

# TIFA

TEL-U INTERACTIVE FOOD ASSISTANT

## Meet TIFA – The Autonomous Waiter Robot!

TIFA Robot Waiters are robotic systems designed to transform and elevate human tasks in service environments. With key features such as SLAM (Simultaneous Localization and Mapping) and auto-charging, TIFA is designed to revolutionize efficiency and enhance customer experiences. Although still in development, these robots represent the future of automation in cafes, restaurants, and more, by delivering efficient service.



### THE POSITIVE IMPACT

The increase in sales volume directly influences ROI by boosting the revenue generated from the initial investment.

The use of robot waiters can support approximately 70% of operational service tasks

The presence of these robots can increase customer numbers by 20-30%



Report  
pengembangan  
T.I.F.A  
(20/11/2024)



Objective Pembahasan :

1. Proof of concept (done)
2. Proof of concept (process)
3. Result Progres

## **Update :**

- 1.process scale 1:1
- 2.motion kontrol (integrasi)
- 3.obstacle avoidance method

## **Goal :**

- 1.Obstacle Avoidance
  - 2.Looks Robot
  - 3.Lifetime robot
  - 4.Mapping
- 

## **Proof of Concept (done)**

- 1.ultrasonic obstacle avoidance
- 2.Mapping from Lidar
- 3.Application interface

