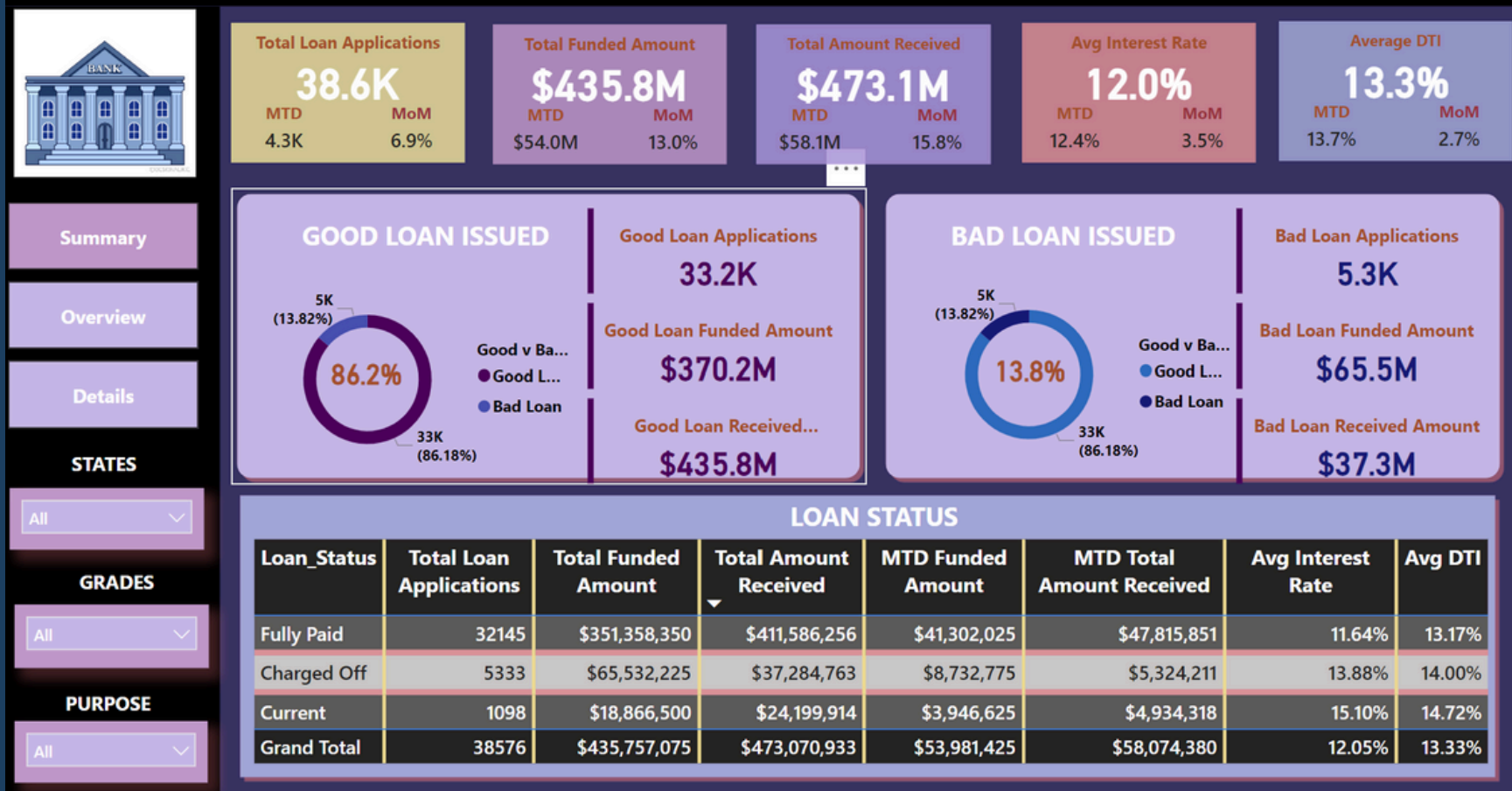
