A Project Report On

"ANALYSIS, DESIGN AND IMLPEMENTATION OF CPU PROCESS RECORD MANAGEMENT SYTEM"

Submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

in

Computer Science & Engineering

Amity School of Engineering & Technology

By

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Enrollment Number – A35705219026

Batch - 2019-2023

Semester – 5th

Submitted to

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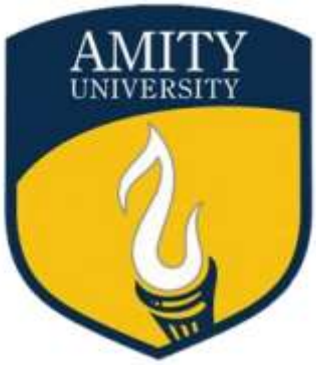

RANCHI

NOVEMBER, 2021

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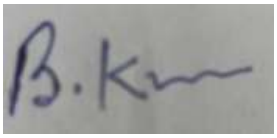
CERTIFICATE

This is to certify that the project report entitled "**ANALYSIS, DESIGN AND IMLPEMENTATION OF CPU PROCESS RECORD MANAGEMENT SYTEM"** submitted by **Gautam Kumar** to the **Amity University Jharkhand, Ranchi**, in partial fulfilment for the award of the degree of B. Tech in Computer Science & Engineering is a Bonafede record of project work carried out by him under my supervision from **20th October** to **15th November 2021**.

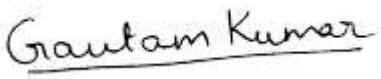


Mr. Biresh Kumar
Supervisor
Department of Computer Science

Ranchi
15th November, 2021

DECLARATION

I declare that this project report titled "**ANALYSIS, DESIGN AND IMLPEMENTATION OF CPU PROCESS RECORD MANAGEMENT SYTEM"** submitted in partial fulfilment of the degree of B. Tech in Computer Science & Engineering is a record of original work carried out by me under the supervision of Mr. Biresh Kumar and has not formed the basis for the award of any other degree or diploma, in this or any other Institution or University. In keeping with the ethical practice in reporting scientific information, due acknowledgement has been made wherever the findings of others have been cited.



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ACKNOWLEDGMENTS

The success and final outcome of this Academic Project on the topic "**ANALYSIS, DESIGN AND IMLPEMENTATION OF CPU PROCESS RECORD MANAGEMENT SYTEM"** required a lot of time and effort from my side a bit of help from my classmates and a lot of information sources and I am eextremely fortunate to have got this all along the completion of my project work. Whatever I have done is only due to such guidance and assistance and I would not forget to thank them. I thank my Faculty Guide **Mr. Biresh Kumar, Department of Computer Science and Engineering** for giving me an opportunity to do this project work.

Gautam Kumar

Abstract

As technology becomes more and more integral to everything we do, it can sometimes distract us from the things that are most important to us. Technology must improve life, not be distracted by it and therefore everyone with technology needs the tools to develop their own sense of digital well-being. Thus, **life, and not the technology it contains, remains in the foreground.**

The first step to digital happiness is often to better understand how you interact with technology in the first place. Digital wellness is a movement concerned with controlling the time we spend on mobile devices, the web, and technology in general. This means recognizing the potential damage that excessive use of screens can cause; whether it's reducing our attention time or hurting our productivity.

To help limit this potential harm, digital wellness strategies aim to help us regain control over our smartphone use and set useful boundaries that offer space and time. The technology itself is certainly not "bad", but it is important that users should recognize the potential damage that something so prevalent can cause - and that a strategy is required to minimize the risk.

