Monday, January 25th Meeting: Goal Adjusting and Requirements Update

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Agenda

-Confirming a schedule for weekly meetings
-Plans to meet and work consistently throughout semester
-Compare individual lists for essential requirements & features
-Briefly discuss goals and timelines for the project
-Merge our ideas on requirements and goals into one list we can agree on
-Agree on the tools we will use: IDEs, languages, databases, (platforms?)
-Identify the key objective to complete or review by next week
-(If time allows) quickly brainstorming and distributing smaller tasks that next week's objective can be broken down into

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Template for the revised goals and requirements

Goal for the assignment:A single page application dashboard to provide users with data on covid cases, vaccinations, and impacts on unemployment
Vision behind the software: "Adaptable map interface to plug and play with datasets of varying topics via CSV files and database structures.

Software Requirements:
-Interactive Map
-View the number of cases of any state or county for any day

Software Features:
-The Map will load immediately as the user connects to the dashboard and display data for the present day.
-Map will allow users to view and interact with individual states and counties
-States and counties will have a color scale or another visual identifier that represents the severity of how many cases there are in that area.
-Users will have the option to select what day's stats they would like to view, and the map will update to reflect that day.
-Search function will only work for state or county names
-HTML **Responsive** web design
-Javascript driver - NO refreshing - Single Page Application

Questions for Dr. Wei:
-How duplicatetable is our project in order to create similar projects?

-What are the expectations for the COVID API?
Task List
-Create an intellij project
        -and git pull it
-Find data sources for each category
        -Deaths
        -Total cases
        -Vaccination
        -Unemployment
-Look into schedulers for data types
-Create a webpage prototype

Monday, January 25th Meeting Minute Notes:
-Search feature might just be desktop only
-Refining calendar functionality
-Decoupling framework from (covid) data, good for design
-Rather than designing a separate mobile/desktop version, incorporate a responsive design

-Bootstrap would be very good
Some refined requirements:
-Total cases - total deaths - hospitalized (show grows today)
-Unemployment insurance claims
-Daily vaccine distribution
"entire software frontend to be java script driven" no need for refreshing"
-SPA single page application, individual feature/option doesn't require entire page to refresh
(clicking from main map to texas, or from cases to vaccine)
-Asynchronus, Ajax technology to divide the page
-Consistent layout (where only the data changes) is ideal for preventing users from getting
mentally tired.
-Database is necessary because we want to guarantee 1) the data is saved. 2) we use
transactions (but perhaps things can run smoothly without it
What form will our data be in?
Nonfunctional requirements: maintainability, speed, security.
D3 JS
Java/Springboot backend technology
Suggested tasks:
web prototype
Displayable buttons (even if not functional yet)
finding reliable data sources
-Plans to meet Wednesday in person

-Plans to incorporate Pair Programming

Meeting Minutes 2/1/21

- Damon provided a status report to Dr. Wei on last week's updates.
- Joe showed his Vue implementation.
- Group is meeting at 5 on Tuesday to do some paired programming
- Nuxt vue framework to make vue easier to use
  - Watched video about nuxt
- Element ui
  - Copy and paste buttons, forms, etc.
  - Can be used for vue
- Prime vue
  - Another ui component library
- Use frameworks and libraries in code production
- Plan for this week:
  - Map up on the site
  - At least one dataset working (total cases, deaths, or vaccination data)
- Connect github to AWS using CI (continuous integration)
  - So Dr. Wei can view the latest updates

- TODO:
  - Fill in blanks for Project Plan (need a better road map)
  - Need to plan by **features** so we know we will have enough time to finish
  - Assign a deployment manager
    - Researches how to deploy, how much it costs, and get it done early
    - ip address!!

Meeting Minutes 2/8/21

- Need meeting agenda before Monday meetings
- Missing WAR reports from last week
- Discussed Spring boot
  - Service json rather than csv
- Cuong's bug with Vue
- Nick is learning technologies like JS and Vue
- Next Steps:
  - Meeting Friday with Michael Denkowski at 11:25
    - Talking about our riogrande site and getting feedback/advice

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Meeting Minutes 2/12/21
- Friday meeting with Dr. Denkowski
- Cuong showing our progress of Vue
    - Includes a map updated with COVID data, a scale, and buttons to change the information
    - Converting csv files to json because it is easier for the map to read
    - Hover over states on the map to see state-specific data
- Zach's demo
    - Backed scheduler that uses spring boot
    - Runs automatically to pull csv data
    - Then serves the csv as json
- Weigh-in by Dr. Denkowski:
    - Deployment plan: AWS, buy domain, and publicly service it for anyone to access
    - Not a clear notion of client
    - What happens when we graduate?
    - API on GitHub - great project that is ideal for open-sourcing
    - Only interact with TCU map through internet, not programmatically
    - Making private GitHub public will have all of commit history, including unit tests
    - Have everyone write tests. Do code reviews.
        - To check code, just open a pull request, which will then get a code review
        - Want to see each pull request having discussion documentation - merge code and talk about it
    - If the main feature is usability, own it. Need the one thing that ours does that will bring us users.
    - Recommendation: talk with Dr. Wei about launch goals
    - Open-source release
    - Testing and code reviews
    - Every part of team doing every part of process
- Plans for the weekend
    - Zach getting values from Cuong for his REST endpoints
    - Need more data - county vaccine data and active cases
    - API documentation