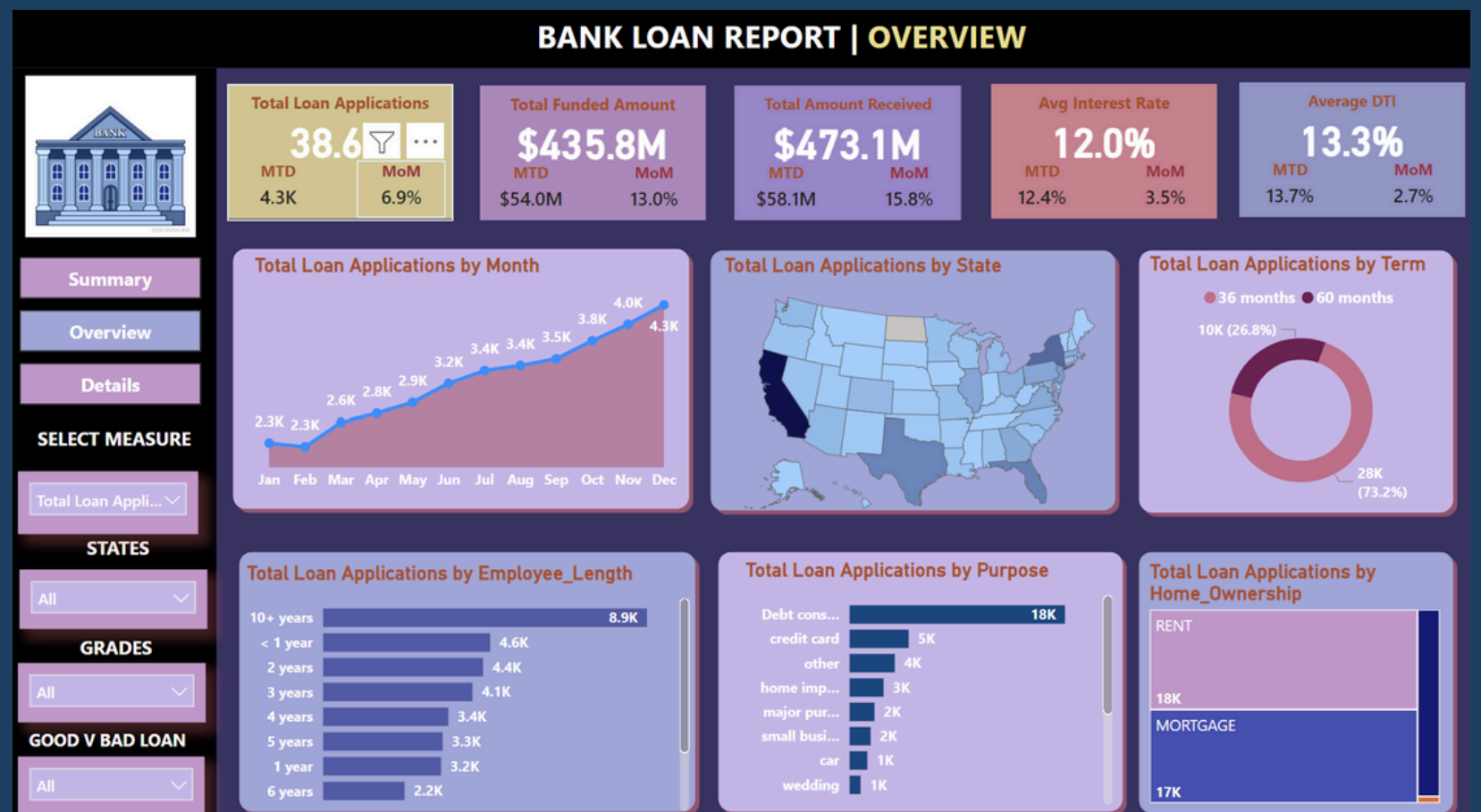


