Fitness Activity Recognition for Smartphone

Afak Tolgi[1], Anand Yadav[2], Chirag Panchal[3], Panjab Mane[4]

[1,2,3,4] *Information Technology Engineering Shah & Anchor Kutchhi Engineering College, Mumbai, India*
[5]*Professor, Information Technology Engineering Shah & Anchor Kutchhi Engineering College, Mumbai, India*

---***---

Abstract - research has observed that somewhat couple of individuals participate in customary activity or other proactive tasks. in spite of the accessibility of various portable applications and specific gadgets for self-following, individuals generally come up short on inspiration for performing proactive tasks. in this article we present a portable application, that utilizations step count for advancing the proactive tasks in grown-ups. this article brings up that while considering walk, movement span isn't adequate for deciding client's animation state. step count is one more component that ought to be considered. for this we propose a methodology for changing over the means into span for which action has been performed. Likewise, we have fostered the water drink update highlight created utilizing shudder cover adaptation. The fundamental thought process of building the water drink update application is to help individuals make sure to hydrate during the day utilizing cautions. Along these lines, they'll feel their best and execution appropriately. Our methodology utilizes ordinary customer advanced mobile phones matched with fittingly planned water drink update that might remind, propel, guide and track hydration.

Keywords - step counter, water remainder, android development.

Introduction

Presently a day, cell phones are utilized wherever in our reality for correspondence, amusement to wellbeing and health applications. Today we as a whole realize that the usage and furthermore the interest of Mobile Application Development are expanding and it makes motivation to make easy to understand and compelling sort of utilization. Android is an open-that the use and furthermore the interest of Mobile Application Development are expanding and it makes motivation to make easy to use and viable sort of use. Android is an open-source movable bundle with Linux-based stage delivered by Google. It comprises of the bundle, middleware, and PC program and application programming. Positively, Android is preparing to turn into the principal generally utilized OS on cell phones, yet with Android comes a security weakness that couple of clients think about [1]. Among all versatile stages Android amazing strong in light of the fact that Google

has made it loaded up with element and it's opensource stage and it's profoundly adaptable. The android PDAs are really useful with opensource stage and backing a wide range of equipment. This opensource stage draws in android application engineers to make remarkable versatile applications [2]. There are heaps of android based portable applications that are openly accessible inside the play store that are gotten to by individuals for different purposes. Android is opensource stage and gives all data and administrations to any or all with none permit charges. it's ability of getting viable with the larger part programs subsequently you'll make it viable. we stock advanced mobile phones wherever with us which could help us in a split second to remember what we should constantly do straightaway. PROPOSED MOBILE APPLICATION

In this paper we present a portable application that counts the quantity of advances strolled by the cell phone client. The objectives of are present moment and long haul. The momentary objective is to provide every part with a quantitative proportion of their day-to-day exercises and to make a solid contest which will act as a wellspring of positive input. The drawn-out objective of this venture is to expand the individuals' mindfulness and comprehension of the significance of activity and work with the reconciliation of standard activity into their day-to-day routine. The prominence of cell phones among Emiratis and individuals' very own connection to their mobiles make them an ideal apparatus for advancing a sound way of life

In a bustling timetable, individuals won't focus on adequate measure of drinking water which keeps us from drying out of our body. To forestall parchedness by making an intuitive versatile application that assists individuals with reminding to hydrate. On the off chance that you have observed that you are not having sufficient water and are attempting to make sure to drink all through the day. Water drink updates have become famous as of late. This venture has been carried out in android studio and underneath screen captures are gotten as consequences of it.

For step counter:

In the wake of introducing the application on to the portable and by opening it, we will get the principal

screen as displayed. Whenever we utilize this application first time it will coordinates to the register screen as displayed. Subsequent to empowering every one of the subtleties, it will direct to home screen as displayed, then, at that point, there is a page which will show that you are moving or not and once in the event that you will give consent, it will begin counting your means. After that you can see that how much advances you have been strolled it will show you in graphical portrayal moreover. Pedometerplugin: **This plugin allows for continuous step counting and pedestrian status using the built-in pedometer sensor API of iOS and Android devices.**

Sensors used:

Accelerometer: - An accelerometer is a gadget that actions the vibration, or speed increase of movement of a construction.

