Open Data AIT Project

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https://github.com/amirroaster/aitproject
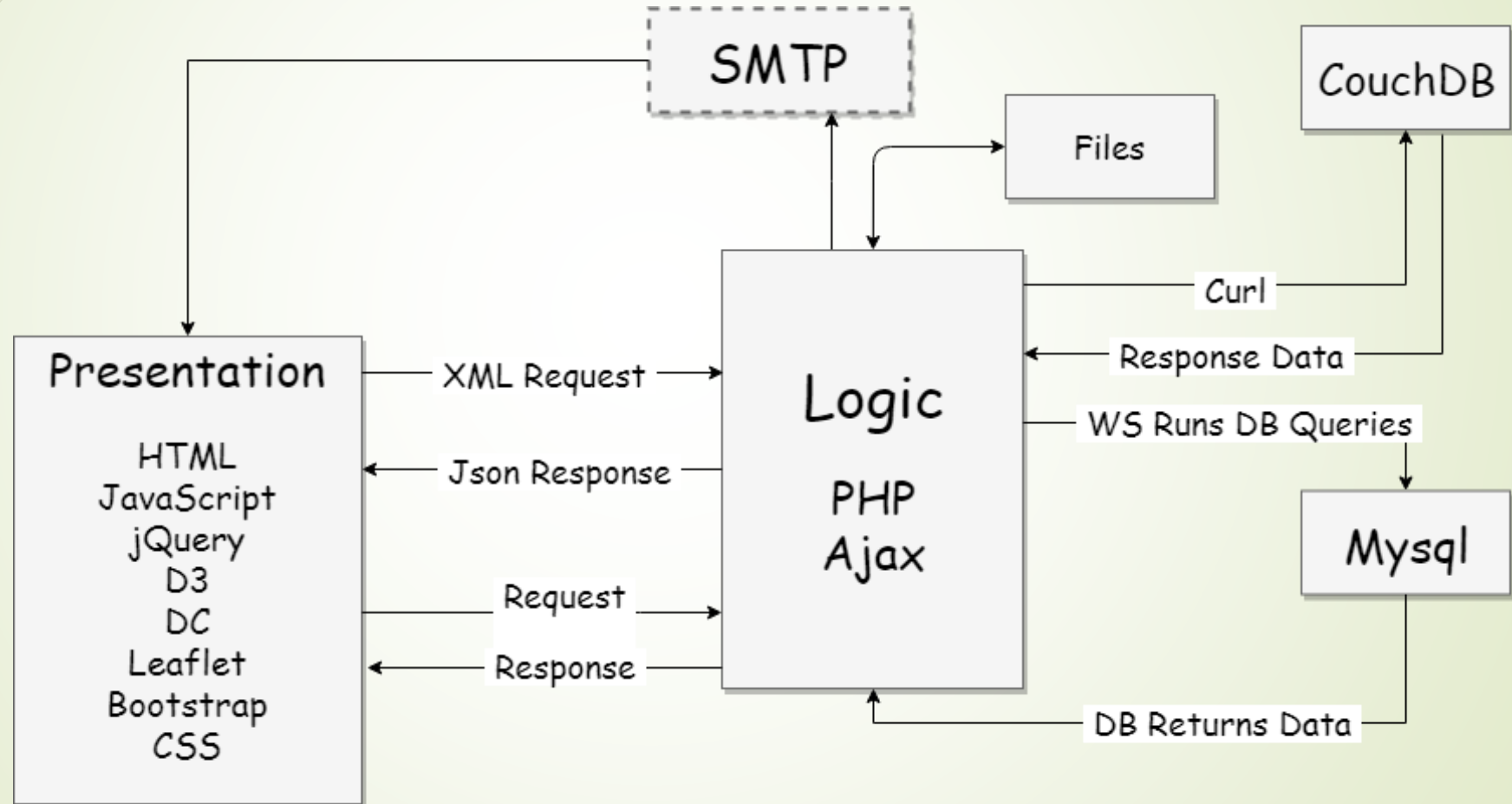
Open Data of San Francisco
https://data.sfgov.org