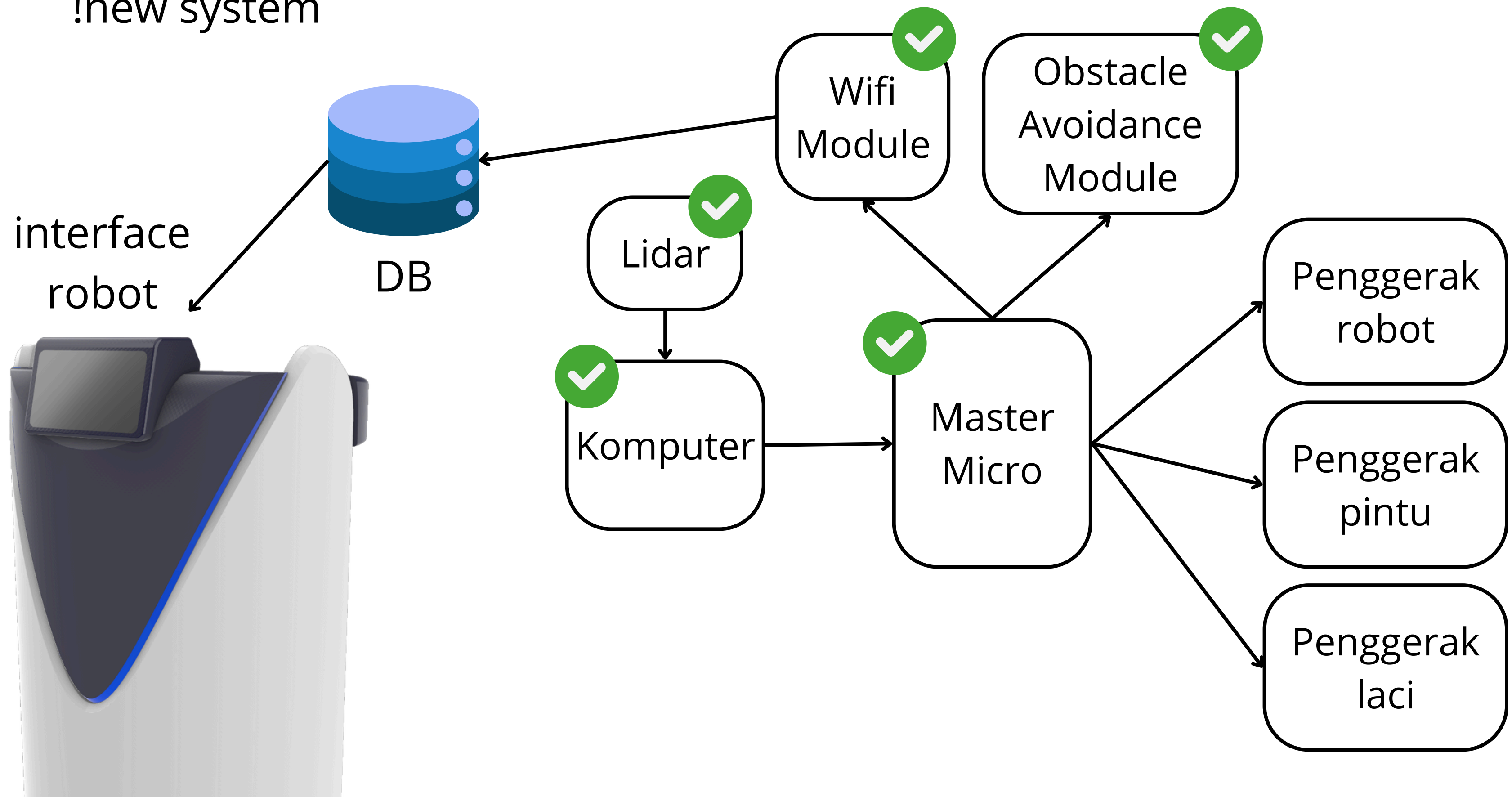
## **Proof of Concept (process)**

- 1.Printing Prototype robot design 1:1 Scale
- 2.Integrasi motion kontrol

