Full Stack Developer - Interval Web App

- Build a system to collect data that is generated on an interval (once a minute/hour/day/etc). Store in a database; record time and data value.
- Build a web app that displays a graph of the collected data with your choice of intervals. Add a table report of the data with column headings. The table should be placed below the graph.

Mobile Developer - iOS or Android

Create a simple RSS reader app connecting to the Apple App Store JSON feed:

http://ax.itunes.apple.com/WebObjects/MZStoreServices.woa/ws/RSS/topgrossingapplications/sf=143441/limit=25/json

Mandatory:

- Display the items in a table view.
- By selecting an item show the full details of it
- Add basic sharing capabilities (copy, email, Twitter)
- Add “Save favorite” capability storing user selected items locally using Core Data.

Other parameters:

- Create an iPad app supporting both landscape and portrait orientation.
- Use the latest available iOS SDK but set the deployment target to 5.0
- Don’t use ARC.
- Don’t spend to much time on the GUI we are more interested in your code than in your design capabilities.

Frontend Developer - Javascript/CSS

Demonstrate your ability to use AJAX and some event-driven Javascript. Build a two-column website in which the left column has an unordered list of sentences. Enable a feature wherein clicking on a sentence displays the same sentence on the right using AJAX calls.
[Bonus points if you accomplish this without refreshing the browser.]

API/Data Visualization

Write a mini API wrapper in your favorite language for your favorite source of data. Use it to collect data into your favorite database, and display something interesting about the data, such as a table, network graph, or histogram in an HTML page. For example, you could use Last.FM to take personal listening data and produce a histogram of what hours of the day you listen to the most music. Then you can add a *most-listened* genre or artist to each hour of the histogram. Feel free to use this idea as a jumping off point for something interesting with music data! And if you borrow any ideas or code, make sure to give credit where it's due.

Data Architecture
Given a project that stores web traffic data in apache log format where the volume of (raw) data is estimated at 500 GB/day of log files spanning multiple data centers.

The project is to design a data architecture that satisfies the following requirements. Please explain the details of any scripts/applications and their function as well as the specifics of data stores as well as their representative data model/schema

Part 1 - Design an ingest mechanism. Please explain and document the data flow such that we can scale the consumption of all raw apache log data into a persistent data store.

Part 2 - Define the architecture that will post-process all the raw data ingestion. Outline the data stores and workflows that are used on the data that has been ingested in *Part 1* above. Think about the different dimensions of data that would need to be represented in an analytics system.

Part 3 - Define how you would architect a User Interface for an end user such that a user can visualize intervals of data both historically and in real-time, where real-time is a maximum of 60 minutes old.

Things to think about:

- How do scale and improve processing time as the data set grows
- How can we meet certain storage requirements based on historical data needs? Can we quantify the tradeoffs ?
- Think about failover and redundancy, in an analytics system lost data is quite unacceptable

Notes:

- Producing working code is not necessary for this exercise, pseudocode and workflows with ample detail are sufficient to convey the desired architecture and implementation.
- The goal of this exercise is to facilitate a technical discussion where the candidate can explain and talk through their implantation in detail during an in person interview.