

# RadCheck.app

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# Description

This project is designed with the goal of helping people protect themselves from the harmful effects of prolonged exposure to ionizing background radiation. Combined with air quality index data, users can judge the safety of their immediate environment, or anywhere in the world. Locations can be saved and updated on a daily basis, and reports can be viewed on multiple locations at once.



# Features

- Location search with Google Maps integration
- Users can log on and save their favorite locations to their account
- Reports of user's saved locations can be compiled and viewed in a single web request. This includes a two-by-two report with 4 locations, a three-by-three report with 9 locations, and a four-by-four report with 16 locations



# Planning - User Stories

- Without having to log on, a user can type in an address and quickly get measurements in their immediate area, or for somewhere they want to go
- Users with accounts can save a location and give it a customized name
- After 21 hours have passed, users can refresh locations within their account page or on the 2x2 report
- Users can make reports of multiple locations to get a “big picture” view of a wide area



# Planning - Database

- Users - many-to-many relationship with Locations
  - Email and password
  - Custom names for locations
- Locations - one-to-many relationship with Users
  - Radiation doses and air quality index with timestamps for each
  - A rating based on information from the two above attributes
  - Latitude and longitude, city and country
  - Basic weather information



# Technology Stack

- Java 8
- Spring Boot & Spring Security
- Thymeleaf templates
- Hibernate & MySQL
- Bootstrap
- Javascript & jQuery
- GSON for API integration into Java



# Demo

<https://www.radcheck.app/>



# What I Learned

- How to create a web page with a secure login
- How to call an API for JSON replies and integrate that data into my model classes
- How to use timestamps to tell the program when a location is eligible to be refreshed
- How to add an SSL certificate to a custom domain and point it towards a Cloud Foundry app
- Multiple Bootstrap features like tooltips, alerts, popovers and collapses





# What's Next

- Password recovery
- CAPTCHA on user registration
- Add location categories like “popularity” and “recently added”