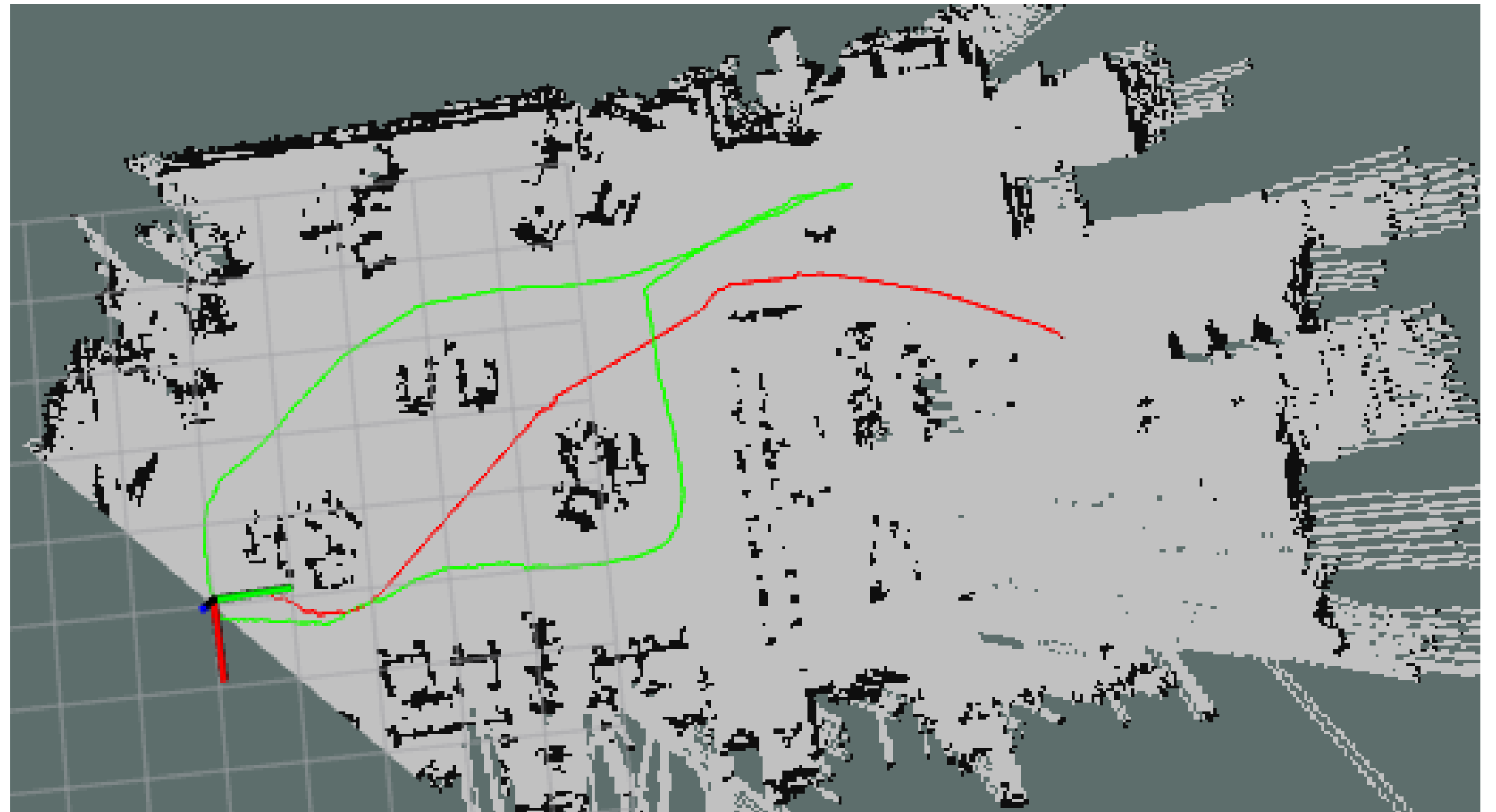
robot baru mencapai **35%** pengembangan berdasarkan semua metode yang sudah di coba (yang gagal dan berhasil)

