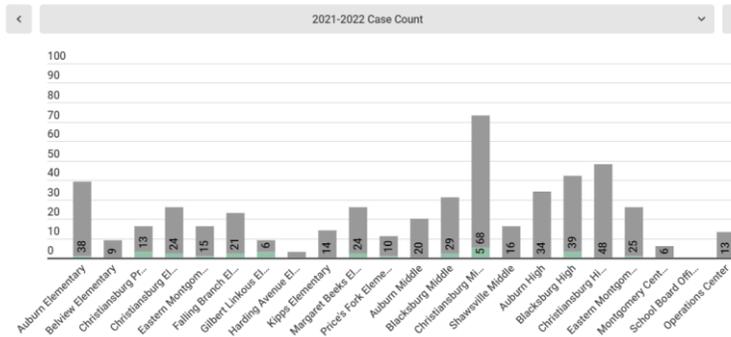
- Provide “Live” website with Visualizations of Covid19 data on a webpage for the Montgomery County School District Community.
 - Provide detailed and comparative Covid19 case information within each school, location, and totals.
 - Interactive website
 - Provide both numbers and visualizations for easy interpretation for parents, administrators and teachers.

CONTEXT AND BACKGROUND

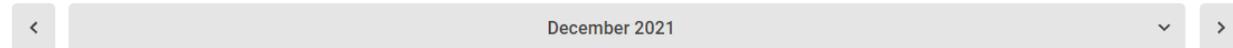
Final Product

■ Current system (MCPS.org):

Cumulative COVID-19 Case Count



Positive COVID-19 Cases Over Time



Share



COVID Counts Over Time
Infogram

PROJECT DETAILS

Final Product

- **Goals**
 - Provide an **attractive website** with current Covid19 case information for Montgomery County School System.
 - Provide **easily accessible information** on a website for parents, school administrators, teachers, and students to facilitate health of children.
 - **Intuitive, interactive visualizations** of the data.

PROJECT DETAILS

Final Product

- **Target Users**
 - Parents/students
 - School Administrators
 - Teachers

PROJECT DETAILS

Final Product

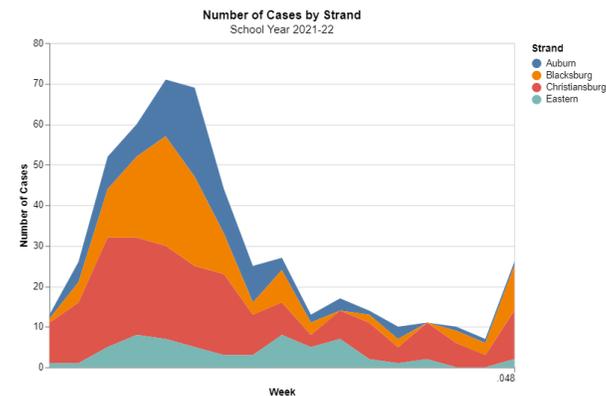
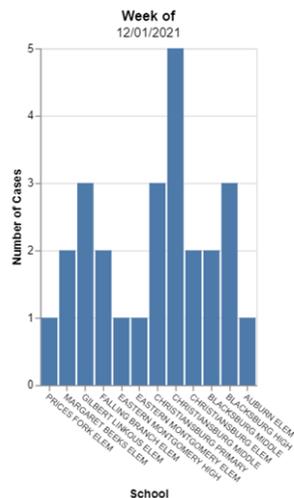
- **Main Functions**
 - Summarized information:
 - Overall levels of Covid19 for current week.
 - Trends/levels over time.
 - Detailed information:
 - View/compare 1 or more schools.
 - View/compare all schools at one level (elementary, middle, high school)
 - Link to Vaccine appointments.

PROJECT DETAILS

Final Product

■ Unique Features

- **Main page:** summary information
 - Bar chart to show case breakdown by school.
 - Area graph to show case breakdown by “strand.”
- Navigation menu for direct access to other features/pages.

