**Release Notes – ADA v1.1.0**

**Release Date: Jun 18, 2024**

**Version Number: v1.1.0**

**Overview:**

This release includes several new features, enhancements, and bug fixes to improve the functionality and user experience of Saraswati.

**New Features:**

1. **Multi-Chart:**
   * Each visual has multiple charts with one main chart and 1-5 sub charts. Compared to previous version, additional charts are more informative than trendline or card charts.
   * Benefit:
     + 1. Improve information delivery through several perspectives
2. **Aggregated Table:**
   * Each chart is based on several data points. User can view the data points in a table for information transparency.
   * Benefit:
     + 1. Adds information transparency for each chart
3. **Data Asset Table:**
   * All charts are shown from a single data asset table. User can view the data asset table which is the source of all charts.
   * Benefit:
     + 1. Increase user’s trust on the data shown through the charts
4. **Additional Chart Types Support:**
   * Previous version only supports 5 chart types (bar chart, column chart, treemap chart, pyramid chart, pie chart, card chart, trend line chart). This new version adds up 9 new chart types supported (grouped column chart, grouped bar chart, radar chart, histogram chart, area chart, line chart, spline chart, barlinecombo chart, table chart).
   * Benefit:
     + 1. Add variations on chart types and information to be delivered
5. **Data Story Telling Plan**
   * Before generating the charts, ADA will generate a plan for telling a data story through charts.
   * Benefit:
     + 1. Gives more structured charts
       2. Charts are answering the user intent through several perspectives that are able to be sewed into a single story
6. **Visual Title:**
   * Each visual now has its own title to describe the visual content.
   * Benefit:
     + 1. Easier to navigate for the suitable visual
7. **Multiple Database Support:**
   * Database source support are now expanded from only MySQL to MySQL, MariaDB, and PostgreSQL.
   * Benefit:
     + 1. Flexibility of client’s DB language integration
       2. Multiple DB integration within the same client

**Enhancements:**

1. **Increased App Stability:**
   * Increase the stability of Saraswati for user in using the app
   * Smoothen out chart generation process for every user intent
2. **New Data Extraction:**
   * New data extraction method supports more than three series for line chart, area chart, spline chart, radar chart, grouped bar chart, and grouped column chart.
   * More details in chart legend [e.g. “Total Revenue (Mobile)”]

**Bug Fixes:**

1. **PostgreSQL Query Generator: Incorrect Date Conversion:**

* Fix the text-based date into date object conversion for PostgreSQL query through additional LLM prompt
* Increase valid sql query rate from 32.07% to 38.87%

1. **Main Chart Replacement**

* Chart with single data point will be converted to card chart. However, card chart is not suitable to be the main chart of a visual. This release adds a replacement function to swap main chart with other sub chart which has the highest data points when the main chart is card chart.

**Changes to Existing Functionality:**

* No functionality change

**Performance Improvements:**

**MySQL**

|  |  |  |
| --- | --- | --- |
| Metric | v1.0.0 | v1.1.0 |
| Valid SQL Query Rate | 55.83% | 57.36% |
| Valid JSON Rate | 42.48% | 37.31% |
| Chart Type Appropriate Score | 6.65 | - |
| Chart Relevancy Score | 6.59 | - |
| Chart Perspective Completeness Score | 5.96 | - |
| SQL Validity Score | 7.44 | - |
| Chart Axis Relevancy Score | 7.19 | - |
| Chart Title Relevancy Score | 7.06 | - |
| Question Relevancy Score | 6.29 | - |
| Human Evaluation | 45.78% | 27.27% |

**MariaDB**

|  |  |  |
| --- | --- | --- |
| Metric | v1.0.0 | v1.1.0 |
| Valid SQL Query Rate | - | 59.39% |
| Valid JSON Rate | - | 42.07% |
| Chart Type Appropriate Score | - | - |
| Chart Relevancy Score | - | - |
| Chart Perspective Completeness Score | - | - |
| SQL Validity Score | - | - |
| Chart Axis Relevancy Score | - | - |
| Chart Title Relevancy Score | - | - |
| Question Relevancy Score | - | - |
| Human Evaluation | - | 27.27% |

**PostgreSQL**

|  |  |  |
| --- | --- | --- |
| Metric | v1.0.0 | v1.1.0 |
| Valid SQL Query Rate | - | 38.45% |
| Valid JSON Rate | - | 38.23% |
| Chart Type Appropriate Score | - | - |
| Chart Relevancy Score | - | - |
| Chart Perspective Completeness Score | - | - |
| SQL Validity Score | - | - |
| Chart Axis Relevancy Score | - | - |
| Chart Title Relevancy Score | - | - |
| Question Relevancy Score | - | - |
| Human Evaluation | - | 30.30% |

**Security Updates:**

* Implemented code obfuscator to avoid reverse-engineering

**Deprecations and Removals:**

* Trend line chart is now removed
* Spline chart is now deprecated (replaced with line chart)
* Scatter chart is now removed
* Columnnegative chart is now deprecated (replaced with column chart)
* horizontal\_grouped\_bar\_chart is now depreated (replaced with grouped column chart)
* multi stack area chart is now deprecated (replaced with area chart)

**Compatibility Notes:**

* v1.1.0 uses Mixtral 8x7b and doesn’t supported OpenAI GPT 3.5 Turbo

**Known Issues:**

* SQL query generator once in a while won’t convert the text date into date object
* Slow chart generation with fastest at 2 minutes / generation
* Chart axis title, chart legend, or even chart title in some condition may be slightly unclear

**Additional Information:**

* None

**Feedback and Support:**

For any questions, feedback, or support requests, please contact our support team at [support email] or visit our website [website URL].