# Serial Communication between micro solution

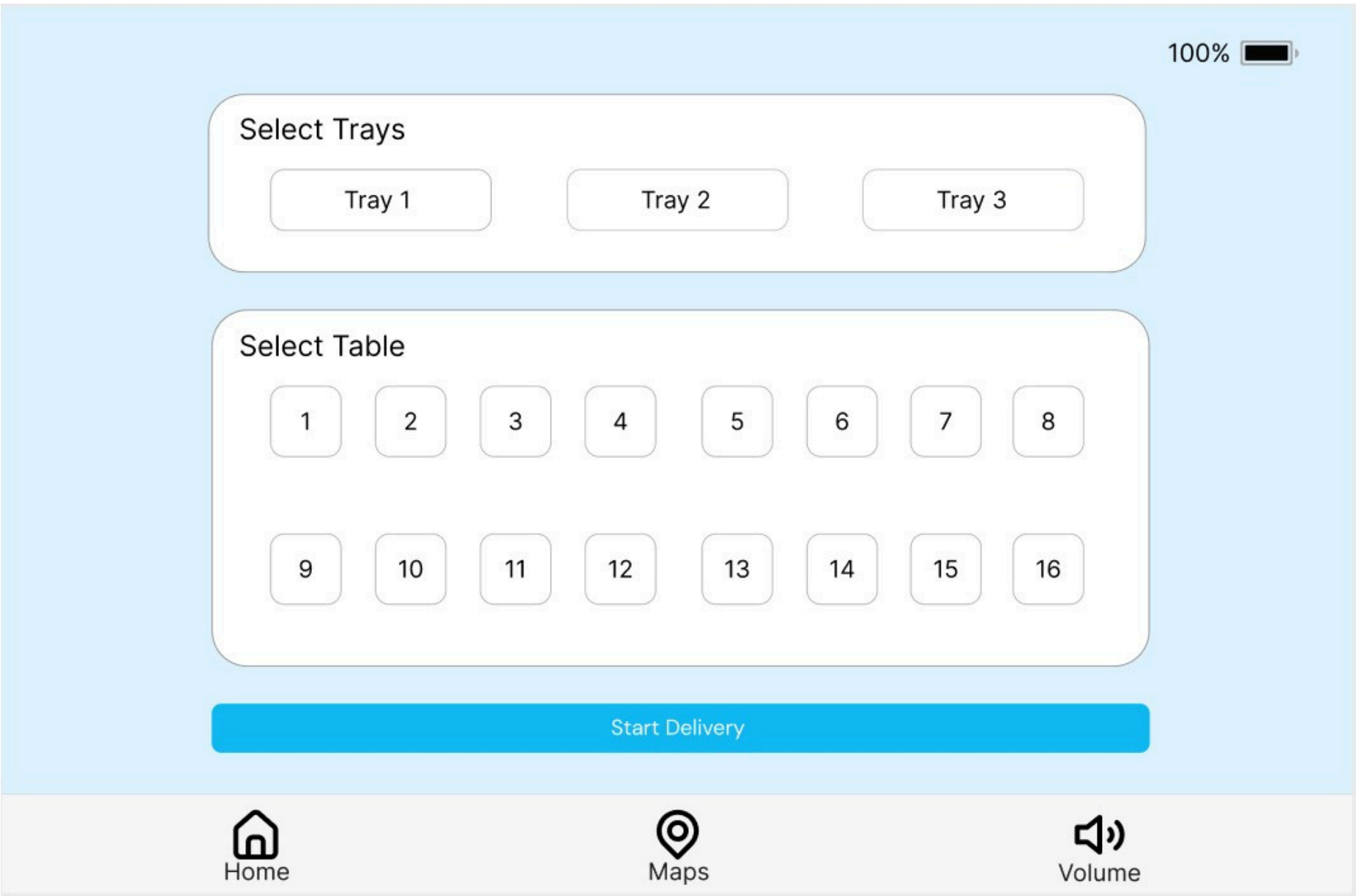
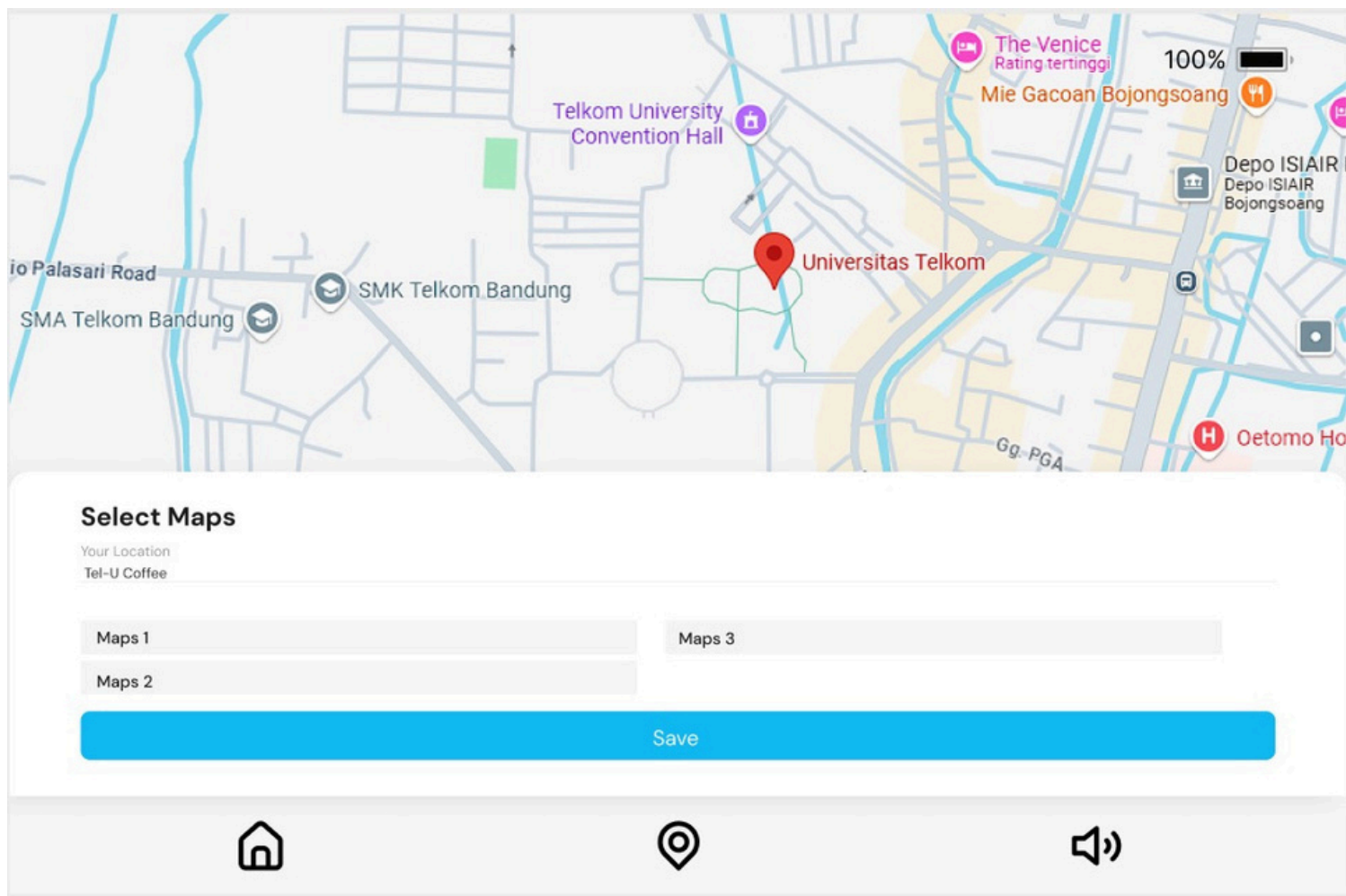
!new system



**Mapping** kami improve untuk meningkatkan performa pergerakan robot supaya lebih mulus. dengan menggunakan sensor lidar mapping dapat dilakukan secara otomatis.

