Waves Resource Center

Release 0.1.0

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INSTALLATION

1.1 Required Software

1. Git
2. Python
3. Firefox web browser
4. Geckodriver
5. MySQL (preferably with MySQL workbench)

1.2 Local Setup

1. Clone the repository
2. Create the following **environment variables**:
    - `SECRET_KEY`
    - `DATABASE`
    - `DB_USER`
    - `DB_PASSWORD`
    - `DJANGO_EMAIL_HOST_USER` - a gmail account
    - `DJANGO_EMAIL_HOST_PASSWORD` - password to the gmail account (prefarably an app password)
3. Create and activate a virtual environment using `pipenv` by running `$ pipenv shell`
4. Install dev dependencies by running `$ pipenv install --dev`
5. Run the tests using `$ python manage.py test --settings=resource_center.settings.test`.
    - Make sure you have `geckodriver` installed and in your `PATH` before attempting to run the test. Read selenium python docs for more information on how to do this.
    - You could also add this flag `--exclude-tag=functional` to run unit tests only.

1.3 Notes

- **Environment variables** can be stored in a `.env` file in the repository root. `Pipenv` automatically sets the variables defined in `.env` as environment variables when the virtual environment is activated.

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3.1 Google Cloud Environment Setup

1. Create a Google Cloud project
   - `GCP_PROJECT_ID`
2. Create a Cloud Storage bucket
   - `GS_BUCKET_NAME` - Google Cloud Storage bucket name
3. Create a Cloud SQL MySQL 2nd generation instance
   - Note the `DATABASE_INSTANCE_CONNECTION_NAME`
4. Create a database user
5. Create a database
6. Create 2 service accounts, create keys for them and save them in your local machine:
   - `GOOGLE_APPLICATION_CREDENTIALS` - a json file containing credentials for a Google Cloud service account with the following roles:
     - Storage Object Creator
     - Storage Object Viewer
   - `APP_ENGINE_DEPLOYER_SERVICE_ACCOUNT_FILE`- a json file containing credentials for a Google Cloud service account with the following roles:
     - App Engine Deployer
     - App Engine Service Admin
     - Cloud Build Editor
     - Storage Object Creator
     - Storage Object Viewer
7. Create an App Engine app

3.2 App Engine Deployment

1. Create the following **environment variables**:
   - *APP_ENGINE_DEPLOYER_SERVICE_ACCOUNT_FILE*
   - *DATABASE_INSTANCE_CONNECTION_NAME*
   - *GCP_PROJECT_ID*
   - *GOOGLE_APPLICATION_CREDENTIALS*
   - *GS_BUCKET_NAME*
2. Create `app.yaml` by running `$ python app.yaml.py`
3. Run `.github/scripts/deploy-gae.sh` in a Linux terminal.
   - Use Git bash or WSL if using Windows OS.

3.3 Notes

- You need the Google Cloud SDK installed on your machine.
- App Engine currently doesn't support `Pipfile`. Instead of doing the deployment manually, we recommend you use the utility script for deployment: `deploy_to_app_engine.sh` stored in the `scripts` directory. It does set up operations before deployment and clean up after deployment.

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GOOGLE CLOUD COMMAND REFERENCE

- Create a project: `$ gcloud projects create [PROJECT_ID] --name=[PROJECT_NAME]`
- Create/set a billing account for the project
  - Only done via Cloud Shell
- Create a service account:

```
$ gcloud iam service-accounts create [SERVICE_ACCOUNT_ID] \
  > --description="DESCRIPTION" \
  > --display-name="DISPLAY_NAME"
```

- Add an IAM policy to a service account:

```
$ gcloud projects add-iam-policy-binding [PROJECT_ID] \
  > --member="serviceAccount:SERVICE_ACCOUNT_ID@PROJECT_ID.iam.gserviceaccount.com
↪" \
  > --role="ROLE_NAME"
```

- List all service accounts: `$ gcloud iam service-accounts list`
- List all Google Cloud regions: `$ gcloud compute regions list`
- Set a default region/zone for the project: `$ gcloud config set compute/region [REGION]`
- Enable the Cloud Storage service: `$ gcloud services enable storage-component.googleapis.com`
- Create a bucket: `$ gsutil mb gs://[BUCKET_NAME]`
- Create a Cloud SQL instance:

```
$ gcloud sql instances create [INSTANCE_NAME] \
  > --region=[REGION] --tier=[TIER] \
  > --backup-start-time=[BACKUP_START_TIME] \
  > --storage-auto-increase
```

- Enable the SQL Admin API (to use the Cloud SQL proxy): `$ gcloud services enable sqladmin.googleapis.com`
- List App Engine regions: `$ gcloud app regions list`
- Create an app: `$ gcloud app create --region=[REGION]`
- Enable the App Engine Admin API: `$ gcloud services enable appengine.googleapis.com`
- Enable the Cloud Datastore API: `$ gcloud services enable datastore.googleapis.com`

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DOCUMENTATION

5.1 Building Documentation

1. Activate the development virtual environment
2. Change the current directory to the docs folder within the repository by running `$ cd docs`
3. Run `$ ./make clean` to remove any docs previously built
4. Run `$ ./make html` to build the docs in HTML format
5. Change the current directory to the location of the built docs by running `$ cd _build/html`
6. Start the Python static files server by running `$ python -m http.server`
7. Visit `localhost:8000` in your browser to view the docs

5.2 Generating the Documentation

1. Activate the development virtual environment
2. Generate the docs by running `$ sphinx apidoc -o docs .`

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