Meeting minutes 2/15/21 (Pushed to 2/22)
- Agenda:
    - Front end progress
    - Back end progress
    - Discuss any setbacks due to weather
    - Suggestions on API docx for an SPA
    - Talk Deployment/launch goals
    - What happens when we graduate

- Front end update:

- - ○ Site getting location of user to update map
    - ○ Map zooms in on click, zooms out on right click
  - ● Back end update:
    - ○ Plan to use swagger plugin to spring boot which generates documentation automatically using annotations
    - ○ Should finish API calls by next meeting
  - ● Deployment
    - ○ Use our own AWS for now, then we will transfer it to Wei later
    - ○ Write developers' manual so Wei knows how to deploy it
  - ● After graduation
    - ○ Wei wants to keep it running for at least another year
    - ○ He will maintain it on his own, so if something breaks down he needs to know where to find everything, how to fix it, etc.
    - ○ Assume he knows java, mysql, computer science in general, so don't need to be that detailed in developers' guide
    - ○ Need to expose API front end to public (open source)
  - ● TODO
    - ○ Need graphs on the site
      - ■ Want individual tiles for different data types
      - ■ Want to move tiles, close them, etc.
      - ■ Color code
    - ○ Get API Doc ready (draft)
      - ■ Swagger plugin
      - ■ Everyone needs to be involved in defining contract
    - ○ Have error codes ready

Meeting Minutes 3/1/21
Agenda:
- ● Cuong progress
- ● Zach progress
- ● Talk next features: buttons, merging back and front ends
- ● Flu data?

Notes:
- ● Flu data: worth looking at for extensibility purposes
  - ○ Framework should be easy to extend, so using this flu data would be good to show in final presentation to demonstrate extensibility of our project
- ● Zach progress
  - ○ API Doc! Using swagger
  - ○ Well on the right track
  - ○ Annotations:
    - ■ restController
    - ■ RequestMapping

- ○ ProcessBuilder to run a curl command to get the data
- ○ Then DailyParser to parse that data and manipulate the strings
- ○ Add some //COMMENTS so the rest of the team can learn it
- ○ Think about a database solution
    - ■ Each state folder is a table, and we may be reinventing the wheel by not using db
    - ■ MongoDB would be json document that could just select the alabama folder when need be
- ● Cuong Update:
    - ○ Has basic charts working, can do different kinds of graphs (line, bar, etc.)
    - ○ Map zoom working, just waiting on zach's backend so his map will have all of the data
    - ○ Now working on search function
        - ■ Thinking it would be simple enough to be handled on the front end
    - ○ Take roads off of the map
    - ○ By next week:
        - ■ List of search keywords
        - ■ Once user searches, give list of options
        - ■ Joe going to focus on user experience, combining Nick and Cuong's code
- ● Nick
    - ○ Researching charts, like chart.js
    - ○ Wants to make chart to accurately reflect data
    - ○ API documentation will be important on agreeing on format of data to then merge front and back ends
- ● What happened to d3?
    - ○ Need to be discussing options as we go
- ● TODO:
    - ○ Back and front end talking

Meeting minutes 3/8/21
- ● Agenda
    - ○ Zach backed demo
    - ○ Front and backend talk
    - ○ Talk about deployment

Notes
- ● Zach demo
    - ○ Use postman to access MongoDB
    - ○ Swagger documentation
- ● Front end
    - ○ Cuong working on search function
- ● Deployment
    - ○ Target date of March 22 being pushed back one week due to snowstorm
    - ○ Want working demo by march 29 with front and backend communication
        - ■ Not perfect, can be buggy

- - ■ But needs to be up and running on AWS
  - ● Nick
    - ○ Chart.js and graphs
    - ○ Hard to specify date ranges for the graphs
  - ● TODO:
    - ○ Spring break - team is out of town
    - ○ Front and backend merge finally
    - ○ Deploy on AWS

Meeting Minutes 03/15

Agenda:
- ● Talk symposium
- ● What does the abstract include
- ● Other requirements for the SRS
- ● Plans for this week

