TARGET MANAGEMENT APPLICATION

Target hour management for practitioner in Streamlit

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1 Introduction and Purpose

This document outlines the Target Management App by Streamlit developed for the Clinics. The application (app) is designed to set, edit, view and delete employee target appointment hour (target hour), providing actionable insights to support data-driven decision-making. It serves as a centralized tool for managers and administrators in setting up performance metrics and enhancing overall clinic efficiency. This document aims to guide the handover process, ensuring the system is maintained effectively.

2 Installation

The app is written in python language and run on open-source tool (Streamlit). Please refer to the installation and deployment document for more details.

3 User Guide

3.1 Accessing the Application

To access the Performance Dashboard (Streamlit), follow these steps:
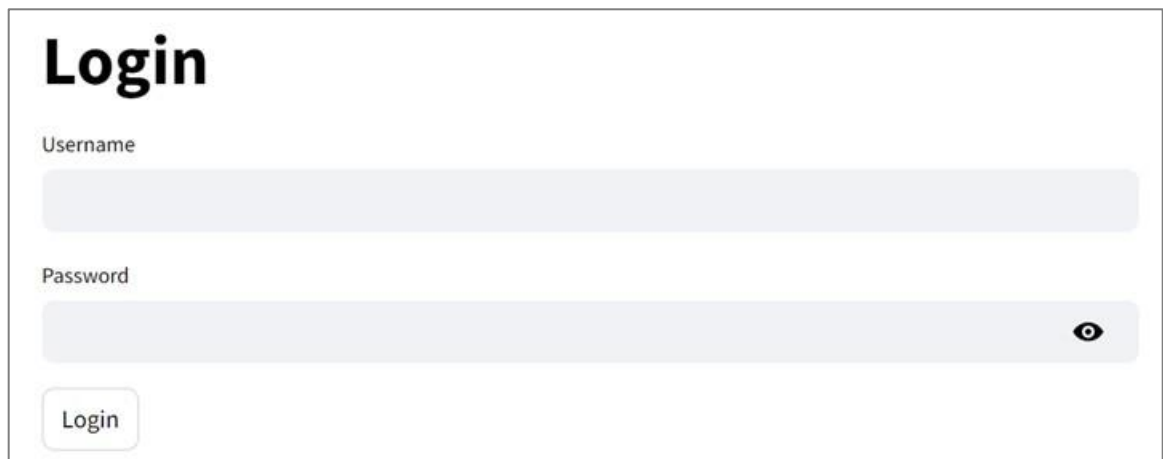
- **Open the Streamlit Link** http://40.233.83.194:8501/

Figure 1: Login interface

- **Login Details**: Use the following credentials to log in:
    - **Username**: admin
    - **Password**: test123

    Ensure that you keep the login credentials confidential to maintain data security.

- **Navigate to the key features:**
    - Click on the **side bar**.

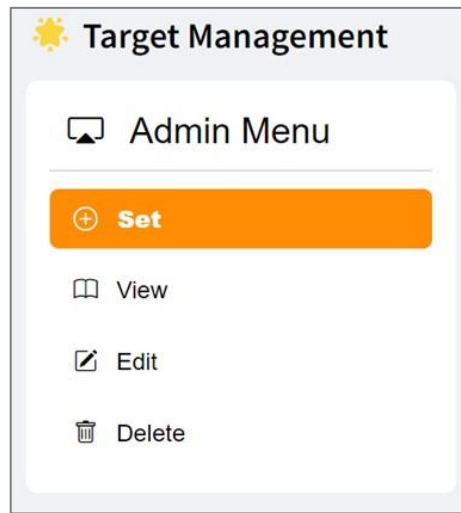- Locate and select the desired **function** from the options listed.

Figure 2: List of funtions

3.2 Navigating the application

The Target Management App in Streamlit is divided into four main views to cater to different purposes:

- **Set**
  - **Purpose**: Set target appointment hours for single, multiple practitioners filtered by clinic locations and manager's team in selected period.
  - **Key Metrics**:
    - Select Location, Manager, or Practitioner
    - Current Target Table
    - Set Target Hours
  - **How to Access**: Locate and click on "Set" in the sidebar

- **View**
  - **Purpose**: Enables user to track and monitor historical target appointment hours for single, multiple selected practitioners in selected period.
  - **Key Metrics**:
    - Select Location, Manager, or Practitioner
    - Current Target Table
    - History Target Chart.
  - **How to Access**: Locate and click on "View" in the sidebar.

