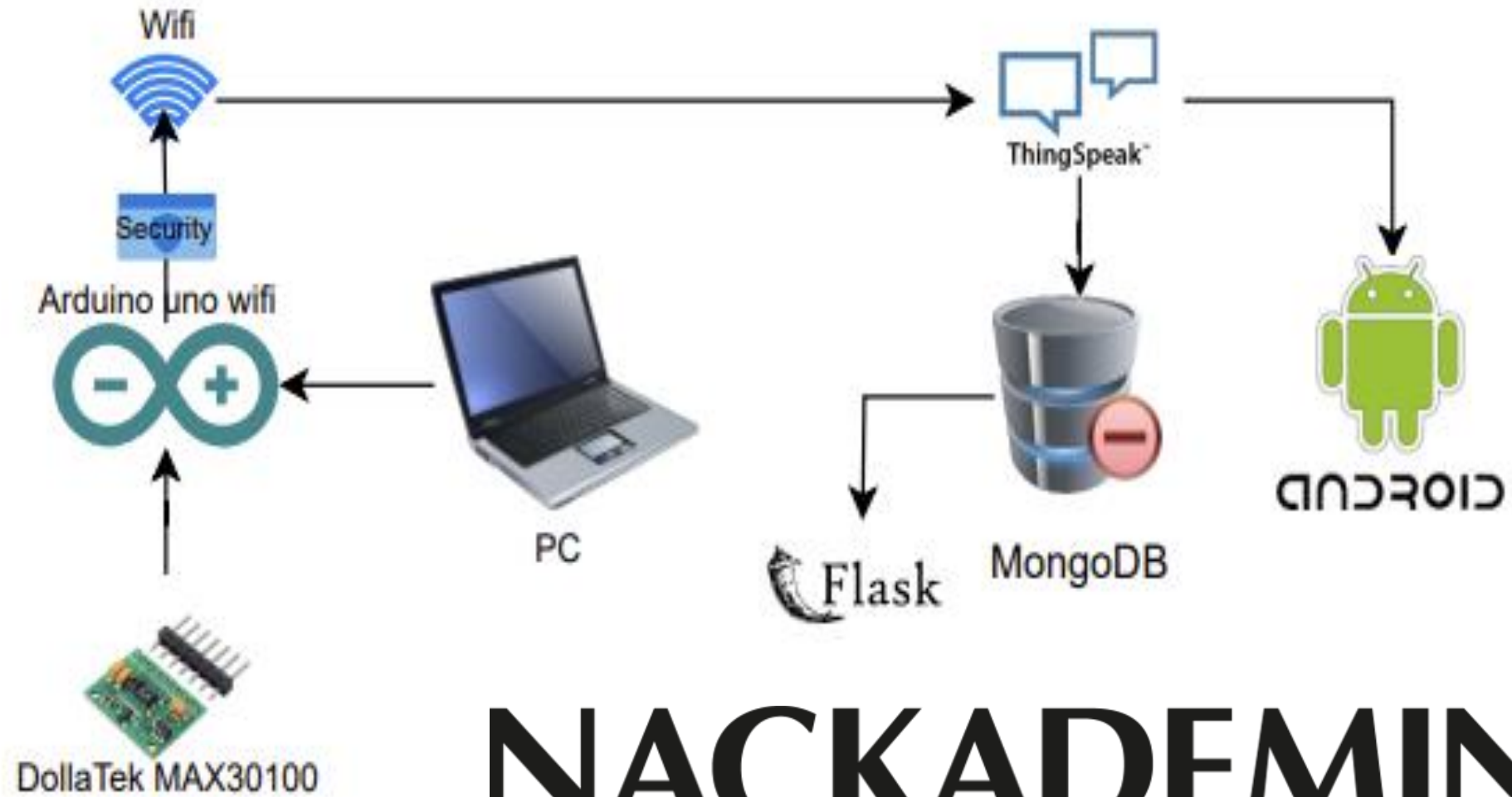


Examen arbete

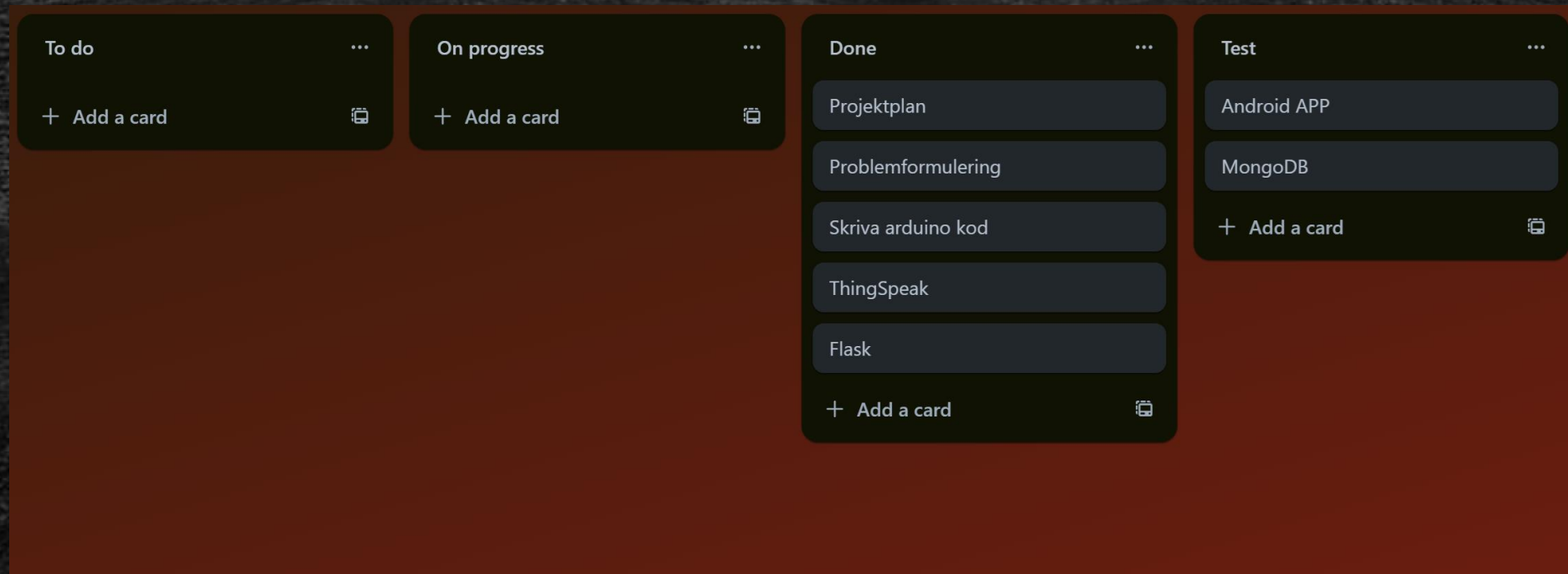
Elever: Jekaterina Jelisejeva, George Glor

Koppla dollatek max30100 med Arduino Uno R4 Wifi , ThingSpeak, MongoDB, Flask med Android App.



NACKADEMIN

Trello Översikt: Projektstyrning och Arbetsflöde

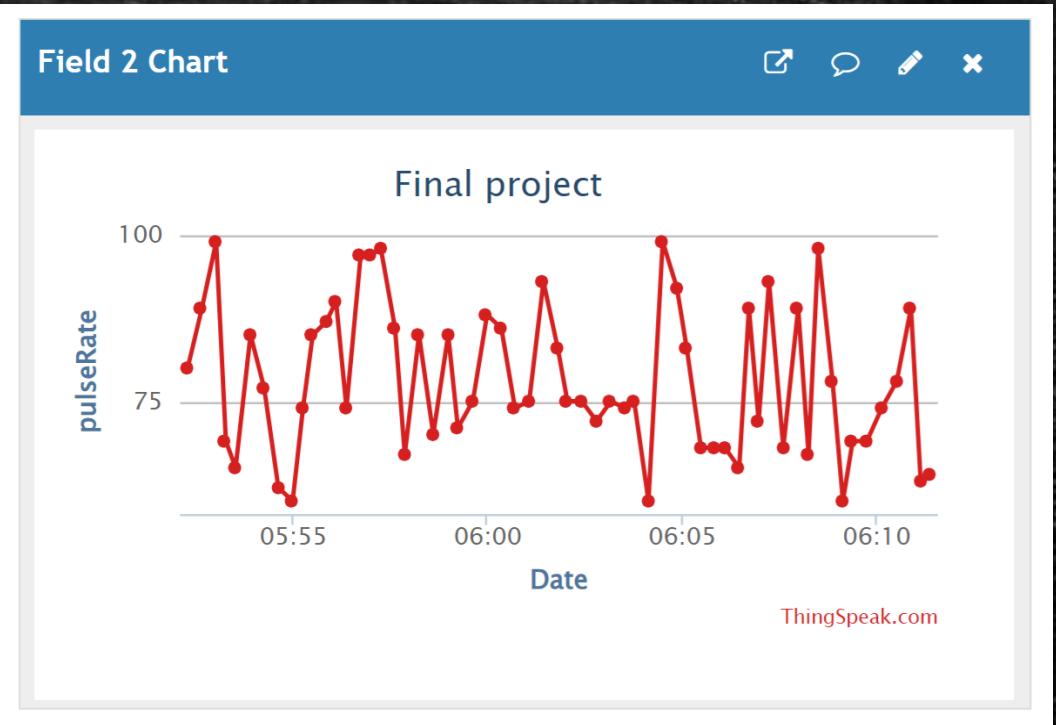
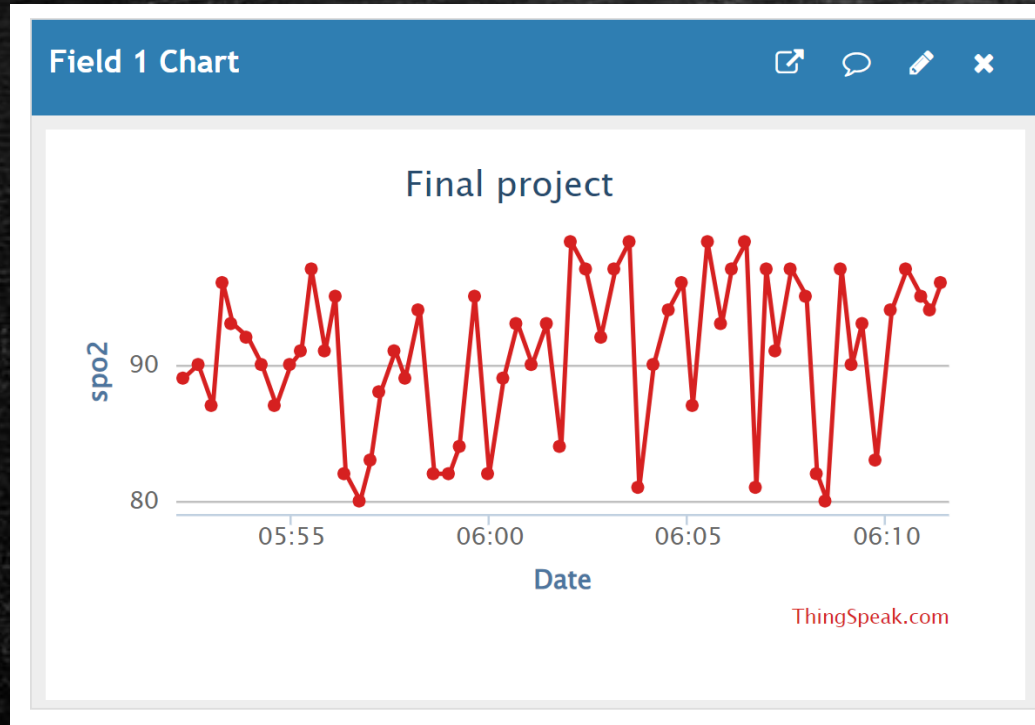


