

Workflow Name

Hospital Appointment Scheduling Assistant

Business Case

Hospitals receive a high volume of appointment requests through messaging platforms. Manual handling causes delays, errors, and staff overload. This workflow automates appointment scheduling using AI to understand user intent, check availability, and book appointments accurately in Google Calendar through Telegram.

AI Value Proposition

AI is used to understand natural language messages from users, identify intent such as booking, checking availability, or asking for time, and guide the conversation intelligently. This removes the need for rigid commands and enables human like interaction.

Workflow Overview

Trigger

Telegram Trigger receives user messages.

Processing

AI Agent analyzes the message to identify intent such as greeting, appointment booking, availability inquiry, or date and time request.

Decision Logic

The agent validates requested date and time, ensures the time is not in the past, and checks for calendar conflicts before proceeding.

Actions

Available slots are calculated using Google Calendar Search.

Confirmed appointments are created using Google Calendar Create.

Responses are sent back to the user via Telegram.

External Services Used

Telegram

Used as the user interaction channel for receiving requests and sending confirmations.

Google Calendar

Used to store appointments, check availability, and prevent overlapping bookings.

AI Model

Used for natural language understanding, intent detection, and conversation flow control.

AI Integration Details

The AI Agent processes free text user input and extracts

Appointment intent

Date and time

Purpose of visit

Patient details

Prompt logic ensures
Mandatory details are collected before booking
Availability is checked before scheduling
Clear and concise responses are generated for users

Data Flow and Logic

User message is received from Telegram
AI Agent interprets intent
Date and Time node provides current time in Asia Dhaka timezone
Calendar Search checks for conflicts
Conditional logic handles availability or conflict
Calendar Create schedules appointment
Telegram Send Message confirms booking or shows available slots

Error Handling and Validation

Past Time Validation
Appointments are never scheduled in the past. If a past time is requested, the current time is shown and a future time is requested.

Conflict Handling
If the requested slot is already booked, the user is informed and available slots are suggested.

Mandatory Field Validation
Appointment is not created unless Name, Contact Number, Email, and Symptoms are collected.

Timezone Accuracy
All operations strictly use Asia Dhaka timezone to avoid scheduling errors.

Input and Output

Input
Free text messages from users via Telegram.

Output
Appointment confirmation messages
Available slot listings
Polite error messages for invalid requests

System Reliability

The workflow is designed to prevent double booking, handle incomplete user input, and gracefully guide users to successful appointment scheduling.

Future Enhancements

Doctor specific scheduling
Department wise appointments
SMS or email notifications

Payment integration

Multi language support

Hospital management system integration