- **Edit**
  - **Purpose**: Allows user to update new target hours on existed values for single, multiple practitioners in selected period.
  - **Key Metrics**:
    - Select Location, Manager, or Practitioner

- Current Target Table
- Edit Individual Dates
- Apply Same Target Hour to All Dates
- **How to Access**: Locate and click on "Edit" in the sidebar.

- **Delete**
  - **Purpose**: Allows user to delete individually or batch delete existed target hour values for single, multiple practitioners in selected period.
  - **Key Metrics**:
    - Select Location, Manager, or Practitioner
    - Current Target Table
    - Delete Individual Dates
    - Batch Delete All Dates in Range
  - **How to Access**: Locate and click on "Delete" in the sidebar.

3.3 Using Filters

At the top of each tab, there are Select Location, Manager, or Practitioner and Star – End Date. These functions allow users to select single or multiple practitioners at specific customized timeframe for other CRUD functions to take effect. This flexibility provides users with easy, tailored target hour management.

Practitioner Filter:
  - Narrow user selection to specific practitioners based on the hierarchy setting from clinic location, down to manager's teams and finally, individuals.
  - Check the third select box Select Practitioner(s) for chosen practitioners. If no location is specified, the filter will default to display data of all locations
  - Note that the filtered results are displayed in the third select box Select Practitioner(s)

Date Filter:
  - Use Start – End Date to adjust the date range for all the functions below. Users can select any period within their custom range.

Current Target Table:
  - The Current Target Table will dynamically update to display the target hour of selected Practitioner Filter available within the specified time frame set by Date Filter above.
  - User can click on the Refresh button to check if any change has taken effect in real-time from the relational database
  - Users can search for keywords, view in full screen and download the table in csv format. Move the mouse to the upper right corner of the table to select.

Figure 3: Target table

3.4 Key features

3.4.1 Set Up Targets

Users can use the filter functions in each tab to select their designated practitioners and specific timeframe with the existed data will be displayed in the Current Target Table. All the functions below of each tab are linked to the filters here.

Set Target Hours

- o Based on the selected practitioners and timeframe selected above, user can set target appointment hour for those practitioners within that period by day of the week (Mon - Sun) by ticking the checkbox and entering the values they want. Press Submit for changes to take effect.
- o The new values will be stored in the database. Click Refresh Button on Current Target Table to see updated values in the database.
- o Only selected days of the week within selected period will be input into the database, exclude statutory holidays*
- o Note that the primary key here goes in pair of (pactitioner_id, target_date) which means users can only set 1 value of target hour for 1 target date per practitioner. If there's an existing target hour for that practitioner on that day, please go to Edit or Delete Tab to alter.

*Includes New Year's Day, Good Friday, Victoria Day, Canada Day, Labor Day, Thanksgiving Day, Christmas Day, Boxing Day from 2024 – 2054. Please see statutory_holidays table in the database or statutory_holidays.xlsx for more information.

Figure 4: Select the date and the target hour for separate day of the week

3.4.2 View and Analyze Target Hours

Users can use the filter functions in each tab to select their designated practitioners and specific timeframe with the existed data will be displayed in the Current Target Table. All the functions below of each tab are linked to the filters here.

History Target Chart
- o Display line chart based on selected practitioners within selected timeframe above
- o The chart data is taken from the Current Target Table
- o Markers on the line are dates that have target hour values set
- o Note that practitioners who have same value of target hour on same target date will have their lines overlapped

Figure 5: Preview the target set overtime of each practitioner

3.4.3 Adjust Current Targets

Users can use the filter functions in each tab to select their designated practitioners and specific timeframe with the existed data will be displayed in the Current Target Table. All the functions below of each tab are linked to the filters here.

Edit Individual Dates:
- o This function is linked to both the filters above, left click on "Click to edit target hours" to get an expand list of individual practitioners and their current target hour set on specific dates
- o Edit the values and press Submit Changes
- o The new values will be stored in the database. Click Refresh Button on Current Target Table to see updated values in the database

Figure 6: Edit target for each date

Edit with the same Target Hour for multiple days
This function is linked to both the filters above that allows users to replace all the target hours within specified range of selected practitioners by the same value

- o   Edit the values and press **Apply All**
- o   The new values will be stored in the database. Click Refresh Button on Current Target Table to see updated values in the database

Figure 7: Edit the same target for multiple days

3.4.4 Delete Target Hours
Users can use the filter functions in each tab to select their designated practitioners and specific timeframe with the existed data will be displayed in the Current Target Table. All the functions below of each tab are linked to the filters here.

