Fare Sentiment Analysis

Presentation

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Agenda:

- Introduction
- Dashboard Overview
- Live Demo + code snippits
- Q&A

Introduction

Rwanda's transition to a distance-based fare system has sparked public concern and confusion, especially on social media.
 To support evidence-based policymaking, we need a tool that can:

- Capture public sentiment at scale
- Identify common concerns and emotional reactions
- Provide actionable insights for government response
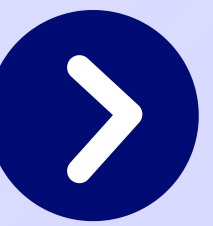
Collecting Data from Twitter API

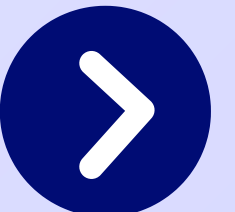**Goal:** Gather tweets about Rwanda's fare reform

Tools:
- Twitter API v2 (academic access)
- tweepy or twarc2

Metadata Collected:
- Tweet text
- Timestamp
- User info
- Language

Query Example:
query = "Rwanda transport -is:retweet lang:en"

Sentiment Analysis with TextBlob

Goal: Assign sentiment to each tweet

Library: TextBlob

Example:
TextBlob("Content to evaluate").sentiment
Scores → Polarity=0.8, Subjectivity=0.6

Thresholds:
- > 0.05: Positive
- < -0.05: Negative
- Else: Neutral

- **Polarity** shows how positive or negative a comment is (from -1 to +1).
- **Subjectivity** shows how opinion-based a comment is (from 0 to 1).

Text Cleaning with Regex

Goal: Prepare text for analysis & WordCloud

Steps:
- Remove URLs, mentions: @user, http...
- Strip non-letters: emojis, punctuation, numbers
- Lowercase & trim

Snippet:
- re.sub(r"http\S+|@\w+", "", text)
- re.sub(r"[^a-zA-Z\s]", "", text)

Streamlit Dashboard

Goal: Build an interactive web app

Why Streamlit?
- No front-end code needed
- Quick visuals & user inputs

Features Used:
- Sidebar filters
- WordCloud + bar charts
- Download button

Snippet:
st.sidebar.date_input("Date range")
st.image(wordcloud.to_array())

Thank you

Live Demo next