Whirligig: - Gyro sensors are gadgets that sense precise speed which is the adjustment of rotational point per unit of time.
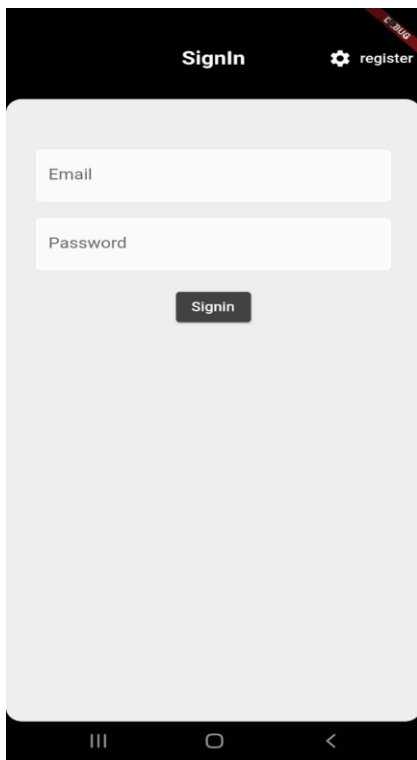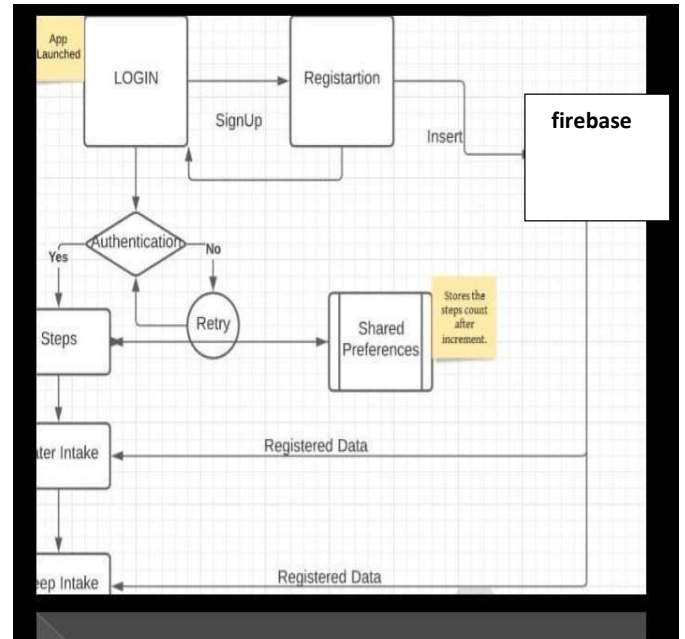
Flowchart for step counter:

Fig no1: On this page user needs to put Email and password to Sign in
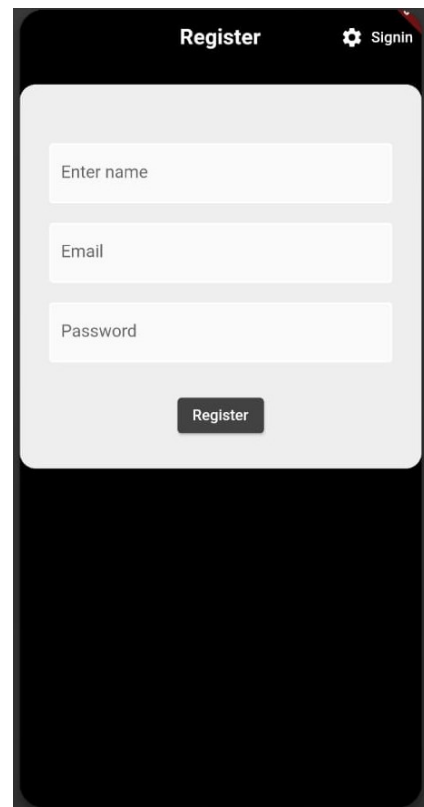