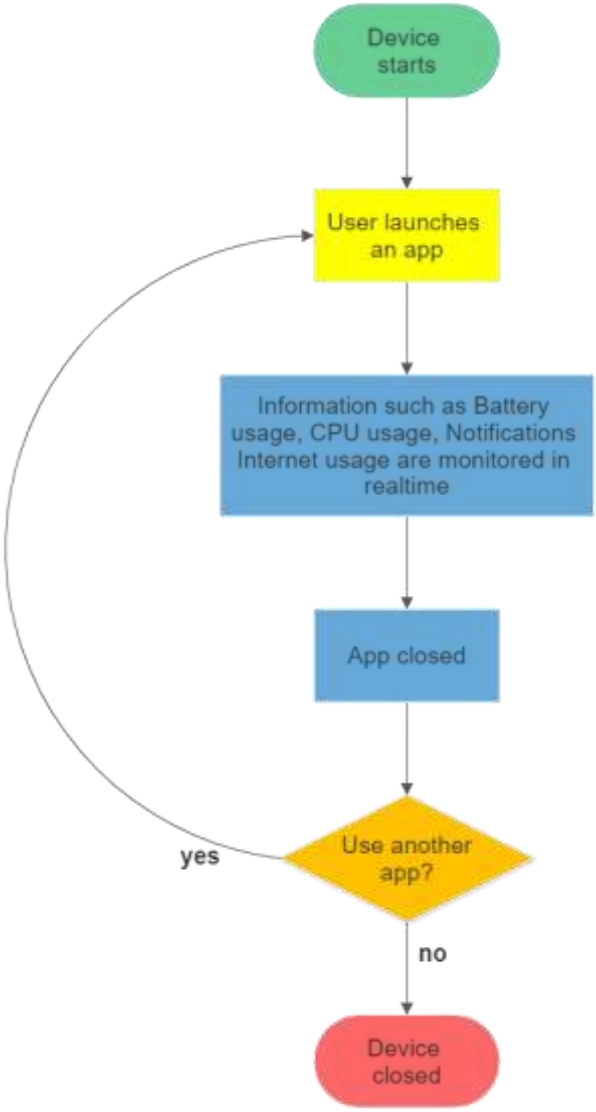
This project will contain the Entity-Relationship diagram of the CPU Process Record Management System. It will show that how this system works and how data is stored in the database. Some Queries will be there to show that how information can we retrieve from the database.

Introduction

Instead of using our technology devices like laptops, desktops and smartphones without any restraint of what we are actually doing it should be done in a strategic and planned manner this way we can save a lot of time and instead of using them pointlessly or not using them at all we can actually optimize the scenario.

As lot of people prefer to not bother too much time strategizing about what they should be doing in their days but being someone having multiple things to take care of they need to do it hence the system should not be too hectic that it consumes a lot of time and it should not be too difficult such that people need to give too much time just to understand the system. In simple words it should be user friendly process. So, in my project I would be proposing an easy and convenient method for CPU process record management system.

The flow chart for the proposed model of project is given below:



Proposed model

The proposed model consists of a digital wellbeing system that records trace of the tasks executed in the device.
In a modern-day multiprocessing computer of a modern-day student who has to use his desktop for various activities including Microsoft teams app, google chrome, Whatsapp, sticky notes and various others further in apps like google chrome the student visits various websites to access daily need content or study material and beyond. All this processes data can be captured when he uses it, and if there is a habit of the user like wasting some hours of his daily time in unnecessary activities like video games or YouTube or maybe others then either he by himself or his parents may use that data to keep in check that those habits can be minimized such that daily productivity of the student can be improved.

The aim of this case study is to design and develop a database for the PC such that the daily tasks, notifications, app opening count, etc can be maintained as a record and viewed as the need be.

