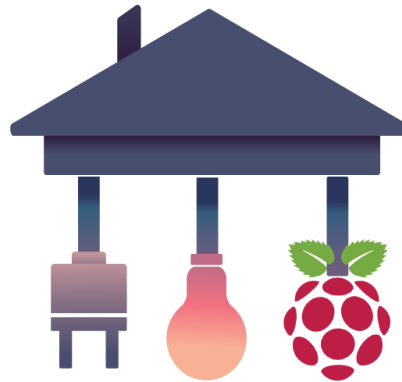


Universitatea “Alexandru Ioan Cuza” Iași  
Facultatea de Informatică



# Implementarea unui sistem software de tip Smart Home



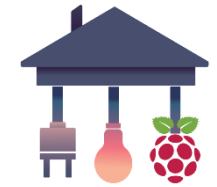
Autor:  
**Nicușor TURCU**

Coordonator științific:  
**Lector doctor Cristian FRĂȘINARU**

Sesiunea: Iulie 2018

# Cuprins

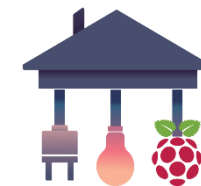
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1. Motivație
2. Ce este Smart Home?
3. Arhitectura sistemului
4. Aplicația web
5. Server REST Java
6. Dispozitive inteligente
7. Dispozitive utilizate
8. Direcții de dezvoltare
9. Concluzii

# Motivație

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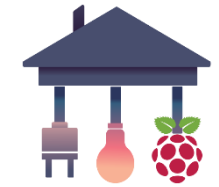


- Literatura științifico-fantastică - Ray Bradbury.



# Ce este Smart Home?

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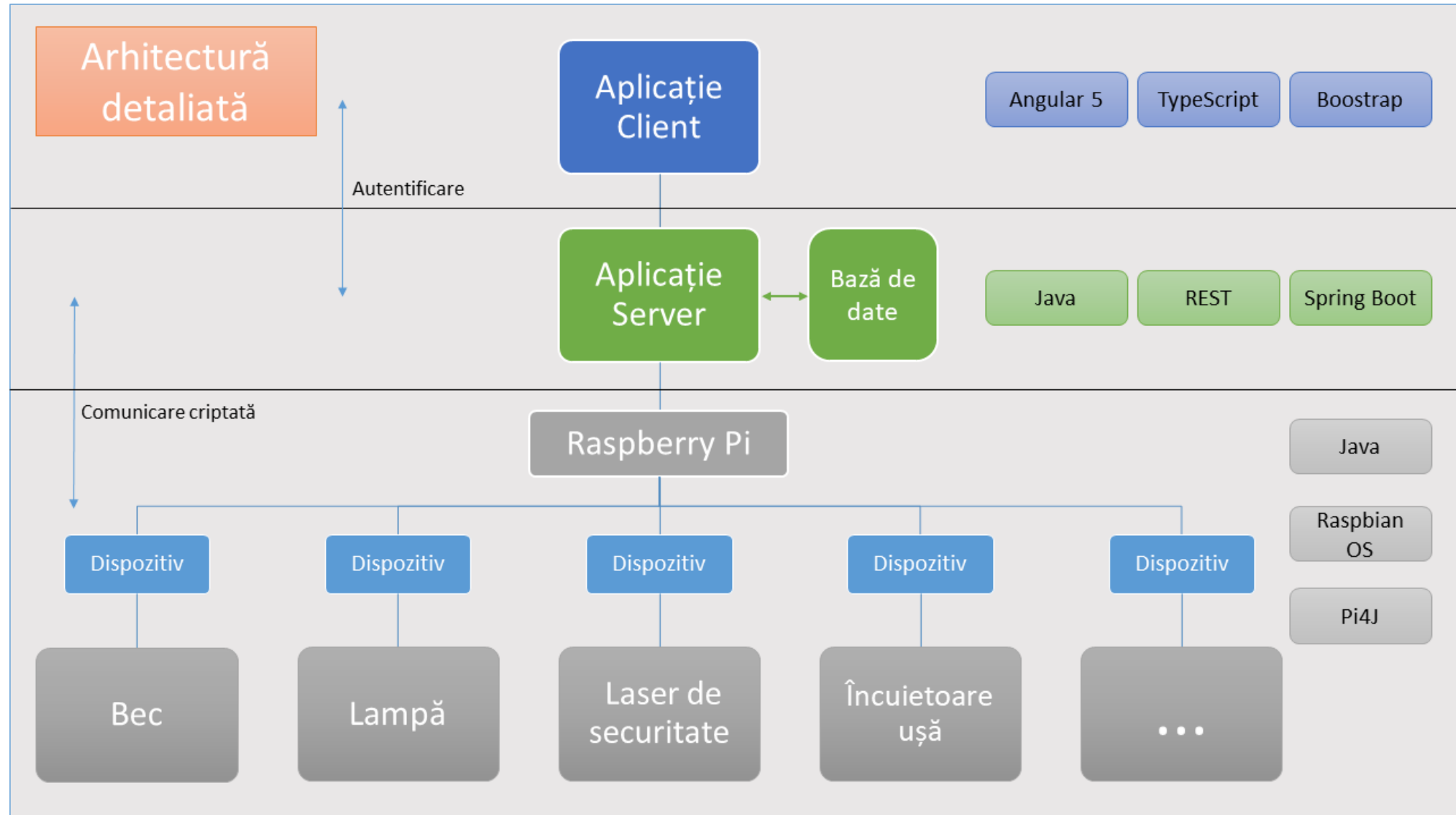
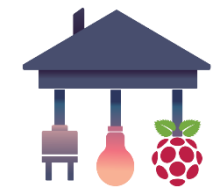
Reședință controlată de la distanță.