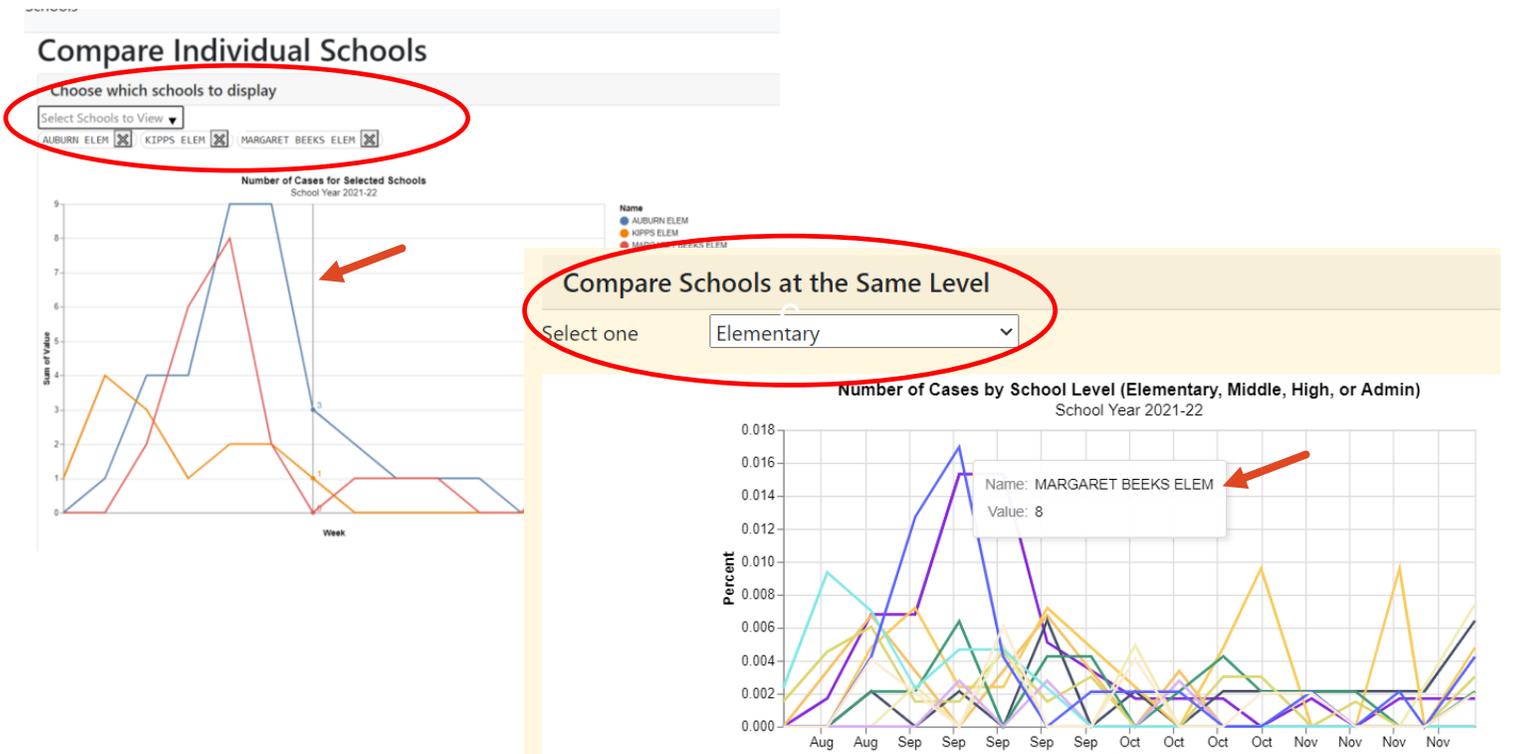


- 🏠 Dashboard Home
- 📊 View by School
- 📊 View by School Level
- 📄 Get Vaccinated

PROJECT DETAILS

Final Product

- Unique Features (continued)
 - Detail pages:
 - Both pages offer user-selection options
 - Both pages offer a “tool-tip” for additional detailed information on mouse-over.



PROJECT DETAILS

Final Product

- Unique Features (continued)
 - Links to Vaccine Appointment Sites:
 - Offers direct access to appointment schedule pages (these can be difficult to find online).

Vaccines.gov



Find Local Vaccine Providers and make an appointment.

