Detailed Project Report

1. Project Background & Objective

Traveltide is a growing travel platform with over 1 million registered users and 5 million+ unique app sessions. Despite a large user base, a significant portion of users remain inactive or have never booked a trip through the platform. This raised concerns regarding user retention and conversion, prompting the company to seek targeted strategies to boost engagement.

The objective of this project is to:

- Identify active users based on recent engagement and session behavior.

- Apply a rule-based segmentation strategy to categorize users into meaningful customer groups.

- Assign personalized perks to each group to increase their activity and conversion.

- Provide recommendations to guide marketing and strategic initiatives.

2. Methodology

a. Filtering for Active Users

To focus on users most likely to engage:

- Users were filtered to include only those with more than 7 sessions.

- Only sessions and trips after January 1st, 2023 were included to ensure recency.

- This filtering reduced the dataset to 5,998 active users, forming the basis for segmentation.

b. Segmentation Strategy

A rule-based segmentation method was chosen for transparency and interpretability. The segmentation criteria used included:

- **Session Behavior**: Number of sessions, engagement duration.

- **Trip Behavior**: Trip frequency, distance from home city.

- **Demographics**: Age, marital status, presence of children.

This approach enabled us to split the 5,998 users into six distinct segments based on their behavior and attributes.

3. Customer Segments & Personas

Each group was defined by clear behavioral rules and was supported by demographic data, with personas created to bring each segment to life.

a. Dreamers

- **Definition**: High app activity but no trips booked yet.

- **Persona**: Emma, 26, single, active on app but has never booked.

- **Perk**: Large discount on their first trip to encourage conversion.

b. Young Singles

- **Definition**: Under 35, frequent app use, multiple short-distance trips.

- **Persona**: Leo, 29, travels solo for leisure.

- **Perk**: Points-based system or referral rewards to increase retention.

c. Family Travelers

- **Definition**: Adults with children, medium-to-high baggage usage, moderate trip frequency.

- **Persona**: Maya, 38, mother of two, books weekend getaways.

- **Perk**: Free baggage perks, family discount bundles.

d. Business Travelers

- **Definition**: Frequent travelers, short stays, minimal baggage, often book weekdays.

- **Persona**: Dan, 41, travels for work every month.

- **Perk**: Priority boarding or loyalty tier upgrades.

e. Seniors

- **Definition**: Age over 60, infrequent but long-distance travel, often in pairs.

- **Persona**: Charles, 67, retired and takes seasonal trips.

- **Perk**: Discounted senior packages or concierge support.

f. Regular Travelers

- **Definition**: Average session and trip activity across all metrics.

- **Persona**: Nora, 45, travels seasonally for leisure.

- **Perk**: Periodic surprise rewards to boost loyalty.

Each group was visually presented with bar plots and infographics showing distribution by age, session frequency, trip behavior, and family status.

4. Insights & Recommendations

a. Key Insights

- Dreamers make up 12% of active users and represent a high-conversion potential group.

- Family Travelers have high engagement and booking frequency but are more cost-sensitive.

- Business Travelers exhibit predictable patterns and would benefit most from time-saving perks.

b. Marketing Strategy Recommendations

- Focus marketing efforts on Dreamers – high platform engagement but low conversion. Use storytelling, first-trip promotions, and customized notifications.

- Personalized Campaigns for Family Travelers – promote school holiday bundles, flexible bookings, and large-baggage perks.

- Loyalty Rewards for Business Travelers – introduce travel points or fast-track perks for repeat business trips.

c. Additional Recommendations

- Integrate a dynamic rule-based perk engine to assign rewards automatically.

- Consider A/B testing perk effectiveness for different user segments.

- Perform periodic cohort analysis to observe behavioral changes over time.

5. Conclusion

This project provided a framework for segmenting users meaningfully and recommending actionable strategies to improve user retention and engagement. Through careful rule-based segmentation and behavioral analysis, Traveltide can now take a data-driven approach to delivering personalized value to its diverse user base.

Future work could explore machine learning-based segmentation models to complement the rule-based approach and adapt to evolving user behaviors.