Cohort Analytics Project Plans

**Architecture:**

***Data source***: Holds student performance information, e.g., transcripts.

***Ruby on Rails Server***: Fetch data from data source, compute statistics, render web pages

***Visualizations:*** JavaScript visualizes charts in “NMHES-talk.pdf”.

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**Technologies:**

Ruby on Rails (server), JavaScript (visualization), Frontend framework (TBD)

**Plans:**

Phase 1:

1. Frontend can show visualizations for multiple students from one college using hardcoded data.
   1. Draw chart 1 for one student
   2. Draw chart 2, 3, 4 for multiple students from one college
2. Server can compute statistics (average GPA, credits, completion, etc.) for one college using data from a JSON file.
3. Server can render a html page to show these statistics as numbers.

Phase 2:

1. Frontend can show visualizations for multiple students from multiple colleges using hardcoded data. (extend visualizations from phase 1 to multiple colleges)
2. Server can render a html page to show the visualizations from phase 1 using data from a JSON file.

Phase 3:

1. Improve frontend user experience.
2. Server can render a html page to show the visualizations from phase 2 using data from a JSON file.

Phase 4:

1. Server can fetch data from a dynamic data source, then translate them into our data structures.
2. Server can render improved frontend with all required visualizations using fetched data.

**Sample Charts:**

Chart 1: Grade not sufficient

Table

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Chart 2:

Chart, sunburst chart

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Chart 3:

A screenshot of a cell phone

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Chart 4:

Chart, bar chart

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