

OEF Full-Stack Developer Exercise

This exercise is for applicants to the Full-Stack Developer role at the Open Earth Foundation. Completing the exercise helps us assess your level of technical skill and experience.

We anticipate about 4 hours of work on this project. If you get to the 4-hour point, please wrap up and let us know what else you would do.

Problem: Migration Tracker

A conservation organization wants to raise awareness of species diversity. They want your help to build an app that draws citizens' attention to the many migrating species that pass through the region throughout the year. The organization has staff biologists to keep the data up-to-date.

Solution

Your job is to create a Web prototype of the migration tracker app.

- A citizen should be able to create an account.
- A citizen should be able to save a location for their account.
 - *What data structure makes sense for this location data?*
- A citizen should be able to view the migrations in their area.
 - *What visualizations would convey this information effectively?*
- A biologist should be able to add a new migration event to the app.
 - *What are the relevant attributes of a migration?*
- A citizen should be notified when a migration event is about to begin in their area.
 - *What is a good medium for these notifications?*
- **Stretch goal:** add persistence (permanent data storage).
- **Stretch goal:** implement real notifications.
- **Stretch goal:** implement registration, login, and logout.
- **Stretch goal:** make the app more interactive.

Deliverables

- Code for your prototype.
- Instructions for building and running it.
- A 30-minute Q&A session with our team to present your solution, discuss the challenges, and talk about possible improvements.