Delete Individual Dates:

- o   This function is linked to both the filters above, left click on "Click to select dates for deletion" to get an expand list of individual practitioners and their current target hour set on specific dates
- o   Tick on the checkbox of the row users want to delete and press Delete Selected Rows

o The deleted values will be removed from the database. Click Refresh Button on Current Target Table to see if the values still existed in the database

Figure 8: Detele target hour for each practitioner

Batch Delete All Dates in Range
o This function is linked to both the filters above that allows users to permanently delete all the target hours within specified range of selected practitioners
o Press Delete All Target Hours in Selected Range
o The deleted values will be removed from the database. Click Refresh Button on Current Target Table to see if the values still existed in the database

Figure 9: Delete Target for multiple dates

3.5 Exporting Data

Exporting the Current Target Table based on selected practitioners in specified timeframe

Hover the mouse to the upper right corner of the table and select the download button to download it in csv format.

4 Data Sources

Database Connections: Currently using PostgreSQL for online database. Below is the login database information:

host = "cpsc-a3-thaiduonganh1234-06f9.b.aivencloud.com"
dbname = "dashboard"
user = "avnadmin"
password = "AVNS_vnii_2iScL7pq6cLyzA"
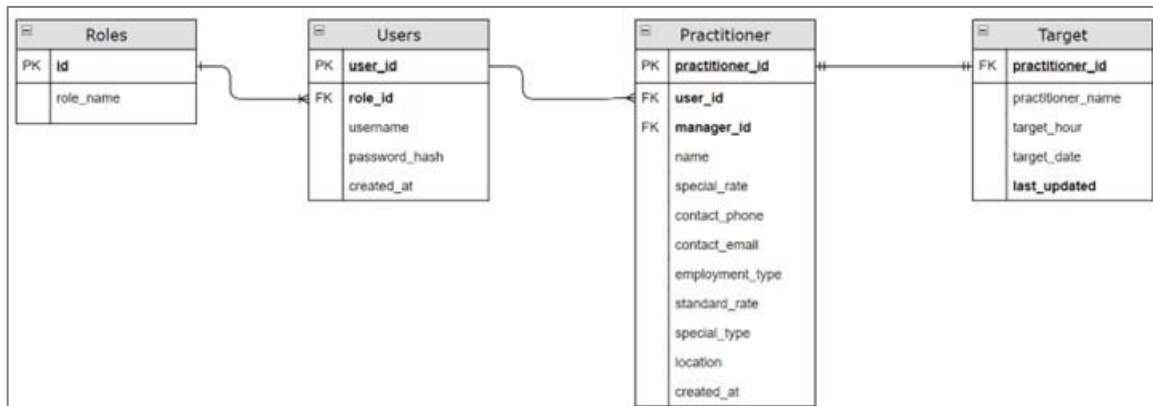port = "10548"

Table Schema as following:

Figure 10: Data schema

The app uses SQL query to extract data from the database. All the CRUD functional tabs above will generate data and store it in the Target table.

5   Glossary of Terms

General Terms
- Application - A software program designed to perform specific tasks for users. Apps can run on various platforms, such as computers, smartphones, tablets, and web browsers
- Filter - A tool used to narrow down or customize the data displayed on the Current Target Table based on specified criteria, such as practitioner names and time period.

Technical Terms
- Streamlit - An open-source app designing tool used for various applications
- Tab - A section within a dashboard that groups related for easier navigation.
- PostgreSQL - A powerful open-source relational database system used for managing structured data.
- SQL Query - A structured query language command used to retrieve or manipulate data from a database.

Data Metrics
- Target date – the date that has target appointment hour set.
- Target hour - The predefined number of hours expected for each practitioner per target date. Varies based on client's setup.

Navigation and User Interaction
- Sidebar - A navigation panel where users can access different features and/or functions.
- Hover Feature - An interactive feature where hovering the mouse over a data point provides additional details.