The project is about the visualization of open data from DataSF. Users can register on the website, and get files. Without the registration, users are able to visualize the data.
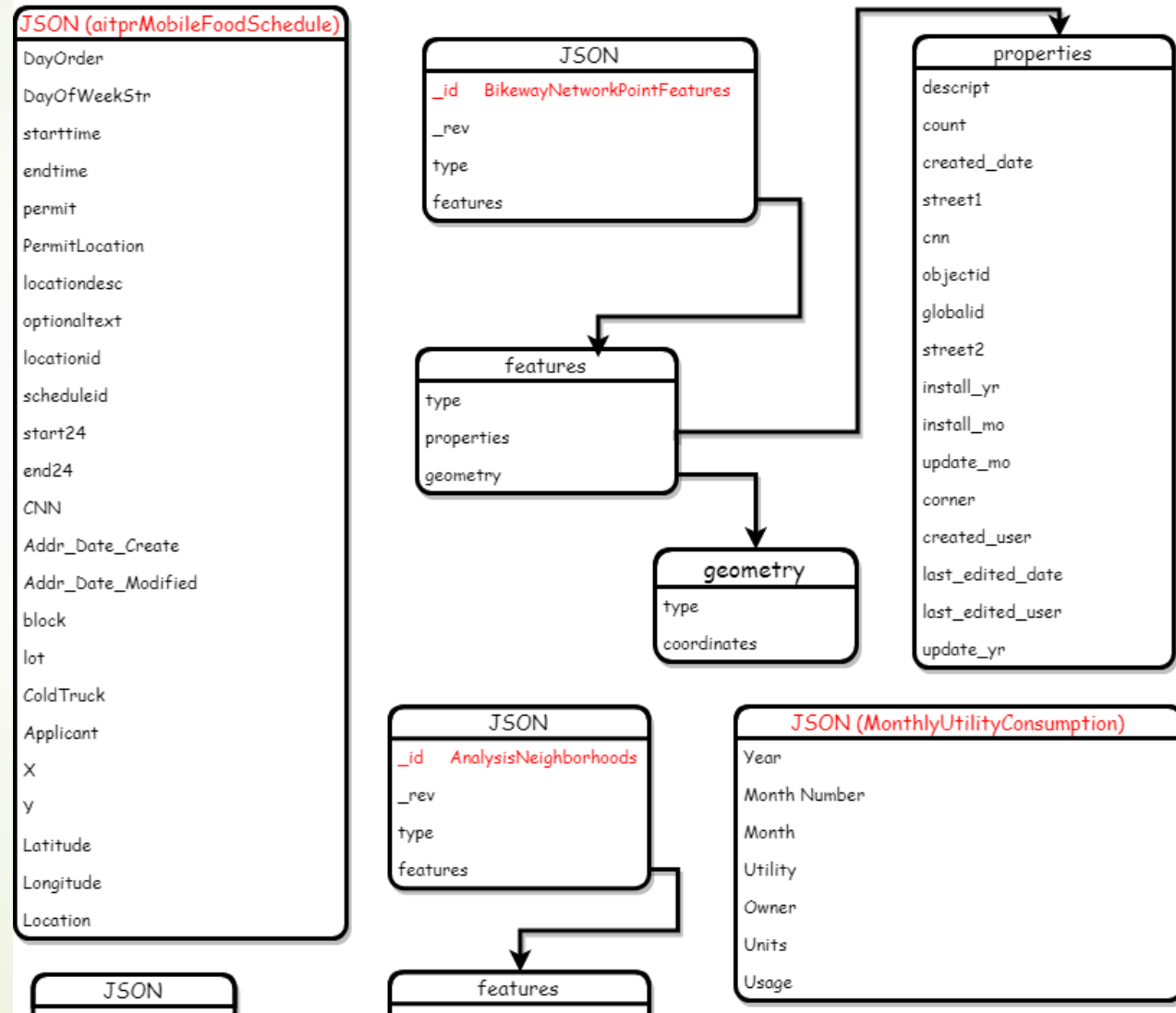
technologies and the overall architecture