Find Covid19 Vaccines

New River Department of Health



Sign up for a Vaccine Clinic at the Department of Health

Covid19 Vaccine Appointment

BUILD DETAILS

Final Product

- IDE's & Tools:
 - Observable
 - D3: creation of visualizations
 - JavaScript: Manipulation/development of dataset
 - Virtual Studio Code
 - Bootstrap 5

BUILD DETAILS

Final Product

■ Design Choices/**Technical Details**

Observable: fetch and manage data (“live”) from API.

```
urlArrays = ▶ Array(16) [Array(2), Array(17), Array(21), Array(22), Array(18), Array(2), Array(21),  
urlArrays = urlData.data;
```

```
urlData = ▶ Object {data: Array(16), fileName: "Positive COVID-19 Cases Over Time", sheetNames: Arr.  
urlData = d3Fetch.json(url)
```

```
url = "https://atlas.jifo.co/api/connectors/9eceb477-b5ef-42c8-be60-06fbe47e1c72"
```

```
url = "https://atlas.jifo.co/api/connectors/9eceb477-b5ef-42c8-be60-06fbe47e1c72"
```

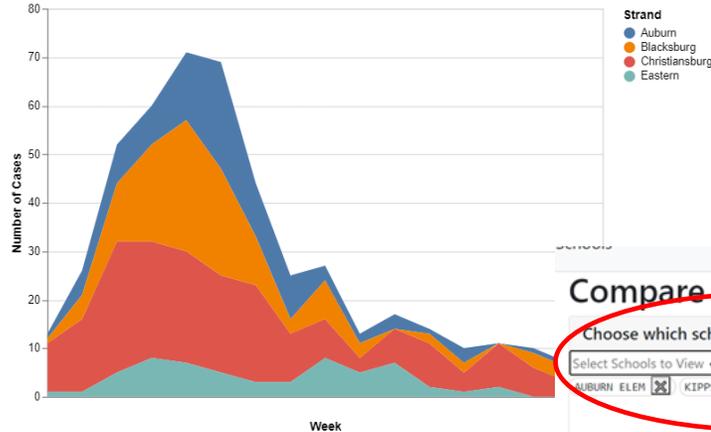
BUILD DETAILS

Final Product

■ Design Choices/Technical Details

- Data analysis: “Overview first, zoom & filter, details on demand.”