Fig no2: On this page user need to register basic details name, email and password.
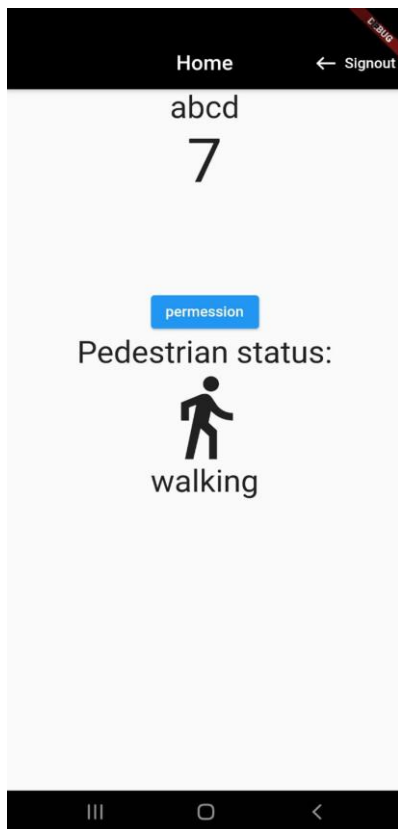
Fig no 3: It is a home page where user will get   to see how much number of steps he has walked
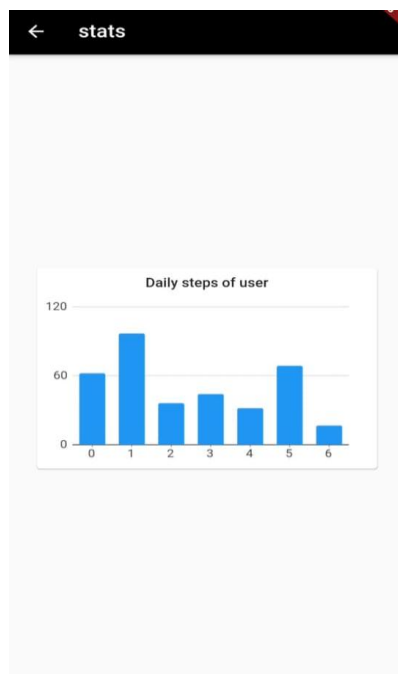

Fig no 4: It will show the daily number of steps walked in graphical representation.

For water remainder:

After that there is another component, you can follow how much measure of water you are drinking in a day. Presently application which permits the client to add measure of water to drink. In the wake of clicking ADD A DRINK button it coordinates to the screen four as displayed, which permits the client to alter the size of glass or container. By tapping on the time span in settings screen it will coordinates to the screen five as displayed, which permits the client to change the time stretch. Tapping on the HISTORY button in home screen it will shows the screen six as displayed, which assists the client with following the set of experiences as indicated by date and time. By clicking SHARE ADVICE button it will shows the screen seven as displayed, which permits the client to share the prompts through virtual entertainment. By tapping on the GRAPH button, it will show the screen Which assists the client with following the set of experiences in graphical portrayal. In the wake of finishing the objective last screen will be shown.
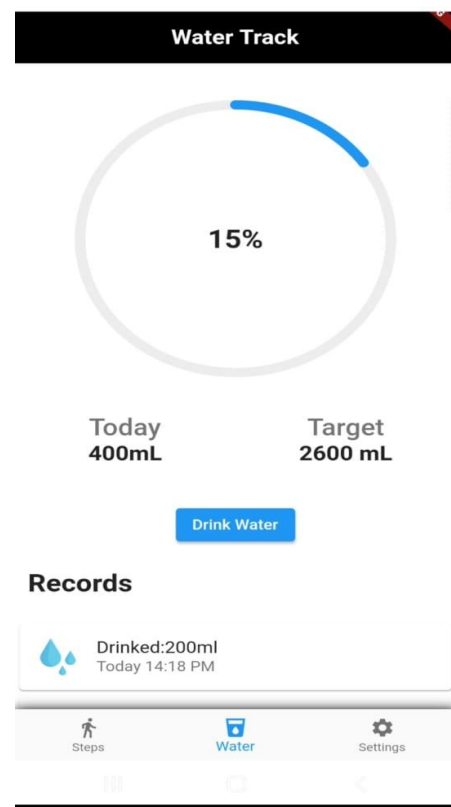