- PHP, Ajax
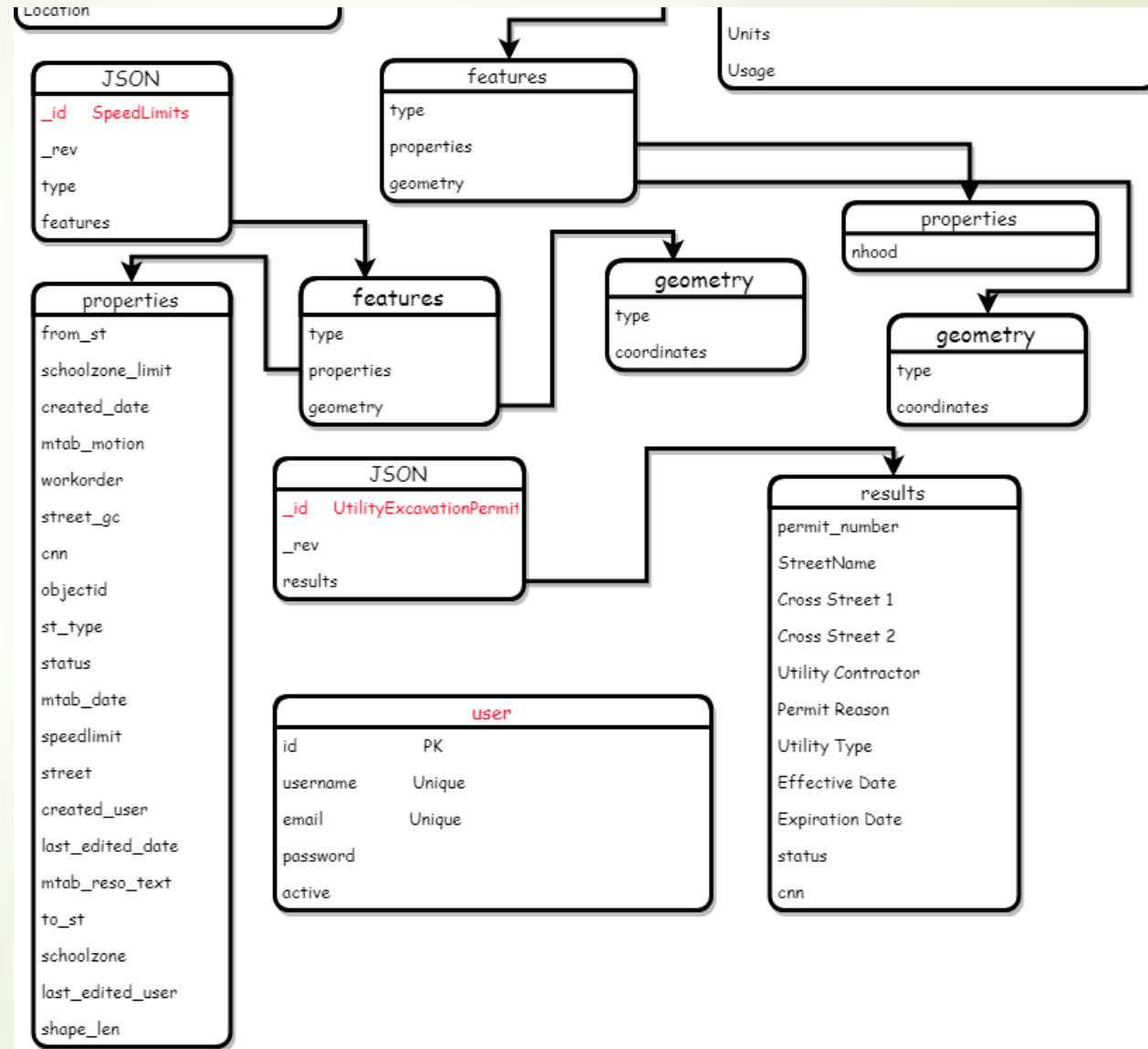- Html, CSS, JS, jQuery, Leaflet, d3, dc, bootsrapt
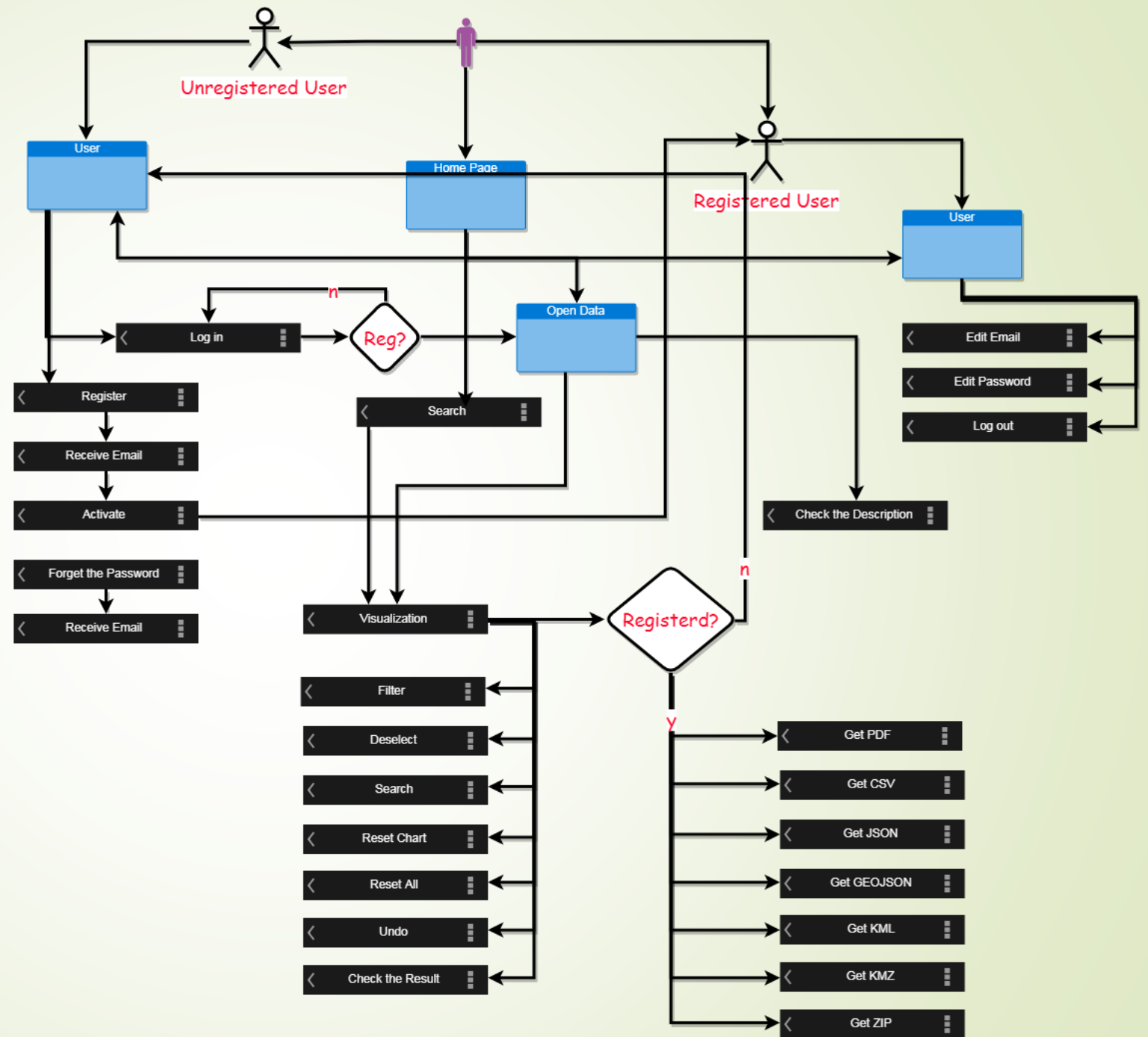- CouchDB, Mysql
- SMTP Protocol