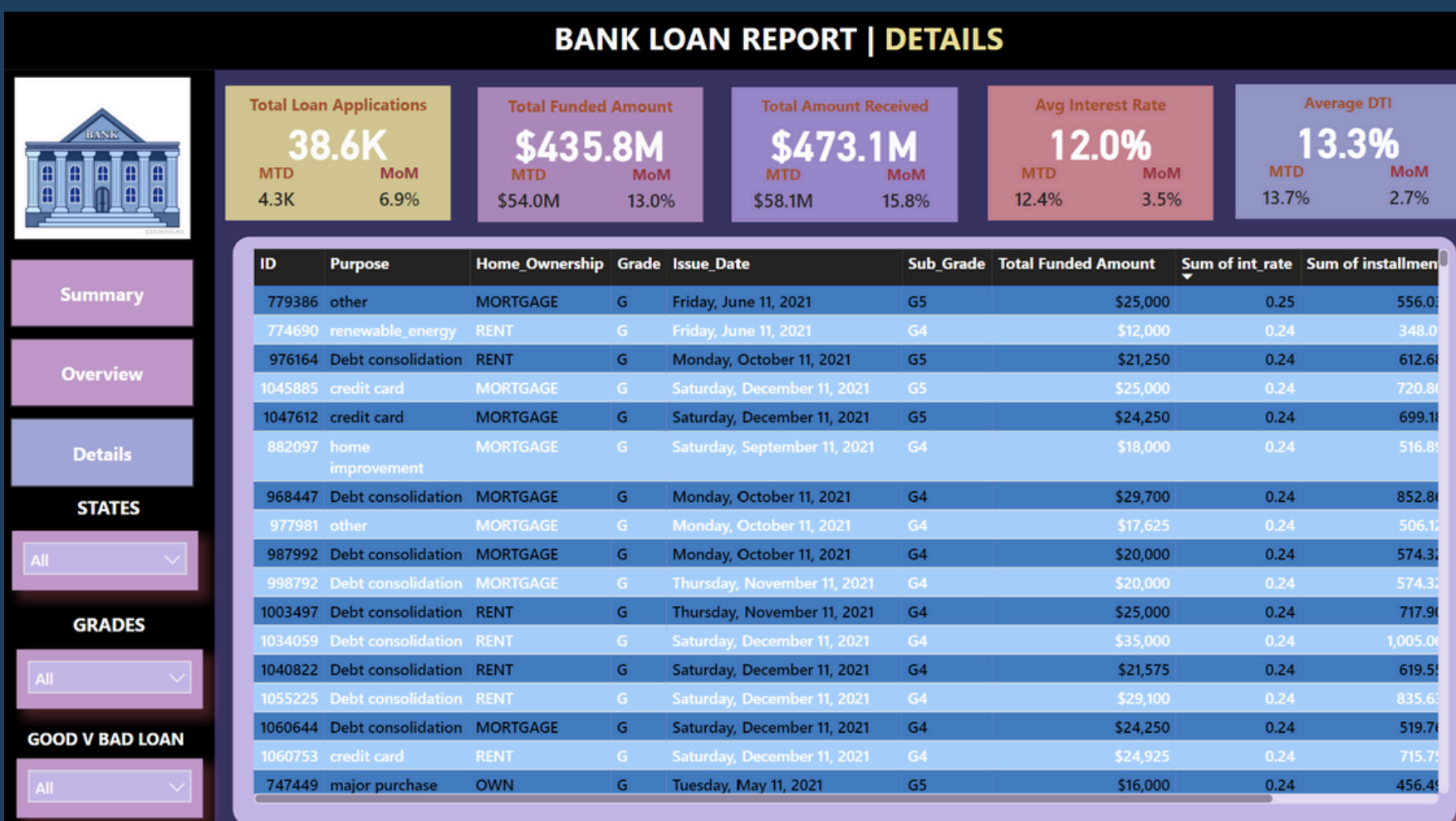
Summary Tab View



Overview Tab
View for 3
different
measures



BANK LOAN REPORT | DETAILS



Details Tab View with Bank Loan Dataset

SQL Queries

```
use [Bank Loan DB]
select * from bank_loan_data;

/*1-- KPIs*/

/* 1-- Total loan applications*/
select count(id) as Total_Loan_Applications from bank_loan_data;

/* 1.1 MTD do calc on issue date-- latest data is dec 2021 */
select count(id) as MTD_Total_Loan_Applications from bank_loan_data
where MONTH(issue_date)=12 and year(issue_date)=2021;

/*1.1.1 MOM -- how your bank loan disbursements are done with respect to last month and current month find out the percentage increase or percentage decrease*/
select count(id) as PMTD_Total_Loan_Applications from bank_loan_data
where MONTH(issue_date)=11 and year(issue_date)=2021;
-- MOM = (MTD-PMTD)/PMTD

---2 Total Funded amount
select * from bank_loan_data;

select sum(loan_amount) as Total_funded_amount from bank_loan_data;
--- MTD means the current month
select sum(loan_amount) as MTD_Total_funded_amount from bank_loan_data
where month(issue_date)=12 and year(issue_date)=2021;

---PMTD
select sum(loan_amount) as PMTD_Total_funded_amount from bank_loan_data
where month(issue_date)=11 and year(issue_date)=2021;
```

```
---3. total received amount
select sum(total_payment) as MTD_Total_Amount_Received from bank_loan_data
where month(issue_date)=12 and year(issue_date)=2021
select sum(total_payment) as PMTD_Total_Amount_Received from bank_loan_data
where month(issue_date)=11 and year(issue_date)=2021

-- 4. Average Interest Rate

select round(avg(int_rate),4)*100 as PMTD_Avg_Interaset_Rate from bank_loan_data
where MONTH(issue_date)=12 and year(issue_date)=2021
select cast(avg(int_rate) as decimal(10,2)) * 100 as Avg_Interaset_Rate from bank_loan_data
where MONTH(issue_date)=11 and year(issue_date)=2021

----5. Average Debt-to-Income Ration(DTI) based on this value bankers decide whether we should give loan to the customer or no
--Month to Date
select round(avg(dti),4)*100 as MTD_Avg_DTI from bank_loan_data
where month(issue_date)=12 and year(issue_date)=2021
----Previous Month to Date
select round(avg(dti),4)*100 as PMTD_Avg_DTI from bank_loan_data
where month(issue_date)=11 and year(issue_date)=2021
----DTI should not high neither too low, should be 30-35 or 20-25 depending on the banks
```

```
----Good loan KPIs -- current and fully paid
--- bad loan -- charged off
----good loan application percentage
select
    (count(case when loan_status= 'Fully Paid' or loan_status='Current' then id end)*100)
    / count(id) as Good_loan_percentage
from bank_loan_data
---good loan applications
select count(id) from bank_loan_data
where loan_status='Fully Paid' or loan_status='Current'