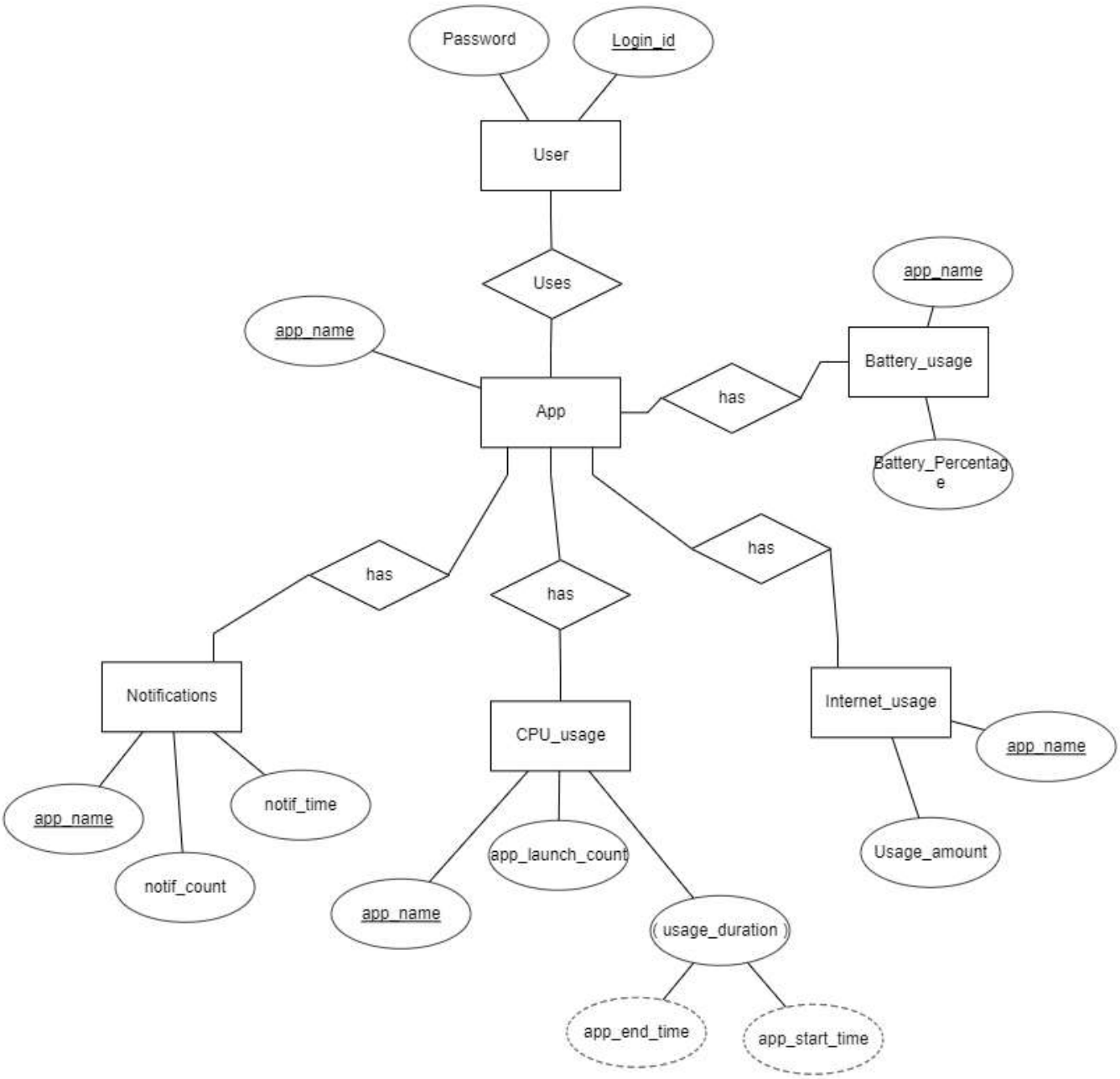
Methodology

This project will be done with the help of observational and qualitative approach. The management system will consist of various entities and relationship which will help the system to and store data of device usage in effective manner. Various information was gathered by me from various such apps to collect the data in different entities.
CPU Process Record Management System will consist of-