System Architecture

Database Design

Database Design

Workflow

Unregistered User

Registered User

User · Home Page · Open Data · User

Log in · Reg? · n

Register · Search · Edit Email

Receive Email · Edit Password

Activate · Log out

Forget the Password · Check the Description

Receive Email

Visualization · Registerd? · n

Filter · y · Get PDF

Deselect · Get CSV

Search · Get JSON

Reset Chart · Get GEOJSON

Reset All · Get KML

Undo · Get KMZ

Check the Result · Get ZIP

Functionalities

User (guest):

1. Log in
2. Register
3. Activate
4. Forget the Password
5. Search
6. Check the Description
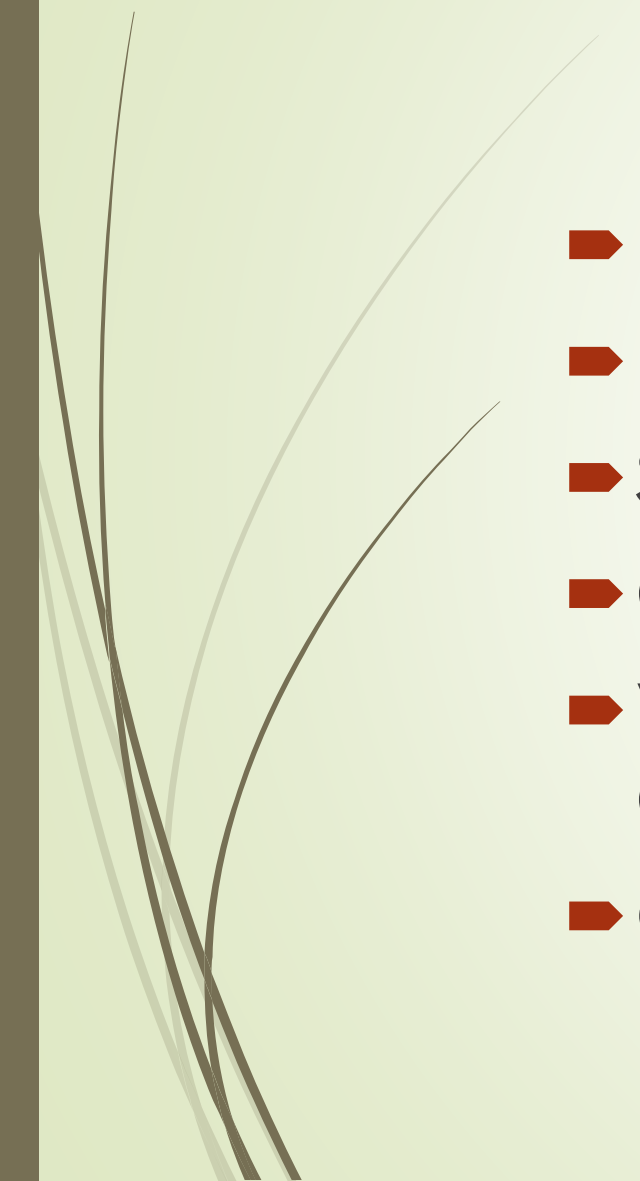7. Visualization (Filter, Deselect, Search, Reset Chart, Reset All, Undo, Check the Result)

