**Planning and Design**

**Time-tracking app requirements**

1. The app must allow users to sign in with a username and password. We'll utilize Firebase Authentication to authenticate users. This will allow for user-specific data so each user will only be able to see their timesheet entries and will only receive notifications for their tasks. Adding a sign in and password system also increases data security as only the user with the username and password will be able to see and access their timesheet entries which could hold sensitive information.
2. The ability for the user to make categories for the timesheet entries is required. This is a very beneficial feature as it will allow users to add many timesheet entries or tasks to a specific category/group that they create. The categories will allow to user to organize their timesheet entries so that they are easier to find whenever the user wants to acquire them.
3. A timesheet entry must be created by the user and include at least the date, the start and end timings, the description, and the category. These timesheet entries will allow users to set a certain amount of time aside on a certain day to complete a task. This will help the user in terms of time management and time-tracking so they can see how they spent their time at a specific time of day.
4. The user must be able to optionally add a photo to each timesheet entry. The photo can be of what the user completed in the duration of the time entry and this will add to the user experience as the photos may make using the app more enjoyable and allows for more personalisation for each timesheet entry.
5. The user must be able to specify both a minimum and maximum daily objective for hours worked. This allows the user to assign a certain amount of time for each timesheet entry so they know they only have that amount of time to complete or do whatever they need to over that duration.
6. The user must be able to see a list of all timesheet entries made over a period they can choose. The user must be able to retrieve any photos that were saved for entries from this list. This is a useful feature as it allows the user to filter their timesheet entries to find out what they did at a specific time on a specific day and this adds to the usability of the application so the user does have to scroll through many entries to find what they are looking for.
7. The total number of hours spent on each category throughout a user-selectable time period must be visible to the user. This data will indicate to the user how much time they are spending on each category during a certain time period.
8. The user must be able to examine a graph that displays the total number of hours worked each day over a timeframe they can choose. The graph also needs to show the minimum and maximum objectives. The graph is beneficial as it will give a visual representation of the total hours worked each day over a user-selectable period so that the user can compare days of many hours and less hours.
9. The app must show the user's progress over the previous month in terms of meeting their minimum and maximum hour targets in a visually appealing manner. This feature is beneficial as it shows the user how well they have managed their time and if they are completing tasks on time during the previous month.
10. An online database must be used to store the data. This is beneficial as the user’s data will not be lost after they close the application. As well as allow the user to log in on a separate device to receive their data.
11. The user must receive reminders and notifications for when a task is nearing the end time and for when a task is overdue. This feature is beneficial as it will assist the user in completing their task in the required time frame and will also increase user engagement (crustlab, 2022).
12. The user should be allowed to export a report of their timesheet data to a pdf. The user should be able to export a list of their timesheet entries over a specific time period to a pdf file, so that they can send the data to another person via a pdf file (pdf.wondershare, 2023).
13. The user should be allowed to change the application to dark mode. This will add to user experience as it will reduce eye strain for the user (forms.app, 2022).
14. Gamification should be added to the application in the form of daily streaks, rewards and challenges (trackabi, N/d).

* Daily Streaks: Encourage users to log their time daily with a daily streak system. For example, if a user logs their time for three consecutive days, they receive points or a badge. If they continue to log their time every day, the streak increases (trackabi, N/d).
* Rewards: Offer rewards to users who consistently log their time. These could be virtual rewards like badges or points that can be used to unlock additional features or perks within the app (trackabi, N/d).
* Challenges: Create challenges that encourage users to log their time in creative ways. For example, users could be challenged to log their time while standing up or while listening to a particular type of music. Users could earn points or badges for completing these challenges (trackabi, N/d).

**Reference List**

* trackabi. N/d. Gamification Of Time Tracking: Higher Motivation & Increased Productivity, N/d.[Online]. Available at: <https://trackabi.com/blog/gamification-of-time-tracking> [Accessed 22 April 2023]
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