**Problem Definition for Customer Retention in Subscription-Based Applications**

**1. Problem Area**   Retaining customers in subscription-based applications is critical for revenue. Understanding factors that drive loyalty, especially among premium users, is key to reducing cancellations.  
  
**2. Preliminary Research**   
   High turnover rates in subscription models challenge revenue stability. Industry data suggests that focusing on loyalty through personalization can mitigate this impact.  
  
**3. Specific Problem**   
   Identify key demographic, behavioral, and content factors influencing customer retention and loyalty in subscription services, focusing on premium user engagement.  
  
**4. Solution and Methodology**   - Data Collection: Gather data on demographics, subscriptions, usage patterns, and preferences.  
   - Analytical Techniques: Use survival analysis to evaluate retention risk, predictive modeling for likelihood of cancellation, and clustering for segmentation by engagement level.  
  
**5. Implementation Plan**   Implement personalized retention strategies like tailored recommendations, targeted incentives, and re-engagement efforts for users at risk of leaving.  
  
**6. Expected Outcomes**   
   - Lower turnover by identifying and retaining at-risk users with targeted offers.  
   - Enhanced user satisfaction and loyalty through relevant, user-centered features.  
  
**7. Evaluation Metrics**   
   - Turnover Rate: Reduced premium user turnover.  
   - User Retention: Improved subscription duration and MAUs.  
   - Engagement Metrics: Increased premium feature usage.