Oferă:

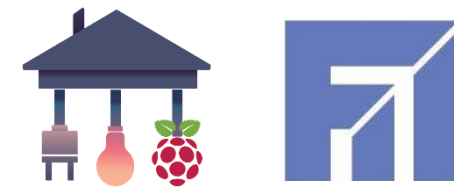
- Confort,
- Securitate,
- Economii de timp, bani și energie.

Software-ul de calculator joacă rolul unui agent inteligent.

# Arhitectura sistemului



# Aplicația web



Angular 5

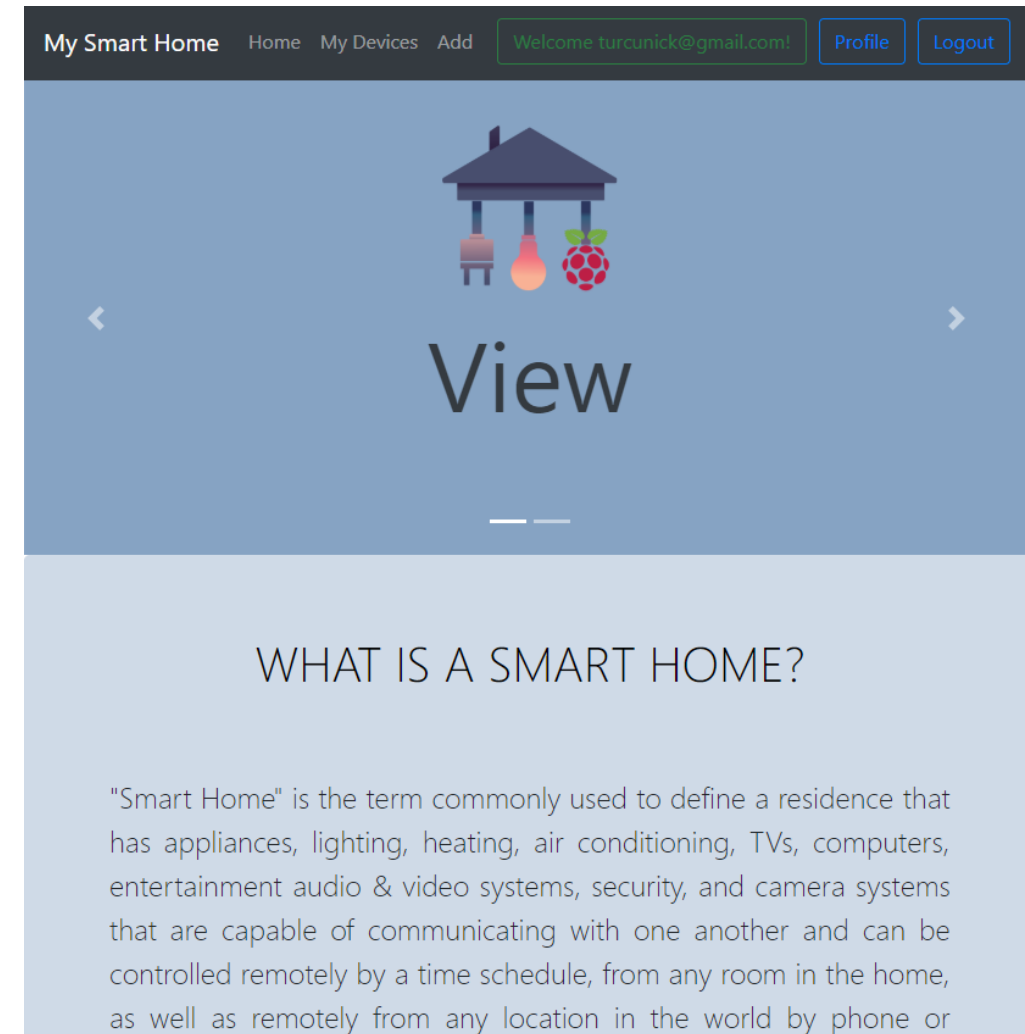
Bootstrap 4

HTML

CSS

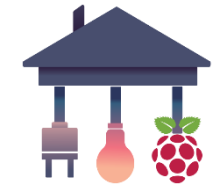
Typescript

- Design:
  - Intuitiv
  - Modern
  - Simplist
  - Responsive
- Comunicare HTTP cu serverul Java.



# Server REST Java

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API REST

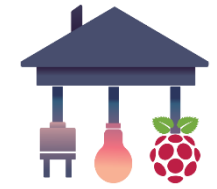
SSL/TLS

Java

- Manager de dispozitive.
- Protocol de comunicare personalizat.
- Comunicare securizată cu dispozitivele.

# Dispozitive inteligente

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Raspberry Pi

Arduino

PI4J

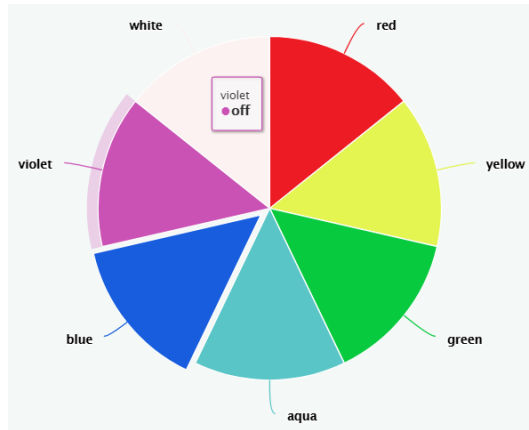
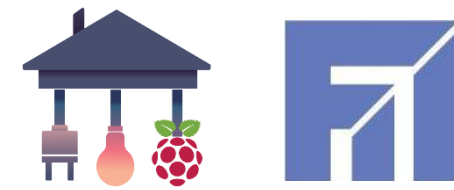
SSL/TLS

Java

- Raspberry Pi.
- Dinamicitate în expunerea configurărilor dispozitivelor.