Notes:
- ● Student Research Symposium (04/16)
  - ○ Virtual 5 minute presentation about research/project on zoom
  - ○ Prepare a poster (template available)
    - ■ Problem
    - ■ Intro
    - ■ Technologies
    - ■ Results
  - ○ Step 1 - Damon registers on behalf of team
    - ■ Includes small abstract - no requirements just like 100-200 words
    - ■ Due Friday
  - ○ Step 2 - Submit poster pdf
  - ○ Step 3 - show up and present
- ● Update on front end
  - ○ Cuong hit a bug in the flow of loading data into the site
  - ○ To enforce order - use async and await
- ● Charts - Nick
  - ○
- ● AWS educator request should be approved by Wednesday

TO DO:
- ● Register for SRS
- ● Abstract for SRS
- ● Poster for SRS
- ● Figure out the bug Cuong's working on
- ● **Deploy by 29th to pass**

Meeting Minutes 3/22
Agenda:
- AWS
- End to end application
- Change to react
- Poster

Notes:
- Changed to React because Vue was getting too complicated
    - Easier to use native js
- Have a good front end already, using d3 with react
- Just need to implement the data and th map is finished
- Other things to finish this week:
    - Buttons to switch between data sources
    - Date selector
    - Search function
    - Charts
    - Map hiding
- Need complete end-to-end application by NEXT MONDAY
- Zach's Question
    - Hospitalization data source stopped updating on March 7
    - Our fix: when date is later than 3/7 we will gray out the hospitalization button
- AWS Educate:
    - Status is still under submitted.
    - Zach might make account with edu email for prepaid credit
    - Check heroku for free/easy deployment

Meeting Minutes 3/31
Agenda:
- Demo full project!
- New features
- Next steps

Demo:
- Most map features are finished
    - Buttons, charts, map, calendar
- Desired features:
    - County search
    - Click on specific counties
    - When click on state, cards and charts change to state-specific data
    - Change date range on charts
    - News? Maybe just top 3 today

- Proposition for the charts:
    - The three charts show one type of data (same color) for the past (year, month, week)

- - And when buttons at top are clicked, the charts change from case data to death data
  - Wei's vision:
    - People need information to make decisions.
    - The future is us being able to pull all information about covid
      - This includes news, data, suggestions
      - From multiple perspectives
- Input zip code, get list of closest vaccine sites
  - Dots too complicated

Meeting Minutes 4/06
Agenda:
- Updates
- Poster
- Presentation

Notes:
- Poster
  - Ours is too simple
  - Needs our names (including client's)
  - Landscape style
  - Introduction
  - Solution overview
  - System architecture
  - Different screenshots of our application
- Also we need to upload headshots to the srs website
- Presentation
  - On the 16: small presentation 5-7 min
  - SRS
  - Informal, easy
- Big Presentation
  - 4/29
  - 20-25 minute presentation
  - Powerpoint
  - IAB, faculty, students, parents, friends, etc.
- Project updates
  - Nick:
    - News api
      - https://newsapi.org/docs/endpoints/everything
    - To incorporate news, this seems to be easiest api to query
    - News corresponds to date range
    - Maybe news is on different page of our application
    - Looking for quick demo by **friday**, so we can see something working and get feedback
  - Cuong:

- - ■ Heroku problem
  - ○ Zach:
    - ■ Heroku only gives 500mb of stack space, so one of the REST calls was taking too much memory
    - ■ Trying to find way around

Meeting Minutes 4/12
Agenda:
- Show new features
- Talk about project

Notes:
- Week from today is **final review**
  - No longer allowed to develop after that
  - Will get graded on our entire development
- Add a map legend for to explain the map colors
- Make sure backend is updating so our site shows most recent data
- Meaning of the data needs to be more clear
  - E.g. is the data on march 20 the total amount of cases up to that day, or is it active cases
- Graphs are too small! Need them to be HUGE
- Make the cards smaller, possibly combine them with the buttons (bruh)
  - Keep left and right sides of site blank
- Deployment
  - Heroku free tier is limited
  - Switch to aws with our credit
- Search bar - Joe going to speak with Dr. Wei
- News almost done

Features:
- Hospitalization button - Damon
- Map legend
- Graphs show state data - Damon
- Smaller cards, get everything in one window
- General CSS cleanup
- Search feature
- Tabs instead of buttons for the map - Cuong
- "More details" button that leads to new page - Nick
- Dot walking

Meeting minutes 4/19
Agenda:
- New features
- Problems

Notes:

- New features working:
  - Cards change on state or date change
  - Charts show county data/ state/ and US
  - Get details button shows charts and news
  - News updates for state and county
  - Chloreopath corresponds to % of population
  - Can left click on counties now, right click to zoom out
  - Hospitalization button and card disappears when data is unavailable
- Questions:
  - Vaccination data: what is it showing?
    - People more worried about vaccines per day, percentage of vaccines
    - Maybe rank which states have highest vaccine rate
    - Is our data first dose, second? Be more precise