David Gayman

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ATLAS Analysis

Project Plan

# Overview

# Goals & Tasks

TODO

* Identify MVC implementation path (priority 0, color)
* Review:
  + Tasks from paper notes
  + Tasks from sticky notes
  + Tasks from repository files
  + Project instructions

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Category | Goal # | Goal Priority | Goal | Task # | Task Priority | Deadline | Task | Assignee |
| Data Ingestion |  |  | Required raw data files collected in repository. |  |  |  | Configure repository. |  |
|  |  |  | Get sales data into raw data directory. |  |
|  |  |  | Get marketing communications/attempts/responses into raw data directory. |  |
|  |  |  | Get lists of schools that are customers into raw data directory. |  |
|  |  |  | Get List of all schools that are possible customers into raw data directory. |  |
|  |  |  | Get school locations into raw data directory. |  |
|  |  | Data ingestion implemented. |  |  |  | Read raw files into DataFrames. |  |
|  |  |  | Perform basic cleanup (nulls, invalid characters, etc.). |  |
|  |  |  | Perform advanced cleanup (collect/combine/pre-process). |  |
| Data Processing |  |  | Infrastructure implemented. |  |  |  | Implement infrastructure to provide data access to all developers. | David |
|  |  |  |  |  | Implement infrastructure to provide collection and handling of processing artifacts (processed data, metrics, and plots -> multiple dashboards, compiled reports). | David |
| Basic Data Analysis |  |  | Analysis procedure and plots implemented. |  |  |  | Implement analysis procedure and plots. |  |
|  |  |  | 2 |  | Plot trends showing comparison to other educational services. () |  |
|  |  | Conclusions documented in the final report. |  | 1 |  | Answer in the report: “Which quarters, years etc. have the highest sales, and highest growth?” |  |
|  |  | T010 | 2 |  | Answer in the report: "What conclusions can be reached by analyzing the trends in comparison to other educational services?" |  |
|  |  | T020 | 1 |  | Answer in the report: "What actions can be taken to increase sales? (suggestions: Send more/better targeted emails, phone calls, target certain types of customers, would this be applicable to ...)" |  |
| Conversion Rate Analysis |  |  | Analysis implemented. |  |  |  | Document the sales process (initial contact, follow-up, negotiation, purchase). () |  |
|  |  |  |  |  | Compute time differences within stages of the sales process. () |  |
|  |  |  |  |  | Compute the initial purchase conversion rates. () |  |
|  |  |  |  |  | Compute the upgrade conversion rates. () |  |
|  |  | Conclusions documented in the final report. | T030 | 1 |  | Answer in the report: "What is the length of time between initial contact and purchase decision?" | Ibrahima & David |
|  |  | T040 | 1 |  | Answer in the report: "What is the initial purchase conversion rate based on marketing/sales communications?" | Milad & Jonathan |
|  |  | T050 | 1 |  | Answer in the report: "What is the upgrade conversion rate (from 3-months to 6-months to 1-year)?" | Milad & Jonathan |
| Sales Forecasting Analysis |  |  | Analysis implemented. |  |  |  | Implement Monte-carlo-based sales forecasting procedure and plots. () | Milad & Jonathan |
|  |  |  |  |  | Implement legacy sales forecasting procedure and plots. () | Milad & Jacinta |
|  |  | Conclusions documented in the final report. | T060 | 1 |  | Answer in the report: "Taking into account both legacy and Monte-Carlo analyses, what sales are predicted for each quarter through end of 2021?" | Milad & Jonathan |
| Customer & Market Analysis |  |  | Analysis implemented. |  |  |  | Categorize school data (hint: DataFrame.groupby()). () |  |
|  |  |  |  |  | Plot customers on a map. |  |
|  |  |  |  |  | Analyze data to identify highest-responding, and highest-paying customers. |  |
|  |  |  |  |  | Correlate conversion rates with the customers ranked by highest-responding/highest-paying. |  |
|  |  | Document conclusions in the final report. | T070 | 2 |  | Answer in the report: "What market penetration does the company have into each group of schools (ivy league, state schools, community college, high schools, etc.)" |  |
|  |  | T080 | 1 |  | Answer in the report: "What market penetration does the company have regionally?" |  |
|  |  |  | T090 | 3 |  | Answer in the report: "Is the company targeting the highest-responding customers?" |  |
| Deliverables |  |  | Final Report | T110 |  |  | Identify and describe the conclusions of the analysis. | All |
|  |  | T120 |  |  | Describe the specific analysis procedure used to support the analysis. | All |
|  |  | T130 |  | 11/16/2020 | Document the specific data sources, resources, links, etc. that were used for analysis, in the appendix. | All |
|  |  | T140 |  |  | Provide report introduction, table of contents, conclusion, and appendix in the deliverable zip file. | Milad |
|  |  |  | Dashboard |  | 1 |  | Implement a dashboard structure to organize the analysis results and data views. |  |
|  |  |  |  | 1 |  | Implement analsysis-specific dashboard views containing analysis plots. | All |
|  |  |  |  | 2 |  | Implement college-specific dashboard view(s) that display analysis plots for the college in the selected drop-down. |  |
|  |  |  |  | 3 |  | Implement college-specific dashboard view(s) that display pre-processed (unanalyzed) data plots for the college in the selected drop-down. |  |
|  |  |  |  | 2 |  | Implement served/hosted dashboard? |  |
|  |  |  |  | 2 |  | Document how to access the hosted dashboard (if applicable). |  |
|  |  |  |  | 1 |  | Package the dashboard solution in the deliverable zip file. |  |
|  |  |  | Source code |  |  |  | Package the source code in the deliverable zip file. |  |
|  |  |  | Processing artifacts |  |  |  | Implement data dumps for all critical plots. |  |
|  |  |  |  |  |  | Package the important processing artifacts in the deliverable zip file. Examples include key metrics, statistics, data dumps, etc. |  |