Number of Cases by Strand
School Year 2021-22



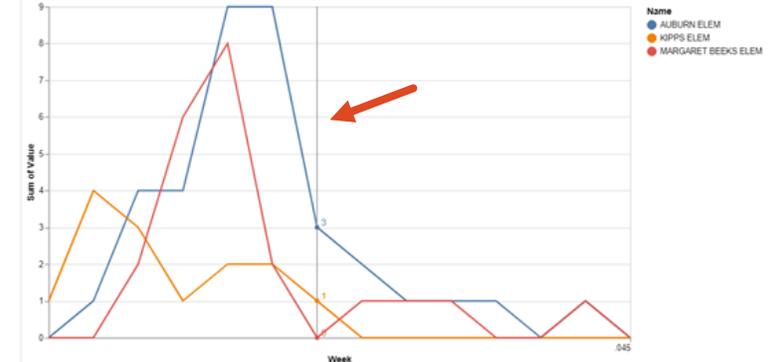
Compare Individual Schools

Choose which schools to display

Select Schools to View

AUBURN ELEM X KIPPS ELEM X MARGARET BEEKS ELEM X

Number of Cases for Selected Schools
School Year 2021-22

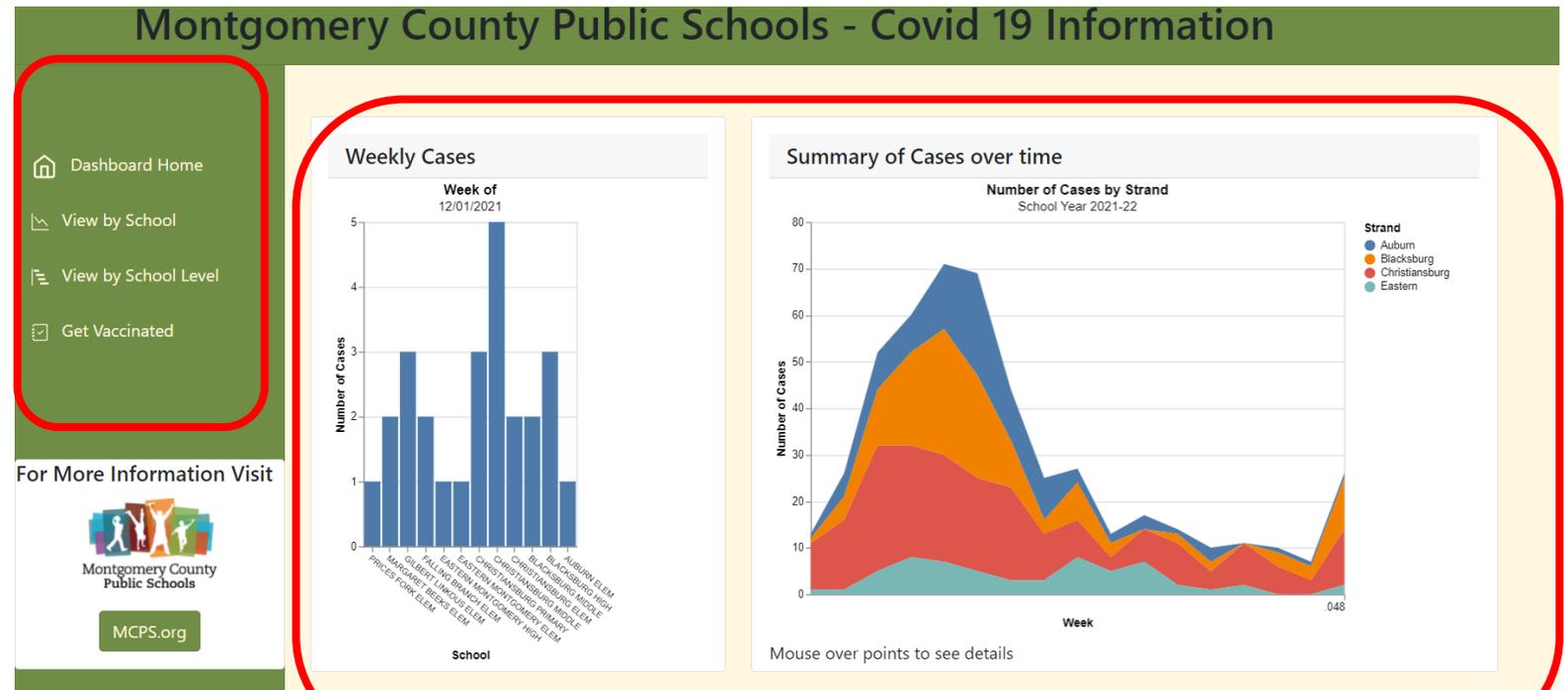


BUILD DETAILS

Final Product

- Design Choices/**Technical Details**

- Webpage Design: Follow similar rules used for Data Visualizations (overview first/details on demand):



BUILD DETAILS

Final Product

- Design Choices/**Technical Details**
 - **Aesthetics:** Color choice, progression of data, navigation.
 - => All factors work together to lead the user through the webpage intuitively.