Bibliotek som är viktiga för att läsa av sensorn och koppla upp allt mot ThingSpeak.

```
#include <Wire.h>
#include <MAX30100.h>
#include <WiFiS3.h>
#include "ThingSpeak.h"
#include
<MAX30100_PulseOximeter.h>
```

```
float spo2, pulseRate;
readSensorData(spo2, pulseRate);
Serial.print("SpO2 = ");
Serial.print(spo2);
Serial.println("%");
Serial.print("Pulse Rate = ");
Serial.print(pulseRate);
Serial.println("BPM");
```


Resultaten i ThingSpeak



Visualisering av Data med MongoDB: Utforska Representationer av Dina Dokument

Exjobb.HealthData

Documents Aggregations Schema Indexes Validation

Filter ⓘ ⓘ Type a query: { field: 'value' } or [Generate query](#) ↗

➕ ADD DATA ▾ 📄 EXPORT DATA ▾

▶	<pre>_id: ObjectId('6580d7b94c01e128f9b040f') SpO2: 89 PulseRate: 69 timestamp: 2023-12-18T04:25:56.000+00:00</pre>
	<pre>_id: ObjectId('6580d7b94c01e128f9b0410') SpO2: 90 PulseRate: 68 timestamp: 2023-12-18T04:26:18.000+00:00</pre>
	<pre>_id: ObjectId('6580d7b94c01e128f9b0411') SpO2: 91 PulseRate: 80 timestamp: 2023-12-18T04:26:39.000+00:00</pre>
	<pre>_id: ObjectId('6580d7b94c01e128f9b0412') SpO2: 89 PulseRate: 85 timestamp: 2023-12-18T04:27:02.000+00:00</pre>
	<pre>_id: ObjectId('6580d7c94c01e128f9b0413') SpO2: 84 PulseRate: 89 timestamp: 2023-12-18T04:27:19.000+00:00</pre>

- `import pymongo`
- `from pymongo import MongoClient`
- `import requests`
- `client = MongoClient(mongodb_uri)`
- `db = client.Exjobb`
- `collection = db.HealthData`

Oxygen och Puls Statusbedömning: Dynamisk Hälsostatus baserad på Värden

```
String oxygenStatus = "Normal";  
if (oxygen < 90) {  
    oxygenStatus = "Low Risk";  
} else if (oxygen < 80) {  
    oxygenStatus = "High Risk";  
}
```

```
String pulseStatus = "Normal";  
if (pulse < 60 || pulse > 100) {  
    pulseStatus = "Not normal";  
}
```

Visualisering som hämtas från ThingSpeak.


[View Data](#)

Time:

2024-01-11

SpO2 Level: 93

%C (Normal)

Pulse: 69 
(Normal)