# PAC Chatbot App: Revolutionizing Pre-Anaesthesia Checkups

The Pre-Anaesthesia Chatbot (PAC) app is a groundbreaking innovation designed to gather essential information about patients' health status, ensuring safe and effective anesthesia administration. This app is a game-changer in the medical field, providing a comprehensive preoperative anesthetic check from patient information and interaction.
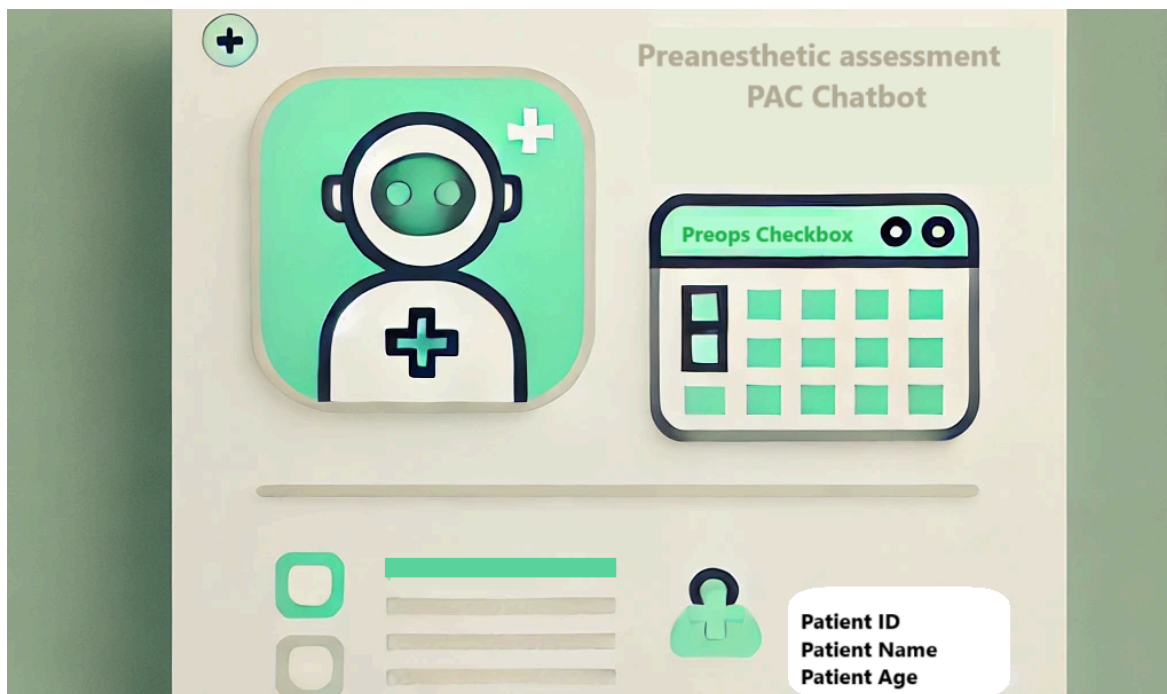
Pre-Anaesthesia Checkup: A New Era in Patient Care

The PAC chatbot app collects data and creates a preoperative anesthetic check from patient information and interaction. This data is then sent to an Excel spreadsheet for further analysis.

Figure 1: PAC Chatbot App Screenshot

The PAC chatbot app features an interactive questionnaire that guides patients through a series of questions to gather essential information about their health status.

Chatbot Questionnaire: A Personalized Approach

The chatbot questionnaire is designed to be adaptive, personalized, multilingual, and audio supported. Patients can expect to answer questions about their medical history, family history, and current health status. These include queries about hypertension, heart conditions, allergies, family history of chronic diseases, and much more. Some sample questions are:

- Do you have any of the following conditions? (checkboxes)
- Have you been diagnosed with high blood pressure by a doctor? (Yes/No)
- How long ago was your diagnosis? (Duration, Month/Year)
- What was the catalyst for the rise in blood pressure? (Options: Exertion, Cold, Smoke, Dust, Unknown, Others)
- Similarly, for a drop in blood pressure: (Options: Rest, Time, Unknown, Others)

These questions are designed to be adaptive, meaning the chatbot personalizes the queries based on the user's previous responses. The data collected through this interaction is then stored in an Excel spreadsheet for easy access by clinicians.