BUILD DETAILS

Final Product

- Difficulties encountered/**solutions developed**
 - Data from web was simply text
 - => **extensive cleaning/ “cajoling” of data (JavaScript within Observable)**

```
"9/8/2021",  
"20 [MBES-4, EMES-3, BMS-2, CMS-3, BHS-3, AES, EMHS, KES, HAE,  
  
"9/9/2021",  
"14 [CMS-4, AES-3, CHS-2, BMS, AMS, BHS, MBE, FBE]"
```

```
SchoolCases = ▼ Array(278) [  
  0: ▶ Object {Date: "12/01/2021", Week: 48, Year: 2021, Total: NaN, AES: 0, BES: 0, CPS: 0, CES: 0, EMES:  
  1: ▶ Object {Date: "11/29/2021", Week: 48, Year: 2021, Total: 19, AES: 1, BES: 0, CPS: 3, CES: 2, EMES:  
  2: ▶ Object {Date: "11/30/2021", Week: 48, Year: 2021, Total: 7, AES: 0, BES: 0, CPS: 0, CES: 0, EMES:  
  3: ▶ Object {Date: "11/22/2021", Week: 47, Year: 2021, Total: 4, AES: 1, BES: 0, CPS: 1, CES: 0, EMES:  
  4: ▶ Object {Date: "11/23/2021", Week: 47, Year: 2021, Total: 3, AES: 0, BES: 0, CPS: 0, CES: 0, EMES:  
  5: ▶ Object {Date: "11/16/2021", Week: 46, Year: 2021, Total: 1, AES: 0, BES: 0, CPS: 0, CES: 1, EMES:  
  6: ▶ Object {Date: "11/17/2021", Week: 46, Year: 2021, Total: 1, AES: 0, BES: 0, CPS: 0, CES: 0, EMES:
```

BUILD DETAILS

Final Product

- Difficulties encountered/**solutions**
developed

- Format of dataset was not “Tidy”

```
SchoolCases = ▼ Array(278) [  
  0: ▶ Object {Date: "12/01/2021", Week: 48, Year: 2021, Total: NaN, AES: 0, BES: 0, CPS: 0, CES: 0, EMES:  
  1: ▶ Object {Date: "11/29/2021", Week: 48, Year: 2021, Total: 19, AES: 1, BES: 0, CPS: 3, CES: 2, EMES:  
  2: ▶ Object {Date: "11/30/2021", Week: 48, Year: 2021, Total: 7, AES: 0, BES: 0, CPS: 0, CES: 0, EMES:  
  3: ▶ Object {Date: "11/22/2021", Week: 47, Year: 2021, Total: 4, AES: 1, BES: 0, CPS: 1, CES: 0, EMES:  
  4: ▶ Object {Date: "11/23/2021", Week: 47, Year: 2021, Total: 3, AES: 0, BES: 0, CPS: 0, CES: 0, EMES:  
  5: ▶ Object {Date: "11/16/2021", Week: 46, Year: 2021, Total: 1, AES: 0, BES: 0, CPS: 0, CES: 1, EMES:  
  6: ▶ Object {Date: "11/17/2021", Week: 46, Year: 2021, Total: 1, AES: 0, BES: 0, CPS: 0, CES: 0, EMES:
```

```
AltSchoolCases = ▼ Array(1426) [  
  0: ▶ Object {Code: "Total", Value: 26, Date: "12/01/2021", Week: 48, Year: 2021  
  1: ▶ Object {Code: "AES", Value: 1, Date: "12/01/2021", Week: 48, Year: 2021  
  2: ▶ Object {Code: "BES", Value: 0, Date: "12/01/2021", Week: 48, Year: 2021  
  3: ▶ Object {Code: "CPS", Value: 3, Date: "12/01/2021", Week: 48, Year: 2021  
  4: ▶ Object {Code: "CES", Value: 2, Date: "12/01/2021", Week: 48, Year: 2021  
  5: ▶ Object {Code: "EMES", Value: 1, Date: "12/01/2021", Week: 48, Year: 2021  
  6: ▶ Object {Code: "FBE", Value: 2, Date: "12/01/2021", Week: 48, Year: 2021  
  7: ▶ Object {Code: "GLE", Value: 3, Date: "12/01/2021", Week: 48, Year: 2021  
  8: ▶ Object {Code: "HAE", Value: 0, Date: "12/01/2021", Week: 48, Year: 2021  
  9: ▶ Object {Code: "KES", Value: 0, Date: "12/01/2021", Week: 48, Year: 2021  
 10: ▶ Object {Code: "MBES", Value: 2, Date: "12/01/2021", Week: 48, Year: 2021  
 11: ▶ Object {Code: "PFES", Value: 1, Date: "12/01/2021", Week: 48, Year: 2021  
 12: ▶ Object {Code: "AMS", Value: 0, Date: "12/01/2021", Week: 48, Year: 2021  
 13: ▶ Object {Code: "BMS", Value: 2, Date: "12/01/2021", Week: 48, Year: 2021  
 14: ▶ Object {Code: "RMS", Value: 5, Date: "12/01/2021", Week: 48, Year: 2021
```