---good loan funded amount ---funded amount is loan amount
select sum(loan_amount) as Good_Loan_Funded_Amount from bank_loan_data
where loan_status='Fully Paid' or loan_status='Current'

-----good loan Total reveived amount
select sum(total_payment) as Good_Loan_Amount_Received from bank_loan_data
where loan_status='Fully Paid' or loan_status='Current'
```


SQL Queries

```
-----Bad Loan
-----Bad Loan Application Percentage
select
    (count(case when loan_status= 'Charged Off' then id end)*100.0)
    / count(id) as Bad_loan_percentage
from bank_loan_data

-----bad loan applications
select count(id) as bank_loan_applications from bank_loan_data
where loan_status='Charged Off'
-----bad loan funded amount
select sum(loan_amount) as Bad_loan_funded_amount from bank_loan_data
where loan_status='Charged Off'
---bad loan amount received
select sum(total_payment) as Bad_loan_funded_amount from bank_loan_data
where loan_status='Charged Off'
```

```
-----loan status grid view
select
loan_status,
count(id) as Total_Loan_Applications,
sum(total_payment) as Total_Amount_Received,
sum(loan_amount) as Total_Funded_Amount,
AVG(int_rate * 100) as Interest_Rate,
AVG(dti *100) as DTI
from bank_loan_data
Group By
loan_status
----month to date
select
loan_status,
count(id) as MTD_Total_Loan_Applications,
sum(total_payment) as MTD_Total_Amount_Received,
sum(loan_amount) as MTD_Total_Funded_Amount
from bank_loan_data
where MONTH(issue_date)=12
Group By
loan_status
----PMTD
select
loan_status,
count(id) as PMTD_Total_Loan_Applications,
sum(total_payment) as PMTD_Total_Amount_Received,
sum(loan_amount) as PMTD_Total_Funded_Amount
from bank_loan_data
where MONTH(issue_date)=11
Group By
loan_status
```

SQL Queries

-----Charts Dashboard

----Metrics to be shown -- Total Loan Applications, Total Funded Amount, Total Amount Received

-----1 Monthly Trends by Issue Date(Line Chart)

```
select * from bank_loan_data
select
    Month(issue_date) as Month_Number,
    DATENAME(month,issue_date) as Month_Name,
    Count(id) as Total_Loan_Applications,
    SUM(loan_amount) as Total_Funded_Amount,
    SUM(total_payment) as Total_Received_Amount
from bank_loan_data
group by Month(issue_date),DATENAME(month,issue_date)
order by Month(issue_date)
```

-----2 Regional Analysis by State(Filled Map)

```
select
    address_state,
    Count(id) as Total_Loan_Applications,
    SUM(loan_amount) as Total_Funded_Amount,
    SUM(total_payment) as Total_Received_Amount
from bank_loan_data
group by address_state
order by count(id) desc
```

-----3 Loan Term Analysis(Donut Chart)

```
select
    term,
    Count(id) as Total_Loan_Applications,
    SUM(loan_amount) as Total_Funded_Amount,
    SUM(total_payment) as Total_Received_Amount
from bank_loan_data
group by term
order by term
```