Data Collected from the Chatbot App

The core function of the PAC Chatbot App is to collect essential preoperative data that helps determine a patient's fitness for anesthesia. The chatbot interacts with patients to gather detailed information on medical conditions, current medications, family history, and lifestyle factors. This information is then compiled into a comprehensive preoperative anesthetic check that is sent to a spreadsheet for further analysis.

The data collected from the chatbot app is comprehensive and includes:

Column	Description
Regular Medication	Patient's regular medication details
Medicine Detail	Specific details about the patient's medication
Medical Condition	Patient's current medical condition
Family History	Patient's family history of hypertension, diabetes, thyroid, and other conditions
Hypertension Family Member	Details about family members with hypertension
Diabetes Family Member	Details about family members with diabetes
Thyroid Family Member	Details about family members with thyroid conditions

Table 1: Data Collected from the Chatbot App

The PAC chatbot app is an innovation that integrates patient assessment, lab report analysis, and patient symptoms analysis to determine if a patient is fit for anesthesia and surgery. These records are stored in a spreadsheet format and can be easily accessed by medical professionals to track and monitor patient conditions before surgery.

Regular Medication	Regular medicine details	Medical Conditions	Family History Hypertension	Hypertension Family Member	Family History Diabetes	Diabetes Family Member	Family History Thyroid	Thyroid Family Member
Yes	Levothyroxine	Hypertension	Yes	Mother	Yes	Mother	No	Father
No	None	Thyroid Disorder	No	None	No	Siblings	Yes	Siblings
No	None	None	Yes	None	Yes	Siblings	Yes	Mother
Yes	Levothyroxine	Diabetes	No	Mother	No	Mother	Yes	None
Yes	None	Hypertension	No	Mother	No	Siblings	Yes	Siblings
No	Aspirin	Thyroid Disorder	No	Siblings	Yes	None	No	Siblings
Yes	Lisinopril	Thyroid Disorder	No	Father	No	Mother	No	None
No	Lisinopril	Hypertension	No	Siblings	No	Siblings	Yes	None
Yes	Aspirin	None	No	Siblings	No	Mother	No	None
Yes	Metformin	None	No	Mother	No	Father	No	None

Table 1: Sample Data Collected and stored in excel database

Outcome Prediction Model

This model is to be specifically redesigned for the Indian context, using data from Amrita Health Information System (HIS), collected over the past 15 years. By analyzing this data, the app can estimate the likelihood of surgical success for a given patient, factoring in their health conditions, lab results, and symptoms for Indian context.

Integrating Chatbot and Outcome Prediction

The PAC chatbot app can be integrated with Electronic Health Records (EHR) and can be built for long-term use, such as follow-up with patients, interaction tracking, trigger requirements, and patient preparation.

Long-Term Patient Engagement

Beyond the initial preoperative assessment, the PAC Chatbot App is designed for long-term use. After the surgery, the app can follow up with patients to track recovery progress, provide reminders for postoperative care, and send alerts for any required actions. This continuous interaction helps improve patient outcomes and ensures that patients remain engaged in their healthcare journey.

The Future of Preoperative Care

The PAC Chatbot App represents a significant advancement in preoperative care, especially within the Indian healthcare context. With its comprehensive data collection, personalized approach, and outcome prediction model, this app is a game-changer in the medical field. The app's adaptive features, multilingual support, and robust data collection capabilities make it an essential tool for healthcare providers, ensuring that every patient receives the best possible care tailored to their unique needs.