# Loan Analysis Report Dashboard

**Description:**

The Loan Analysis Report Dashboard provides a comprehensive overview of loan data, allowing stakeholders to evaluate key metrics and analyze trends in loan applications, loan funding, and loan quality. This dashboard consists of three main pages—Summary Dashboard, Overview Dashboard, and Details Page—each designed to provide unique insights into the loan dataset.

**Summary Dashboard**

The Summary Dashboard serves as the first page, providing a high-level summary of the loan data, focusing on KPIs and simple visualizations to get a quick overview of loan performance.

**Key Features:**

1. **KPIs:**
   * **Total Loan Applications:** Displays the total number of loan applications received.
   * **Total Loans Funded:** Shows the number of loans successfully funded.
   * **Total Loan Amount Issued:** Represents the total dollar value of all loans issued.
   * **Average Interest Rate:** Calculates the average interest rate applied to the loans issued.
   * **Average DTI (Debt-to-Income) Rate:** Indicates the average DTI ratio of loan applicants.
2. **Visualizations:**
   * **Donut Chart (Good Loans Issued):** Illustrates the proportion of good loans issued compared to others.
   * **Multi-row Card:**
     + **Good Loan Applications Total:** Displays the number of good loan applications received.
     + **Good Loan Funded Amount:** Shows the total amount funded for good loans.
     + **Good Loan Received Amount:** Represents the total amount received from good loans.

**Slicers:**

* **State:** Filters data by the state of the loan applicant.
* **Grade:** Allows filtering based on the credit grade assigned to the applicant.
* **Good vs. Bad Loans:** Filters data to view either good or bad loans.

**Overview Dashboard**

The Overview Dashboard provides a deeper analysis of loan data with a broader selection of visuals, making it easy to analyze loan trends and geographic distributions.

**Key Features:**

1. **KPIs:**
   * The same KPIs as in the Summary Dashboard (Total Loan Applications, Total Loans Funded, Total Loan Amount Issued, Average Interest Rate, Average DTI Rate).
2. **Visualizations:**
   * **Area Chart (Total Loan Applications by Month):** Provides a visual trend of loan applications by month, showing any seasonality or spikes.
   * **Map Chart (Total Loan Applications by State):** Displays the geographic distribution of loan applications, giving insight into which states have the highest or lowest loan activity.
   * **Donut Chart (Total Loan Applications by Term):** Shows the distribution of loan applications by loan term.
   * **Tree Map (Total Loan Applications by Home Ownership):** Represents the distribution of loan applications based on the type of home ownership (e.g., owned, mortgage).

**Slicers:**

* **State, Grade, Good vs. Bad Loans:** Similar slicers as used in the Summary Dashboard.
* **Select Measure:** An additional slicer that allows users to choose the measure to be displayed in certain charts.

**Details Page**

The Details Page provides granular-level information regarding each individual loan application. It is useful for in-depth analysis and understanding the specifics of each loan.

**Key Features:**

1. **KPIs:**
   * The same KPIs as in the Summary and Overview Dashboards.
2. **Visualizations:**
   * **Table:** Displays detailed loan information. The fields included are:
     + **ID:** Unique identifier for each loan.
     + **Purpose:** The purpose for which the loan was taken.
     + **Home Ownership:** The type of home ownership of the applicant.
     + **Grade & Subgrade:** Credit grade assigned to the applicant.
     + **Issue Date:** The date when the loan was issued.
     + **Funded Amount:** The amount of loan funded.
     + **Interest Rate:** Interest rate applied to the loan.
     + **Installment:** The installment amount that needs to be paid.
     + **Amount Received:** The amount received by the lender.

**Slicers:**

* **State, Grade, Good vs. Bad Loans:** Similar slicers as in previous dashboards.

**Data Source:**

The dataset used includes loan records from a financial institution, covering applicant details, loan terms, state-wise data, home ownership, grades, and other relevant metrics. This data enables analysis across multiple dimensions including loan type, applicant characteristics, and geographical distribution.

**Requirements:**

* **Power BI Desktop** (Version May 2024 or later recommended)
* **No additional dependencies**

**Usage Instructions:**

1. **Opening the File:**
   * Download and open the Power BI dashboard file using Power BI Desktop.
2. **Interacting with the Dashboard:**
   * Use the slicers to filter data based on different attributes such as State, Grade, Loan Type, etc.
   * Click on specific visuals to highlight related data and interact with multiple metrics.
3. **Customization:**
   * You can customize the filters and visualizations to explore specific dimensions or metrics of the loan data.

**Insights:**

* The **Summary Dashboard** provides a quick overview of loan performance.
* The **Overview Dashboard** offers insight into loan trends over time and geographic distribution.
* The **Details Page** enables users to access specific details about each loan, which is helpful for deeper analysis.

**Future Enhancements:**

* Adding a **Time Filter** to allow users to view data for specific years or quarters.
* Including more KPIs like **Approval Time** or **Risk Assessment Metrics** for a comprehensive analysis of the loan approval process.