

# Hands-on Project for Full Stack Developer

## Summary

This project is defined to be close to the type of projects you may work on here at Klipfolio. The code you write during this session won't be used by Klipfolio in any way. Its purpose is to assess your technical skills.

While coding, please keep in mind the overall design and architecture of your project as well as the quality of your code. It's also highly recommended to use known design patterns and clean code practices throughout your project and using unit tests to ensure quality.

This project has 2 main components, the frontend user interface, and the backend services to provide data required to render the UI. We highly recommend using REST API as your backend API interface. Additionally, based on your skill set and experience you could decide to focus on one part of the overall project more than the other whichever would showcase your skills best. We will use this as an opportunity to assess the depth of your skill set and interest in each area.

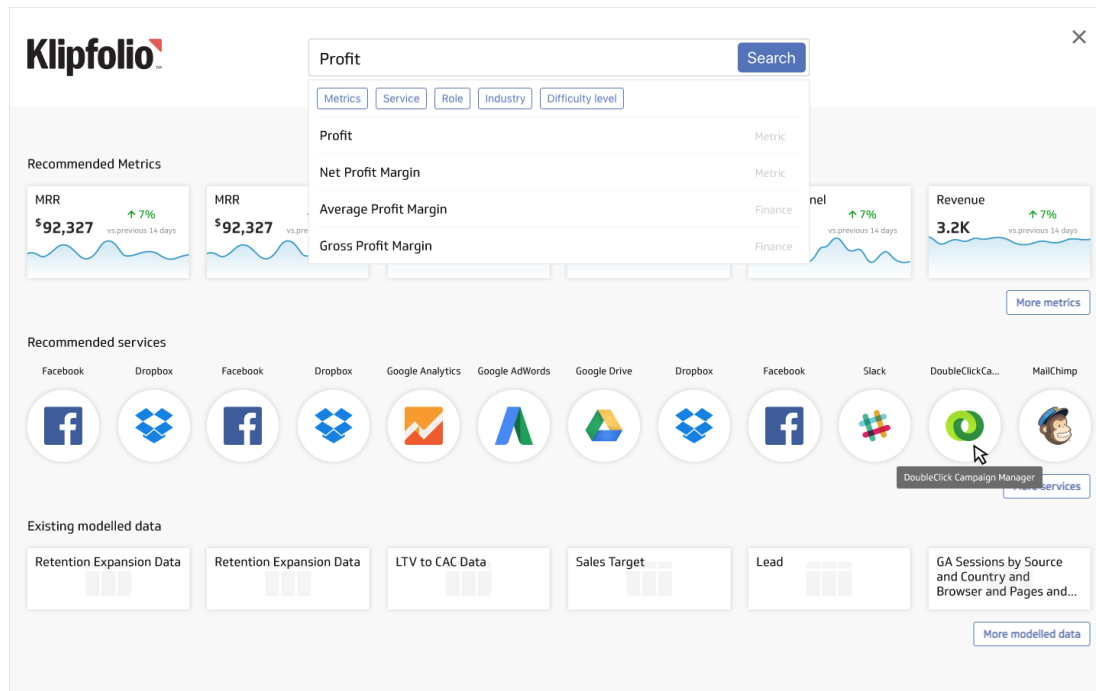
## Requirements and Suggestions

Following are a few additional requirements for this project:

- You can choose any programming language for your frontend and backend implementation.
- If any requirements are not clear, please contact us to provide more details.
- This is a relatively large project to implement fully. Please choose the part where you are most familiar with to implement. For example, if you are not familiar with chart rendering, you could skip that. This project is intended to assess your skill level and where your expertise is. Just do your best!
- A recommended approach would be to start with the main parts of the application first and fill in details (such as charting, icons, or complex interactions) later if time permits.
- For the backend portion, you are to only implement the model that represents the assets you've seen from the mockup. All the actual data (numbers) can be hardcoded mocks.
- You can use comments in code to help reviewers understand the code better.
- One more suggestion is to work on your project incrementally and starting with basics and build on top of that one feature at a time.
- Once you are done, please share your project either on Github or via email.
- Please also provide simple instructions on how to run your project. Thanks.

# The Project

Without further ado, here's the project. In this project, you will be implementing a Gallery page to showcase different assets Klipfolio customers can access, such as Metrics, Services, and Modelled Data. Here's what the mock UI looks like:



Here are some explanations on the main 3 assets you will be presenting in this project:

- **Metrics** is an asset user can create and use to monitor their business data. It contains a live stream of data that will be updated every hour or so.
  - Note: You are not asked to implement a fully functional metric or the data flow. Just a representation of a Metric. You can skip the line charting portion.
- **Services** are external services you can connect to such as Facebook and Twitter.
  - Again, you are not asked to actually connect to these services for real. Just the UI representation of it. And if you choose to implement the backend as well, you can also implement the backend representation of these objects as well.
- **Modeled Data** are the data sources users have created. The contains the authentication information for the data source as well as the query or API requests used for that data source.

**All 3 main assets will have a name field. The metric** object will have the additional capability to query for either a single value (most recent) as well as a series of data (eg. last 14 days). For the querying part, you can hardcode values as much as possible. For **Services**, it also has an additional field to store and return **Icons** (optional to implement).

Notice in the UI that there are buttons such as **More metrics**, **More services**, **Modelled data** to show additional objects in the system that's not currently in view (essentially pagination).

When you click such a button you could choose to expand the list (downward) in the current view or go to a separate page to show more objects. This part can be optional for Junior / intermediate developers.

Last but not least. At the top of the page, there's a header section with a search box. This would be a stretch goal for your project. When the user types in a search term in the text box, a dropdown will show the matching **assets (metrics, services, modeled data, etc)** name on the left side, and their corresponding category name on the right.

A screenshot of a search dropdown menu. At the top, there is a search bar with the text 'Profit' and a 'Search' button. Below the search bar, there are five filter buttons: 'Metrics', 'Service', 'Role', 'Industry', and 'Difficulty level'. To the right of these buttons, there is a label 'Tags for filtering result (Stretch goal)'. The dropdown menu itself lists three items: 'Profit' (Metric), 'Net Profit Margin' (Metric), and 'Average Profit Margin' (Finance). Each item has a corresponding category name on the right. The 'Net Profit Margin' item is highlighted with a red box, and the 'asset name' and 'asset category' labels are also highlighted with red boxes.

A list of **tags** can be seen below the search box. These can be used to further filter the search result based on matching the categories to which the assets belong to. Again, this part is also a stretch goal.

Here's a final summary of which parts are **nice to have, optional or stretch goal**.

A screenshot of the Klipfolio dashboard with several annotations. The dashboard is divided into three main sections: 'Recommended Metrics', 'Recommended services', and 'Existing modelled data'. The 'Recommended Metrics' section shows three cards for 'MRR', 'Revenue', and 'Profit'. The 'Recommended services' section shows a row of service icons including Facebook, Dropbox, Google Analytics, Google AdWords, Google Drive, Slack, and MailChimp. The 'Existing modelled data' section shows a row of data cards including 'Retention Expansion Data', 'LTV to CAC Data', 'Sales Target', 'Lead', and 'GA Sessions by Source and Country and Browser and Pages and...'. Annotations with red arrows point to specific parts of the dashboard: 'Stretch Goal' points to the search bar, 'Optional' points to the 'More metrics' button, and 'Nice to have' points to the 'More modelled data' button.

Looking forward to seeing the result of your awesome work!