BUILD DETAILS

Final Product

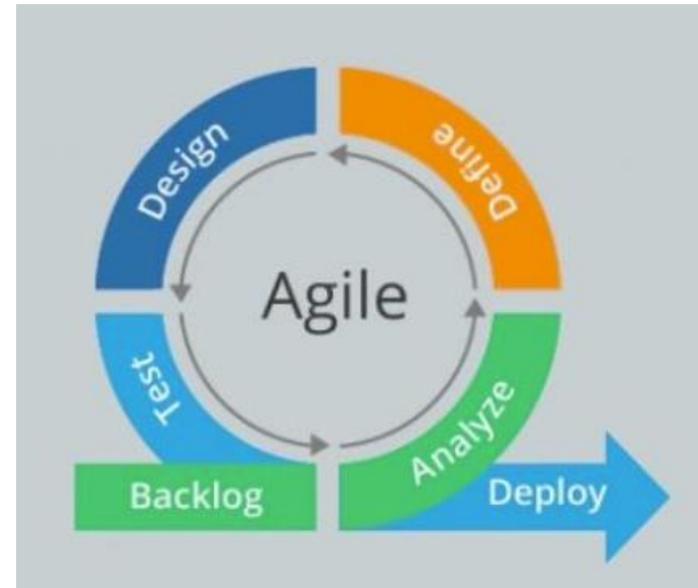
- Difficulties encountered/**solutions developed**
 - Building a Webpage
 - => Bootstrap (HTML- main file development)



BUILD DETAILS

Final Product

- Difficulties encountered/**solutions developed**
 - Mid-project change to Project Goals
 - => Agile principles allowed for changes without extensive wasted time or unused product.



REFLECTIONS & LESSONS LEARNED

Final Product

- Raw data will never be formatted how you want it to be. And nobody will care (other than you) .
 - Knowing how to clean and manipulate input files is imperative.
- Building a website was harder than I anticipated.
 - Value and respect all contributions.
- It's hard to make things happen by “pushing the rope.”
 - User/client motivation makes a difference.
- People ALWAYS change their minds
 - The project goals WILL change: be ready; be flexible.

DEMO

Final Product

Montgomery County Public Schools - Covid 19 Information

- Dashboard Home
- View by School
- View by School Level
- Get Vaccinated

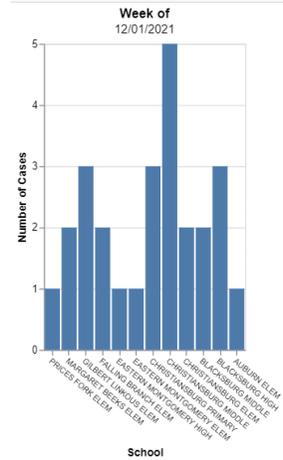
For More Information Visit



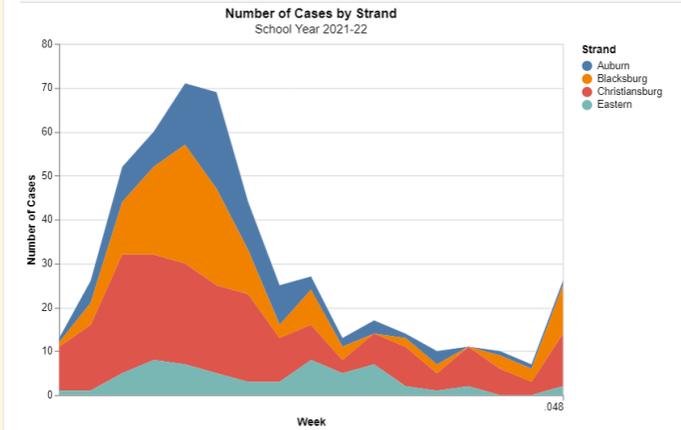
Montgomery County
Public Schools

MCPS.org

Weekly Cases



Summary of Cases over time



Mouse over points to see details