# Dispozitive utilizate



Lampă



Bec



Laser de securitate

## Dispozitiv

## Hardware



KY-016, Modul LED cu 3 culori

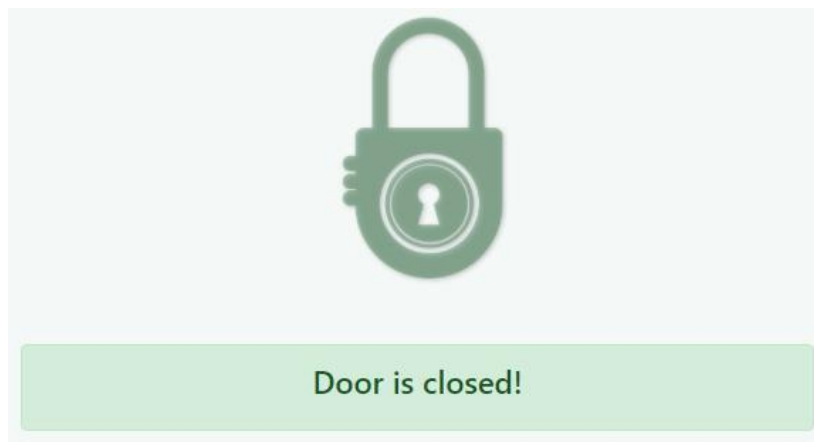
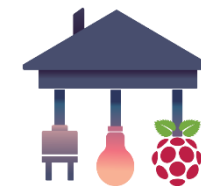