-----4 Employee Length Analysis (Bar Chart)

```
select
    emp_length,
    Count(id) as Total_Loan_Applications,
    SUM(loan_amount) as Total_Funded_Amount,
    SUM(total_payment) as Total_Received_Amount
from bank_loan_data
group by emp_length
order by emp_length
```

-----5 Loan Purpose Breakdown (Bar Chart)

```
select
    purpose,
    Count(id) as Total_Loan_Applications,
    SUM(loan_amount) as Total_Funded_Amount,
    SUM(total_payment) as Total_Received_Amount
from bank_loan_data
group by purpose
order by count(id) desc
```

-----6 Home Ownership Analysis(Tree Map)

```
select * from bank_loan_data
select
    home_ownership,
    Count(id) as Total_Loan_Applications,
    SUM(loan_amount) as Total_Funded_Amount,
    SUM(total_payment) as Total_Received_Amount
from bank_loan_data
group by home_ownership
order by count(id) desc
```

PROBLEM STATEMENT



DASHBOARD 1: SUMMARY

Key Performance Indicators (KPIs) Requirements:

- Total Loan Applications:** We need to calculate the total number of loan applications received during a specified period. Additionally, it is essential to monitor the Month-to-Date (MTD) Loan Applications and track changes Month-over-Month (MoM).
- Total Funded Amount:** Understanding the total amount of funds disbursed as loans is crucial. We also want to keep an eye on the MTD Total Funded Amount and analyse the Month-over-Month (MoM) changes in this metric.
- Total Amount Received:** Tracking the total amount received from borrowers is essential for assessing the bank's cash flow and loan repayment. We should analyse the Month-to-Date (MTD) Total Amount Received and observe the Month-over-Month (MoM) changes.
- Average Interest Rate:** Calculating the average interest rate across all loans, MTD, and monitoring the Month-over-Month (MoM) variations in interest rates will provide insights into our lending portfolio's overall cost.
- Average Debt-to-Income Ratio (DTI):** Evaluating the average DTI for our borrowers helps us gauge their financial health. We need to compute the average DTI for all loans, MTD, and track Month-over-Month (MoM) fluctuations.

PROBLEM STATEMENT



DASHBOARD 1: SUMMARY

Good Loan v Bad Loan KPI's

Good Loan:

- Good Loan Application Percentage
- Good Loan Applications
- Good Loan Funded Amount
- Good Loan Total Received Amount

Bad Loan

- Bad Loan Application Percentage
- Bad Loan Applications
- Bad Loan Funded Amount
- Bad Loan Total Received Amount

Loan Status Grid View

In order to gain a comprehensive overview of our lending operations and monitor the performance of loans, we aim to create a grid view report categorized by 'Loan Status.' By providing insights into metrics such as 'Total Loan Applications,' 'Total Funded Amount,' 'Total Amount Received,' 'Month-to-Date (MTD) Funded Amount,' 'MTD Amount Received,' 'Average Interest Rate,' and 'Average Debt-to-Income Ratio (DTI),' this grid view will empower us to make data-driven decisions and assess the health of our loan portfolio.

PROBLEM STATEMENT



DASHBOARD 2: OVERVIEW

CHARTS

1. **Monthly Trends by Issue Date (Line Chart):** To identify seasonality and long-term trends in lending activities
2. **Regional Analysis by State (Filled Map):** To identify regions with significant lending activity and assess regional disparities
3. **Loan Term Analysis (Donut Chart):** To allow the client to understand the distribution of loans across various term lengths.
4. **Employee Length Analysis (Bar Chart):** How lending metrics are distributed among borrowers with different employment lengths, helping us assess the impact of employment history on loan applications.
5. **Loan Purpose Breakdown (Bar Chart):** Will provide a visual breakdown of loan metrics based on the stated purposes of loans, aiding in the understanding of the primary reasons borrowers seek financing.
6. **Home Ownership Analysis (Tree Map):** For a hierarchical view of how home ownership impacts loan applications and disbursements.

Metrics to be shown: 'Total Loan Applications,' 'Total Funded Amount,' and 'Total Amount Received'

PROBLEM STATEMENT



DASHBOARD 3: DETAILS

GRID

Need for a comprehensive 'Details Dashboard' that provides a consolidated view of all the essential information within our loan data. This Details Dashboard aims to offer a holistic snapshot of key loan-related metrics and data points, enabling users to access critical information efficiently.

Objective:

The primary objective of the Details Dashboard is to provide a comprehensive and user-friendly interface for accessing vital loan data. It will serve as a one-stop solution for users seeking detailed insights into our loan portfolio, borrower profiles, and loan performance.

Thanks!