Functionalities for a Guest

- Log in
- Register
- Activate
- Forget the Password
- Search
- Check the Discription
- Visualization (Filter, Deselect, Search, Reset Chart, Reset All, Undo, Check the Result)

Functionalities for a Registered User

- Edit (Password, Email)
- Log out
- Search
- Check the Description
- Visualization (Filter, Deselect, Search, Reset Chart, Reset All, Undo, Check the Result)
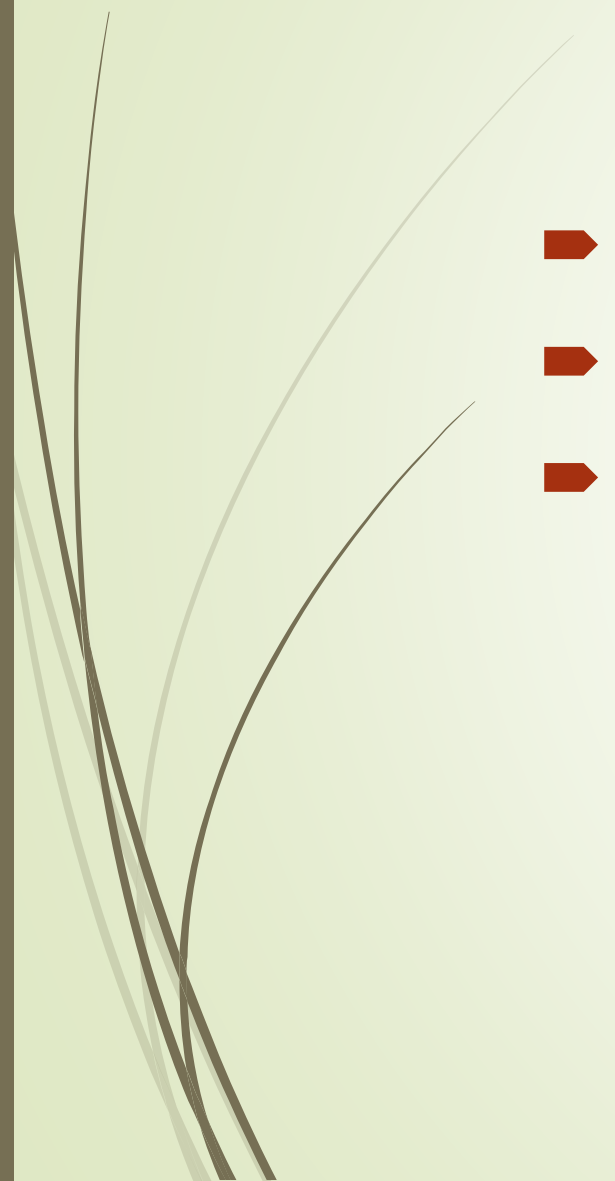- Get Files (pdf, csv, json, geojson, kml, kmz, zip)

Performance

- Minifying the Code
- Alerts for Preventing the Exceptions
- Preventing from Script Injection
- Ajax

UX/ UI Analysis

- Responsiveness
- Undo Button
- Processing Block

Security Analysis

- SSL
- Password Hashing
- ReCaptcha
- SMTP

Lesson Learned

- Sessions in PHP
- Working with CouchDB
- Read data by Ajax
- Working with PHPMailer
- Working with Recaptcha
- Working with D3
- Working with DC (all charts)
- Working with Leaflet
- Implementing SSL on localhost