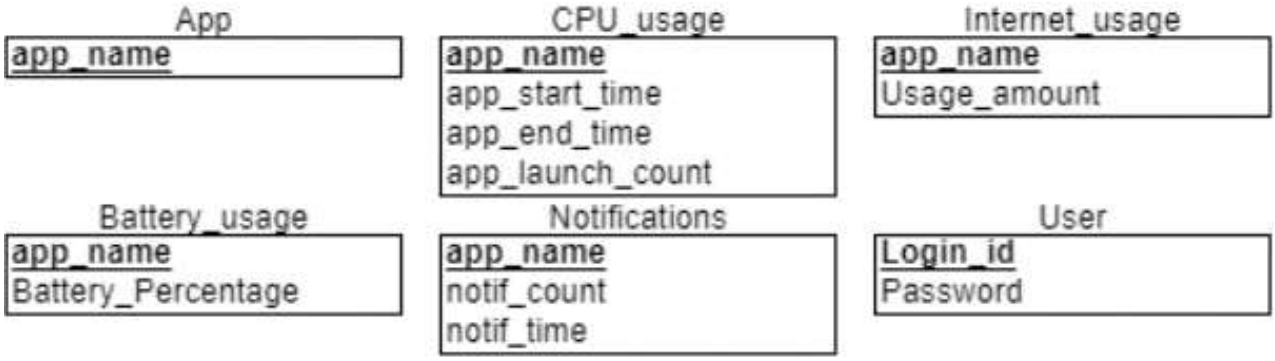
-> Entities
1. User: This will contain information of users of device.
2. App: This will contain information of apps available in device.
3. Battery usage: This will contain information of battery used by the device.
4. Internet_usage: This will contain information of internet used by the device.
5. CPU_usage: This will contain information of apps used by the user at any instance of time.
6. Notifications: This will contain information of notifications generated by apps of the device.

-> Relationship
1. Uses: Shows relationship between User and App.
2. has: Shows relationship of App with Notifications, CPU_usage, Internet_usage and Battery_usage.

E-R Diagram


Password
Login_id
User
Uses
app_name
app_name
Battery_usage
has
App
Battery_Percentage
has
has
has
Notifications
CPU_usage
Internet_usage
app_name
app_name
notif_time
notif_count
app_launch_count
app_name
usage_duration
Usage_amount
app_end_time
app_start_time

Relational Schema



Normalization

1. CREATE TABLE App (app_name VARCHAR (15) NOT NULL, PRIMARY KEY (app_name));

APP_NAME
MSTeams
Chrome
Paint
PUBG
Youtube
VSCode
Zoom
Whatsapp

Table for App

2. CREATE TABLE CPU_usage (app_name VARCHAR (15) NOT NULL, app_start_time INT NOT NULL, app_end_time INT NOT NULL, app_launches INT NOT NULL, PRIMARY KEY (app_name));

APP_NAME	APP_START_TIME	APP_END_TIME	APP_LAUNCHES
Chrome	600	800	2
MSTeams	915	1725	6
Paint	1318	1330	1
PUBG	1845	1950	1
Youtube	2000	2200	2

Table for CPU_usage

3. CREATE TABLE Internet_usage (app_name VARCHAR (15) NOT NULL, Usage_amount INT NOT NULL, PRIMARY KEY (app_name));

APP_NAME	USAGE_AMOUNT
Chrome	486
MSTeam	683
Paint	0
PUBG	56
Youtube	434

Table for Internet_usage

4. CREATE TABLE Battery_usage (Battery_Percentage_ INT NOT NULL, app_name VARCHAR (15) NOT NULL, PRIMARY KEY (app_name));

APP_NAME	BATTERY_PERCENTAGE_
Chrome	25
MSTeam	60
Paint	6
PUBG	46
Youtube	40

Table for Battery_usage

5. CREATE TABLE Notifications (notif_count INT NOT NULL, notif_time INT NOT NULL, app_name INT NOT NULL, PRIMARY KEY (app_name));

