

Technical Documentation

Overall Architecture and Design

Wait for clarification from Prof. Duvall

PhotoSlideShow Module

1. SlideShowActivity is the Activity class for the slideshow, dealing with UI changes. The consistent updates on time and date is run on a background thread in the class, but each update would be sent to the UI thread for changes.
2. WeatherFragment is a fragment contained in the view of slide show. Once initiated, it would download the most updated weather data from the OpenWeatherMap provider in the back end thread, and sent to UI through intents.
3. S3PhotoIntentService class provides back-end photo managing services for the slideshow. It retrieves photos whenever user opens the view and/or manually clicks the update button in the menu. For every photo it has, it would send it to Activity class through intents. It also has a photo caching mechanism (a concurrent HashMap data structure) so that memory taken by photos is under control.

It is also the class that handles the Amazon COGNITO connection. When S3Client instance is constructed, it will takes in the information provided by user -- account ID, account Hash, authorized and unauthorized policies, and region -- to get connected to the S3 elastic storage.

Technology Our Code Depends On

1. **Dreamfactory API** that wraps around MySQL server which provides easier Database access.
2. **Amazon S3 (Elastic Storage)** that provides storage spaces for photo-sharing service
3. **Amazon COGNITO (Token Generating Machine)** that provides token for program to access to **S3** with out getting username and password to Amazon account exposed
4. **The OpenWeatherMap APIs** for weather data retrieval

Dreamfactory Database Schema

user (id, email, password, year_birth)

taken (uid, medication_id, pills_taken, date_taken, id)

symptom (id, date, uid, body_location, symptom_type, duration)

subscribe (uid, medication_id, id)

medication (id, treatment, name, doses_per_day, pills_per_dose)

has (user_id, symptom_id)

Classes in the app used to connect send and retrieve information between the UI/Database

1. Backend.java has methods such as getFomDF and sendToDF that are used within the application to interact with the database. The DF url is hardcoded into this class.
2. All of the UI classes except for the photoslideshow classes mentioned previously use these methods to interact with the database (ie. Medication Activity, Symptoms Activity).