

Conflicting Events: iOS Take-home Assignment

Summary

Your assignment is to build a minimum viable product (MVP) of an app called “Upcoming Events”. In the app, users will see their Facebook events, sectioned by start date and listed in chronological order. The app will also identify conflicts between events.

Getting Started

Inside the zip file attached in your email, you'll find a mock.json file which contains the input for this assignment. It contains events that each have a title, start date, and end date.

An example event showing date format:

```
{
  "title": "Football Game",
  "start": "November 3, 2018 6:00 PM",
  "end": "November 3, 2018 10:00 PM"
}
```

You will need to write code to read in this data and convert it to a form consumable by your view controller. Note that the events in the input file are not sorted. You can assume that events occur in your local timezone (i.e., you may ignore time zones for this assignment).

UI Requirements:

The events are displayed (title, start time, end time).

The events are displayed in chronological order.

The events are grouped by date

There is some indication that an event has a conflict.

To accomplish this, you will need to write a small algorithm to find events that overlap each other. Note that an event ending at the same time the next event starts is not considered conflicting.

Coding Requirements:

Performant algorithm (It must be better than $O(n^2)$)

Clear separation of concerns, good software architecture

Comments with:

Brief descriptions of the algorithm

Trade-offs or assumptions you made in your design

Runtime complexity analysis

Submission

To submit your work, zip up everything in your project and send it to your recruiter in an email. Make sure the solution code you send back to us compiles on the latest major version of Xcode without any additional steps, like downloading cocoapods or updating any dependencies.

Tips & FAQs

You will solve this using Swift.

You may assume that no events will start and end on different days.

You are not allowed to use any Third-Party Libraries.