APP_NAME	NOTIF_COUNT	NOTIF_TIME
Chrome	3	1300
MSTeam	16	0

Table for Notifications

6. CREATE TABLE Users (Login_id VARCHAR (10) NOT NULL, Password VARCHAR (16) NOT NULL, PRIMARY KEY (Login_id));

LOGIN_ID	PASSWORD
user1	11111
user2	22222
user3	33333
user4	44444
user5	55555

Table for Users

Queries

1. Show list of all apps available on the device.
   ➔ select * from App;

APP_NAME
MSTeams
Chrome
Paint
PUBG
Youtube
VSCode
Zoom
Whatsapp

2. Show list of apps starting from ‘P’.
   ➔ select * from App where APP_NAME LIKE 'P%';

APP_NAME
Paint
PUBG

3. Arrange app list in ascending order.
   ➔ Select * FROM App ORDER BY APP_NAME ASC;

APP_NAME
Chrome
MSTeams
PUBG
Paint
VSCode
Whatsapp
Youtube
Zoom

4. Find the name of the apps which used 0 internet.
   ➔ Select * FROM Internet_usage where USAGE_AMOUNT='0';

APP_NAME	USAGE_AMOUNT
Paint	0

5. Delete user 3 from Users table.
   ➔ DELETE FROM Users WHERE LOGIN_ID='user3';

LOGIN_ID	PASSWORD
user1	11111
user2	22222
user4	44444
user5	55555

6. Add new user with user name ‘Gautam’ with password ‘project’.
   ➔ insert into users values('Gautam','project');

LOGIN_ID	PASSWORD
user1	11111
user2	22222
user4	44444
user5	55555
Gautam	project

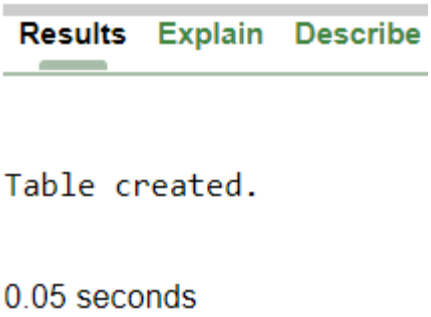
7. List all the app names launched more than once.
   ➔ select APP_Name from CPU_usage where APP_LAUNCHES>1;

APP_NAME
Chrome
MSTeams
Youtube

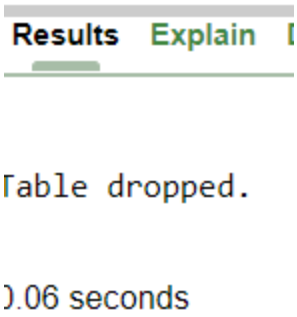
8. List all the app names used battery less than 40 percent.
   ➔ select APP_Name from Battery_usage where Battery_Percentage_<40;

APP_NAME
Chrome
Paint

9. Create table named App_category with column names app_name and category.
   ➔ create table App_category(app_name varchar(15),category varchar(20))



10. Delete table App_category.
    ➔ Drop table App_category



11. List all app names with internet usage greater than 300.
    ➔ select APP_Name from Internet_usage where Usage_amount>300;

APP_NAME
Chrome
MSTeam
Youtube

12. Add 1 notification of PUBG at time 9:00am.
    ➔ insert into Notifications values('PUBG',1,0900);

APP_NAME	NOTIF_COUNT	NOTIF_TIME
Chrome	3	1300
MSTeam	16	0
PUBG	1	900

13. What is the total internet usage by the device?
    ➔ SELECT SUM(USAGE_AMOUNT) as Total_internet_usage FROM Internet_usage;

TOTAL_INTERNET_USAGE
1659

14. What is the total percentage of battery used by the device after we remove usage from MS Teams and chrome?
    ➔
    1. DELETE FROM Battery_usage WHERE APP_NAME='Chrome';
    2. DELETE FROM Battery_usage WHERE APP_NAME='MSTeam';
    3. Select sum(BATTERY_PERCENTAGE_) as Battery_for_Time_pass from Battery_usage;

BATTERY_FOR_TIME_PASS
92

15. What is total app launches by the device for the day?
    ➔ select sum(APP_LAUNCHES) as Total_app_launches from CPU_usage;

TOTAL_APP_LAUNCHES
12

References

- Android app: Action Dash
- PC app: Procrasti Tracker