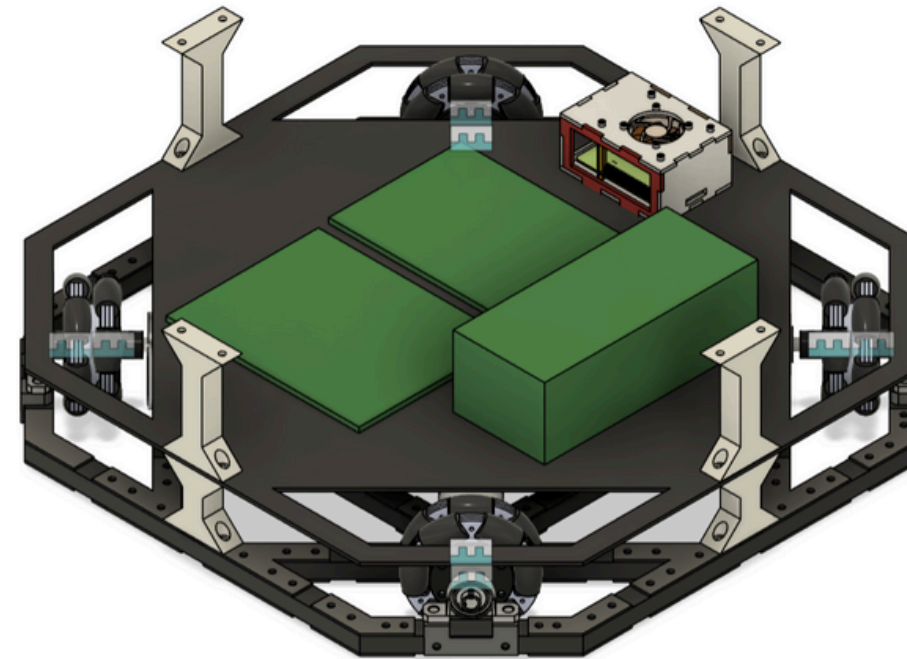
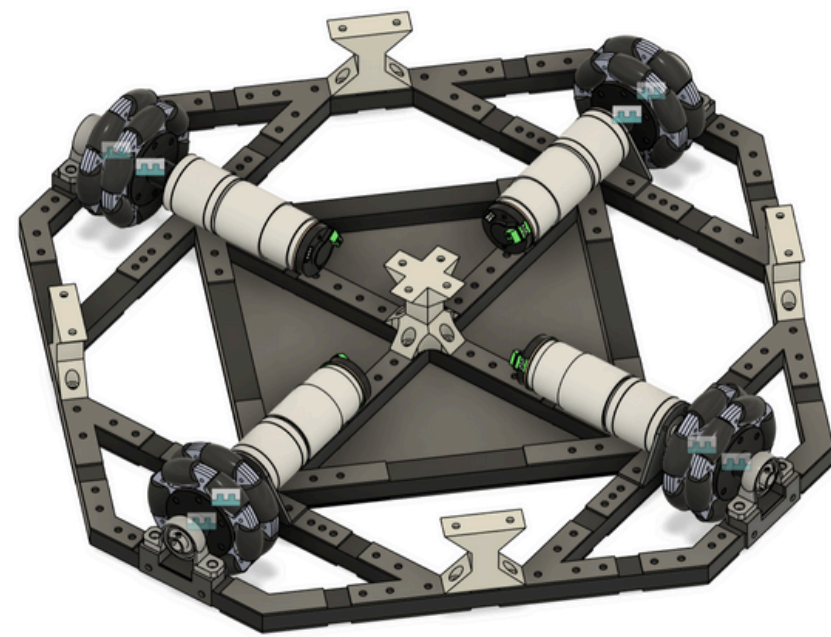


**Application Interface**, interface untuk menampilkan data dari database untuk user.





Berikut beberapa proof of concept yang masih di tahap pengerjaan saat ini:



tahap ini kami membuat cetakan dengan mesin 3D print untuk manufaktur body robot, selain itu kami juga masih dalam tahap riset terkait kinematik dan filtering untuk motion robot.

Terima Kasih🙏🙏🙏