KY-011, Modul LED cu 2 culori

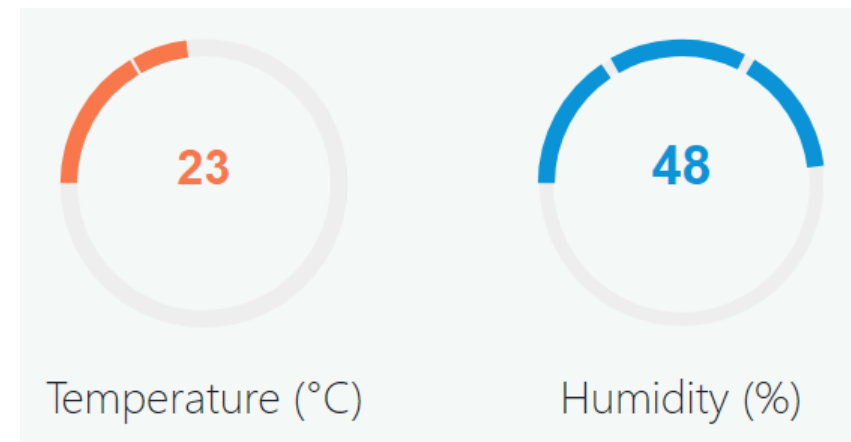


KY-008, Modulul senzor laser

# Dispozitive utilizate



Încuietoarea ușii



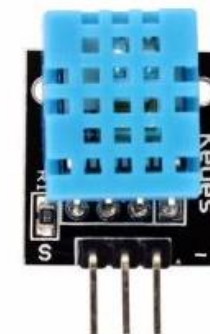
Monitor ambianță locuință

## Dispozitiv

## Hardware



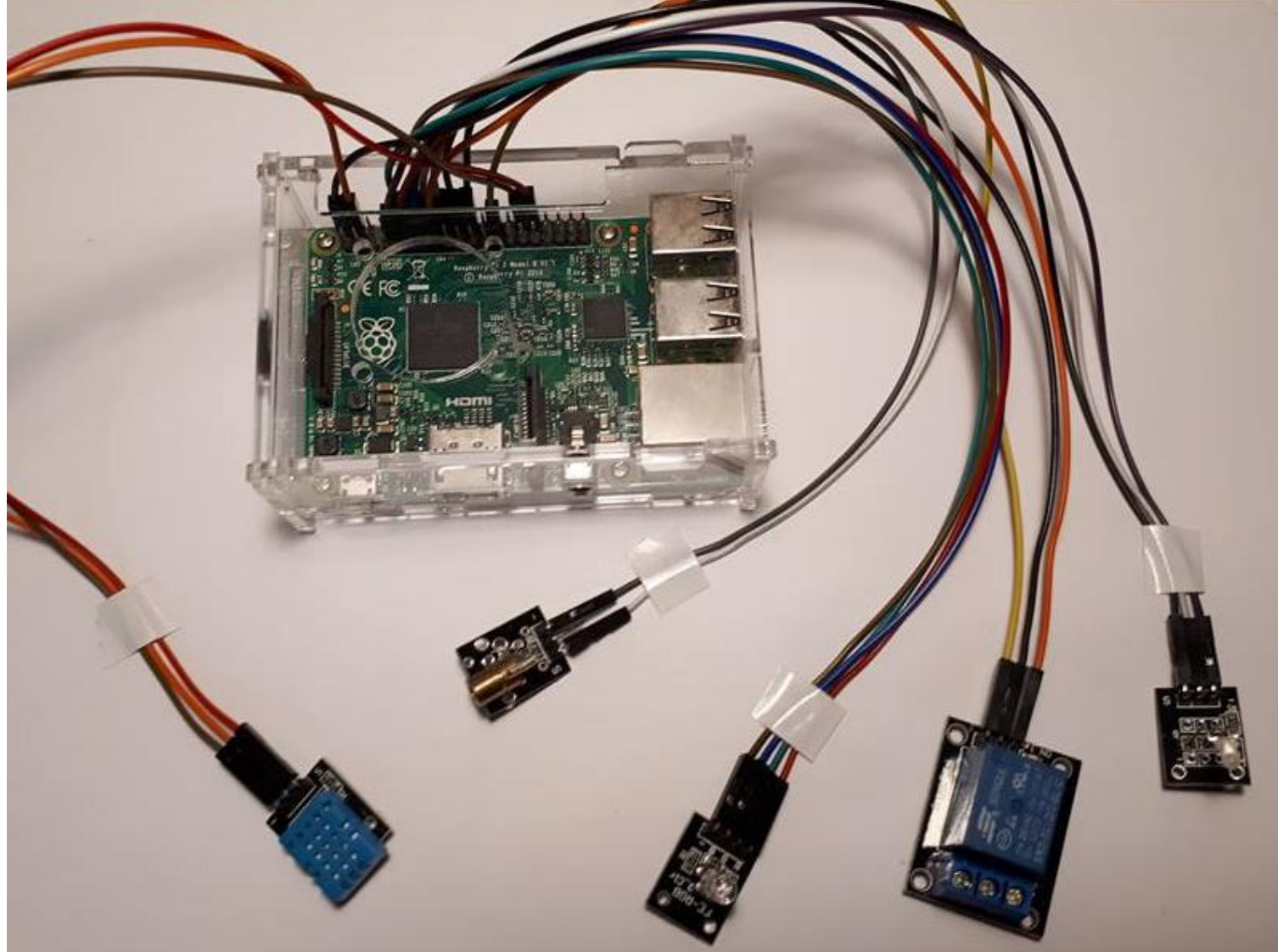
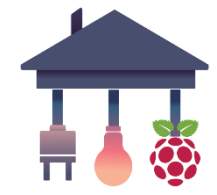
KY-019, Modul releu 5V



KY-015, Modulul cu senzor de temperatură și umiditate

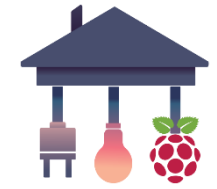
# Demo

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# Directii de dezvoltare

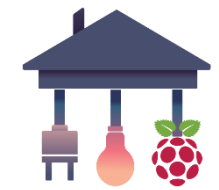
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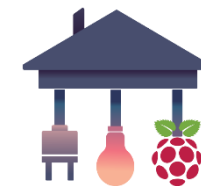
- Creșterea numărului de dispozitive.
- Creare a grupuri de utilizatori.
- Folosire HTTPS.

# Concluzii

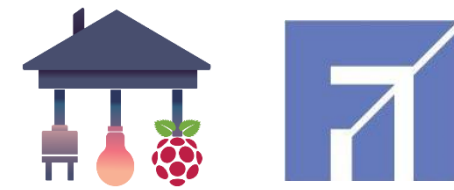
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- Arhitectură bine construită.
- Consider că lucrarea și-a atins scopul.
- Demonstrarea avantajelor sistemului.
- Experiență cu o gamă largă de tehnologii.



Întrebări?



Mulțumesc pentru atenție!