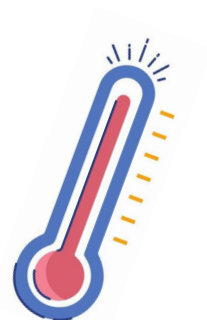


ITスキル実習2

CPU温度計 macに優しく



2021/09/10

NE20-1042F 山根霧羽

／ みなさん ／

普段から、macちゃんを扱っていませんか？

macを扱っていると・・・

1. 熱くなりすぎる
 2. 動作が重くなる
 3. 表示に模様がはいる
- etc...

課題

頑張りすぎるネ学生の
macの寿命が減ってしまうかも！？

提案アプリ

macでの作業の一時中断を推奨する



macがお疲れです
すこし休憩しませんか？

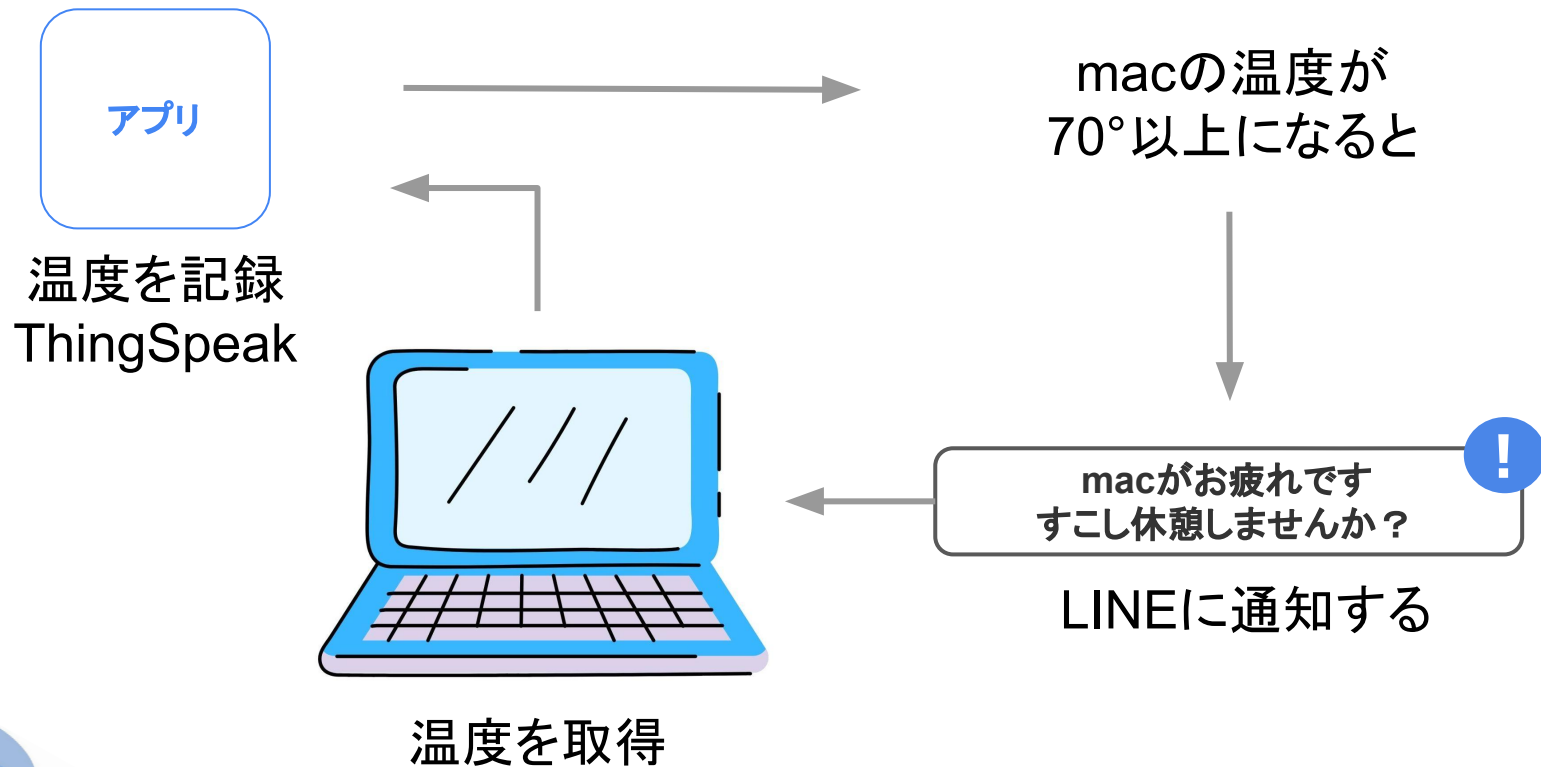


ターゲット

- リモート授業 & リモートワーク
- ネ学生
- 普段から、多く作業をする
- さまざまなタブを同時に開く



アプリの仕組み



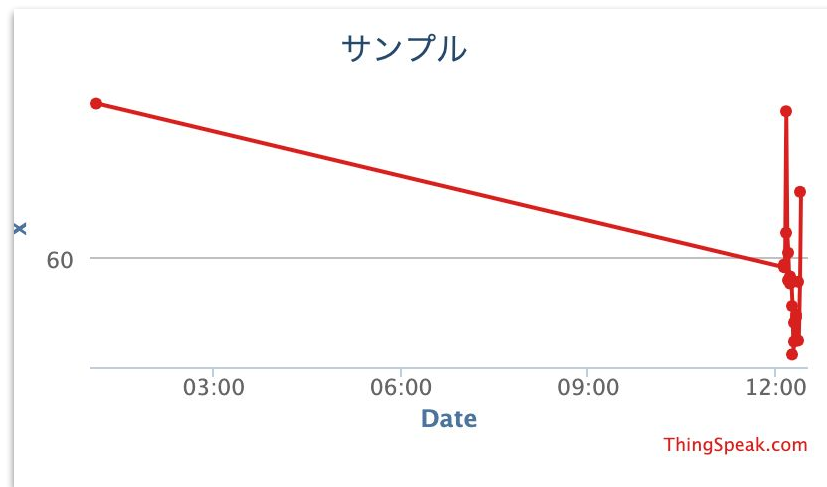
現在の到達状況

pythonからThingSpeakにデータを入力

ターミナルに温度を表示

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```

```
Python版 57.11 を登録しました。  
(data/you-keepit のデータをThingSpeakに送ります)  
Python版のデータが 547 件あります。  
'69.77', '68.79', '68.29', '67.71', '73.41', '71.97', '78.57', '62.37', '63.32', '61.94', '61.71', '68.81', '62.39', '62.81',  
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```



到達目標

- 70°以上を判断する
 - LINEに通知する ▶ むずかしい
- ★ 作業時間を記録

使用するデータ

サンプルファイル

- get_cpu_temp.sh
- update_channel.py
- cpu_date.dat

macのCPU温度計

```
2021-09-10T12:20:39 JST CPU die temperature: 53.10 C
2021-09-10T12:20:54 JST CPU die temperature: 52.94 C
2021-09-10T12:21:09 JST CPU die temperature: 52.99 C
2021-09-10T12:21:24 JST CPU die temperature: 52.88 C
2021-09-10T12:21:39 JST CPU die temperature: 52.54 C
2021-09-10T12:21:54 JST CPU die temperature: 51.80 C
2021-09-10T12:22:09 JST CPU die temperature: 50.30 C
2021-09-10T12:22:24 JST CPU die temperature: 49.77 C
