**App Concept: Habit Tracker**

**Introduction**

Habit Tracker is a mobile application designed to help users effectively manage their habits and reach their goals. The app provides flexible tools and an interface that allows users to create, track and analyse their habits in a convenient way.

**Main functionality**

1. **Building habits:**

Users can create new habits with different settings and specifications. For example, they can provide a name for the habit (such as "Morning Exercise"), a description of the habit, and how often they want to do it (such as daily, weekly, or specific days).

Additional options can be added to habits depending on their nature. For example, if the habit is workout related, the user can specify the duration of the workout or the number of repetitions.

1. **Marking completed tasks:**

Each habit task can be marked as completed by the user and the time it takes to complete is recorded. The user can quickly and easily mark the completion of a task using the application's simple interface.

Task marking helps users track their progress, motivates them, and creates a clear record of habit completion.

1. **Habit management:**

An important feature of the app is habit management. Each habit has a certain period during which it must be performed. If the user does not complete the habit within the specified period, the habit is considered to have been cancelled.

1. **Series setting:**

If the user manages to complete the habit task consecutively for x periods without breaking, a series of x periods is established. For example, if a user trains every day and continues to do so for two weeks, he sets up a 14-day workout streak.

Establishing streaks is a powerful incentive for users to maintain their habits over an extended period. The application displays the user's achievements in series and helps them maintain a positive task sequencing.

1. **Analysis and statistics:**

Habits entered by users into the app are saved and can be analysed. Users can get answers to various questions about their habits.

For example, they can find out what their longest series of habits, that is, how many periods they performed a habit without skipping. Users can list their current daily habits and see which habits they are successfully maintaining.

1. **Graphs and reports:**

The application provides a graphical representation of the progress of users, allowing them to visually see their achievements. Graphs and charts show habits, task completion, and a series of habits over a period.

In addition, the application provides reports that you can export or share with others. This helps users keep track of their progress and share their results with coaches, friends or the community.

**Graphical demonstration of functionality**

Изображение выглядит как текст, снимок экрана, линия, диаграмма

Автоматически созданное описание

*UML Use Class Diagram*

**User interaction**

1. User downloading the app on any device. Then launching and going through registration or logging in.
2. After creating a profile, the user can get their goals and get. The application offers the possibility of choosing the area of life in which he wants to keep, such as the occurrence of activity, healthy eating, reading or meditation. The user can also set goals for each area and create a list of habits he wants to bring in.
3. After setting goals and habits, the user can start tracking their progress. The application provides him with an interface where he can mark the completion of his tasks and habits daily or periodically. For example, if his goal is to exercise for 30 minutes every day, he can mark when he reaches that goal.
4. User may use the analytics data to track progress through time, day completion streaks and more.

**Why the structure and process have been designed in the particular manner?**

**Habit Building Flexibility:**

* Creation of users with a certain frequency and specificity.
* Users can increase the length of the return period according to the frequency of the need.

**Completed Habit Marker and Execution Time:**

* Users actively use their progress and record the time of each execution.
* It helps users realize their achievements and record their activity.

**Habit Checker:**

* Mandatory performance must take place once during the period allowing for discipline and responsibility.
* If a user does not perform a habit within a given period, they are cancelling the habit, which helps to separate the execution from the non-execution of the habit.

**Setting Habit Series:**

* Keeps users motivated and encourages them to set a series of habits.
* The ability to release serial habits helps users see their progress and accomplishments.

**Analysis and reporting:**

* Providing users with data statistics and graphs helps them analyse their own mistakes and progress.
* Answering questions such as the longest series of habits or a list of current daily habits helps users get a share of overall achievements and understand priorities.

Overall, the chosen structure and process is designed with a focus on flexibility, motivation, and analytics to help users freely earn and improve their skills, contributing to their personal growth and achievement of goals.

**Which tools will be used to implement each component and communication between them?**

* Python will be used for the main development language.
* MongoDB will be used as a NoSQL DB for the project.

**Conclusion:**

The Habit Tracker app provides complete functionality for creating, tracking and analysing user habits. It helps users structure their lives, maintain positive habits, and achieve their goals. Through notifications, streaks, and analytics, they can better understand their successes and weaknesses to become more productive and self-disciplined.