**Step 1; Research and Data Collection**

**1.1 Gathering Data;**

Explain where the data comes from and what types of data are collected, such, as consumption, weather information or demographic data.

Describe how the data is obtained while ensuring compliance with privacy regulations.

**1.2 Preparing Data;**

Provide details on how the data was cleaned, transformed and made ready for analysis.

**1.3 Selecting Features;**

List the features chosen for analysis and any steps taken to enhance them.

**Step 2; Model Development**

**2.1 Choosing Models;**

Explain the reasoning behind selecting machine learning algorithms like regression models or decision trees.

**2.2 Training Models;**

Specify how the models were trained, including any adjustments made to hyperparameters.

**2.3 Evaluating Models;**

Describe which evaluation metrics were used to assess the performance of the models.

**Step 3; User Interface Development**

**3.1 Platform Choice;**

Detail which technology and framework were selected for developing the user interface such as a web application or mobile app.

**3.2 Designing UI/UX;**

Describe the design of the user interface, including wireframes and mockups.

**3.3 Real-time Data Integration;**

Explain how real-time data is incorporated into the system to ensure up-to-date analysis.

**Step 4; Generating Recommendations**

**4.1 Algorithm, for Providing Recommendations;**

Give a summary of how recommendations are created using user input and the trained model.

**4.2 Personalization and Customization;**

Explain how recommendations are tailored to each user by utilising their data.

**Step 5; Incorporating User Feedback**

**5.1 Mechanism for User Feedback;**

Elaborate on how users can give feedback about the suggestions they receive.

**5.2 Utilizing Feedback;**

Provide details, on how user feedback is used to enhance the accuracy and relevance of recommendations.

**Step 6: Monitoring and Maintenance**

**6.1 Performance Monitoring;**

Explain how the system's performance is regularly monitored.

**6.2 Retraining Schedule;**

Provide a schedule for retraining the model to adapt to changing consumption patterns.

**Phase 7: Compliance and Privacy**

**7.1 Data Privacy Measures;**

Detail the steps taken to ensure compliance with data privacy regulations.

**7.2 User Consent;**

Explain how user consent is obtained if necessary.

**Step 8: Partnerships and Outreach**

**8.1 Collaboration with Stakeholders;**

Describe any partnerships with water conservation organisations, municipalities, or environmental groups.

**8.2 User Engagement Strategies;**

Detail plans for engaging and educating users on the impact of their water conservation efforts.