2021-09-10T12:22:39 JST CPU die temperature: 49.36 C
2021-09-10T12:22:54 JST CPU die temperature: 51.16 C
2021-09-10T12:23:09 JST CPU die temperature: 57.11 C
2021-09-10T12:23:24 JST CPU die temperature: 62.65 C
2021-09-10T12:23:40 JST CPU die temperature: 64.36 C
2021-09-10T12:23:55 JST CPU die temperature: 60.06 C
2021-09-10T12:24:10 JST CPU die temperature: 67.56 C
2021-09-10T12:24:25 JST CPU die temperature: 62.93 C
^C
yamanekiriha@yamanekiriwanoMacBook-Air ne201042 %
```

必要な機材や機能

- mac
- cpu温度を測る機能
- 温度をThingSpeakに記録する機能
- 通知機能

コアとなるセンサーデータの活用方法

- CPU温度を1分毎に記録
- 70°以上になると通知のコードが実装

```
... # メイン処理
... cpu_temps = []

... print(data_file + " のデータをThingSpeakに登録します。")
... # CPU温度の情報をファイルから取得
... cpu_temps = getCpuTempFromFile(data_file)

... print("CPU温度のデータが " + str(len(cpu_temps)) + " 件あります。")
... # データの中身をすべて表示
... print(cpu_temps)

... # 最新のデータ（一番最後）をThingSpeakに登録
... # 登録するデータを設定
... post_data = {'field1': cpu_temps[-1]}
... post2ThingSpeak(ts_update_url, headers, post_data)

... print("CPU温度: " + str(cpu_temps[-1]) + " を登録しました。")
... # sys.exit(0)

# 1分毎のjob実行を登録
schedule.every(1).minutes.do(job)

while True:
    schedule.run_pending()
    time.sleep(1)
```

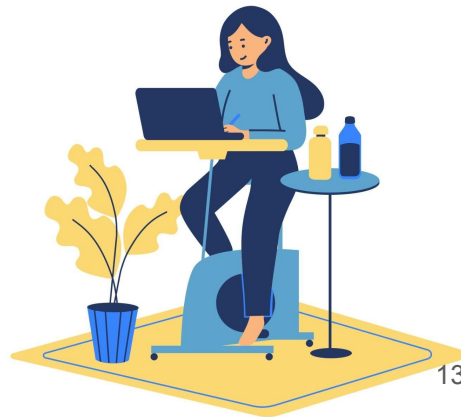
今後の発展

ただ、macに優しいだけでなく



人とmacの優しい関係をサポートするアプリへ

- 使用時間が長いと休憩を促す
- 体をほぐす方法を教えてくれる
など



まとめ

課題: macの寿命を長くする

原因: CPU温度が高いと負担が大きい

提案: CPU温度を測り、高い時に通知(警告)する

現状: データの取得・入力まで完了