Fig no 5: It will show how much amount of water user has drink
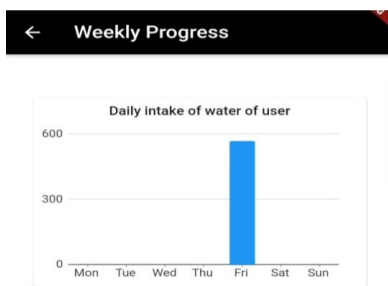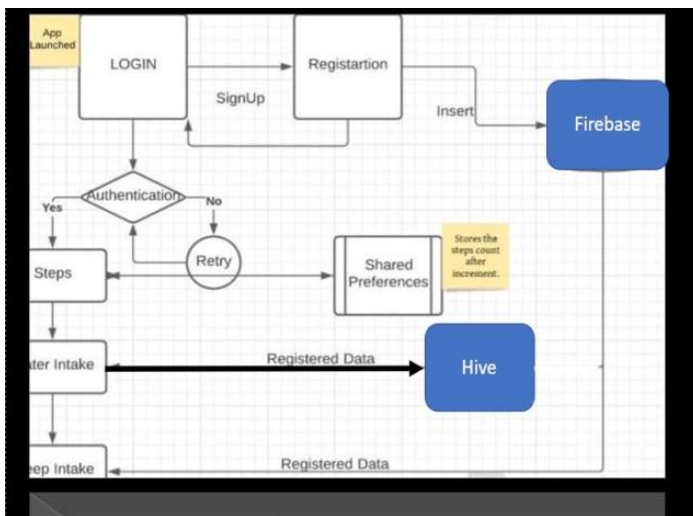

Flowchart for water intake:

Fig no 6: It will show how much amount of water user has drink in graphical representation

Technology used

a) Flutter:

Ripple is Google's compact UI tool stash for making excellent, locally ordered applications for portable, web, and work area from a solitary codebase. Ripple works with existing code, is utilized by designers and associations all over the planet, and is free and open source.

b) Firebase:

Firebase is a stage created by Google for making portable and web applications.

C)Hive:

Hive is a dart bundle utilized in Flutter applications for putting away information locally and controlling the information on a designated gadget.

Future Scope

Dissimilar to existing frameworks, which centre around the actual objective, our emphasis is on working with the client to accomplish the objective. To guarantee that our methodology is material to wide assortment of clients, we mean to lead probes bigger scope comprising clients from various populace, age gatherings, orientation and so forth. After that we will be sure about the effect of our application on client way of life. Also, we intend to consolidate client inclinations as well as exercise suggestion in our application. Client will enter his/her inclinations e.g., weight, age, medical issue and so on. The activity will be suggested by considering the client's inclinations and focuses are deducted as needs be. Besides, we likewise plan to consider client's area for suggesting exercise. In this way, in the event that the client's area is some park and so on then we will give input to client as needs be.

CONCLUSION

It is suggested that grown-ups ought to perform 150 minutes of moderate force oxygen consuming movement each week to stay sound and in great shape. In any case, when walk is considered as the performed action, then movement span isn't enough for ordering client into any liveliness level. Step count one more element that ought to be considered. Clients can perform movement for same length yet they can contrast de-forthcoming on their progression count. This article presents a methodology for changing over clients venture into the term for which movement has been performed. We have fostered a model, Smart Fit that utilizes client step count and converts these means to action length. The target of this application is to advance proactive tasks and empower clients to accomplish their animation objective by separating the objective into level and sublevels Unlike existing frameworks, which center around the actual objective, our emphasis is on working with the client to accomplish the objective. To guarantee that our methodology is pertinent to wide assortment of clients, we plan to lead investigates bigger scope comprising clients from various populace, age gatherings,

orientation and so on. After that we will be certain about the effect of this application on client way of life. Additionally, we intend to consolidate client inclinations as well as exercise suggestion in our application. The activity will be suggested by considering the client's inclinations and focuses are deducted as needs be.

REFERENCE

[1] Genevieve N Healy, Charles E Matthews, David W Dunstan, Elisa-Beth AH Winkler, and Neville Owen. Inactive time and cardio-metabolic biomarkers in us grown-ups: Hanes 2003-06. European heart diary, page ehq451, 2011.

[2] Simon J Marshall and Ernesto Ramirez. Decreasing inactive way of behaving, another worldview in active work advancement. American Journal of Lifestyle Medicine, 5(6):518-530, 2011.

[3] Michael Babyak, James A Blumenthal, Steve Herman, Parinda Khatri, Murali Doraiswamy, Kathleen Moore, W Edward Craighead, Teri T Baldewicz, and K Ranga Krishnan. Practice treatment for major depres-sion: upkeep of restorative advantage at 10 months. Psychosomatic medication, 62(5):633-638, 2000.

[4] Atifa Sarwar∗, Hamid Mukhtar∗, Maajid Maqbool∗ and Djamel Belaid† ∗National University of Sciences and Technology (NUST)

[5] International studio on Innovations in Information and Communication Science and Technology, IICST 2014, 3-5 September 2014, Warsaw, Poland.