Procrastination Tracker and Goal Reminder

Maneesh Kumar Singh (mksingh4@illinois.edu)

Introduction

As part of final project for CS498 IoT course, I am planning to build a time management system, which consists of a social media deterrent and a live display of the current tasks/goals in hand using Raspberry Pi.

Motivation

This semester due to high workload at both office and in MCS program, I was reminded of my non-existent time management skills. Most of the people can relate to having very bad time management. So, I decided to build something that could help me manage time and hopefully would be useful for people like me.

When I started tracking my time, I noticed most of my time was spent on un-necessary stuff that was totally unrelated to my work. This is called procrastination and there are mostly three reason for it

1. Not having plan or not knowing what to do next
2. Distraction especially social media
3. Not keeping your goal/next task in front of you

In this project, I am focusing on finding solution for problems 2 and 3.

Social Media Deterrent

There are two types of social media users. First are those who enter and exit social media at will. And then there are people like me, who take their cell phone to check a new meme and boom its already an hour. I tried self-control but it is not as effective as reminder from your better half.

The setup would look like this

1. Create a list of blacklisted websites (E.g., 9gag.com, facebook.com)
2. Setup Pi as router
3. Install and setup traffic monitoring on Pi
4. Setup AWS IoT on Pi
5. When a blacklisted website is visited, communicate with AWS IoT
6. AWS IoT sends a SMS to your spouse cellphone with website name
7. Spouse yells at you. You stop browsing and focus on work.

Goal Tracker

Keep your goals in sight.

One of the important steps for better time management is to have your goal or tasks in front of you. Everyone has some goals that they want to achieve. As a software developer, one of the goals that I am currently pursuing is to solve 5 LeetCode questions every day. It would be nice to display the stats of my progress and keep it in front of me. This could be generalized to show stats from any web service.

The setup would look like this

1. Setup AWS Lambda, to periodically poll LeetCode for stats. Or other webservice for goals
2. Process stats and/or goals
3. Push back the message to Pi
4. Pi displays the message on a wall mounted digital/raspberry pi screen

Raspberry Pi is capable of contacting the API and processing itself. However, I feel throwing AWS IoT in the mix would help me learn more about AWS IoT.

Possible enhancements

I feel the tasks outlined above would take a good amount of time to implement for me. However, if time permits or in future, I will enhance this system to solve the procrastination problem-1 which is not having a plan or not knowing what to do. I would like to setup Alexa SDK on Raspberry Pi and make it like a personal organizer. You could ask questions like "Alexa, what is in for today?" and it would answer all the tasks that you need to do today. You could also ask it to add tasks to your calendar and it can also pick the tasks from your outlook via API.

Timeline

Task	Deadline
Raspberry Pi as router and traffic monitor	3/26/21
Coding pi to detect blacklisted sites	3/28/21
AWS IoT setup	4/2/21
SMS Message connectivity	4/11/21
Analyze LeetCode public API	4/11/21
Develop AWS lambda that run on schedule to get LeetCode data	4/18/21
Push back data to Pi	4/18/21
Setup display screen	4/18/21
Report and Video Editing	4/30/21

References

1. LeetCode problem tracker https://medium.com/@mattmkim/codetime-a-chrome-extension-that-rewards-me-for-solving-leetcode-problems-cc2831c52724
2. Setup Raspberry Pi as traffic monitor https://www.technicallywizardry.com/raspberry-pi-network-monitor/
3. Alexa SDK setup https://developer.amazon.com/en-US/docs/alexa/avs-device-sdk/raspberry-pi-script.html