



# KABLOSUZ SENSÖR AĞLARI İLE AKILLI TARIM SİSTEMİ

**BIL 495**  
**Üçüncü Sunum**

**Sinan ELVEREN**

**Proje Danışmanı: Doç. Dr. Hasari ÇELEBİ**  
**Mayıs 2019**



- Projenin Şeması ve Tanımı
- Projedeki İlerleme ve Sonraki Aşama
- Kaynaklar



# Proje Şeması ve Tanımı

Kontrol

Sıcaklık, Nem?

Sulama Sistemi?

Hava koşulları?

- Yağış Uyarısı
- Afet Uyarısı
- Don Uyarısı



İlaçlama ve  
Gübreleme  
zamanları?



Ne zaman  
ne ekilecek?

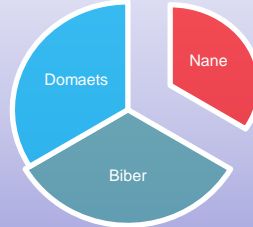


Hasat zamanı  
yaklaşanlar?

## İstatistikler

\*Yıllık Beklenen ürün

\*Yıllık Hasat Edilen ürün



\*En çok verim alınan ürünler

\*En çok ekilen ürünler

# Mobil Uygulama

E-posta

Parola

GİRİŞ

KAYIT OL

Şifremi unuttum

veya



Sign in with Google

Merhaba Sinan Elveren

HESABI SİL

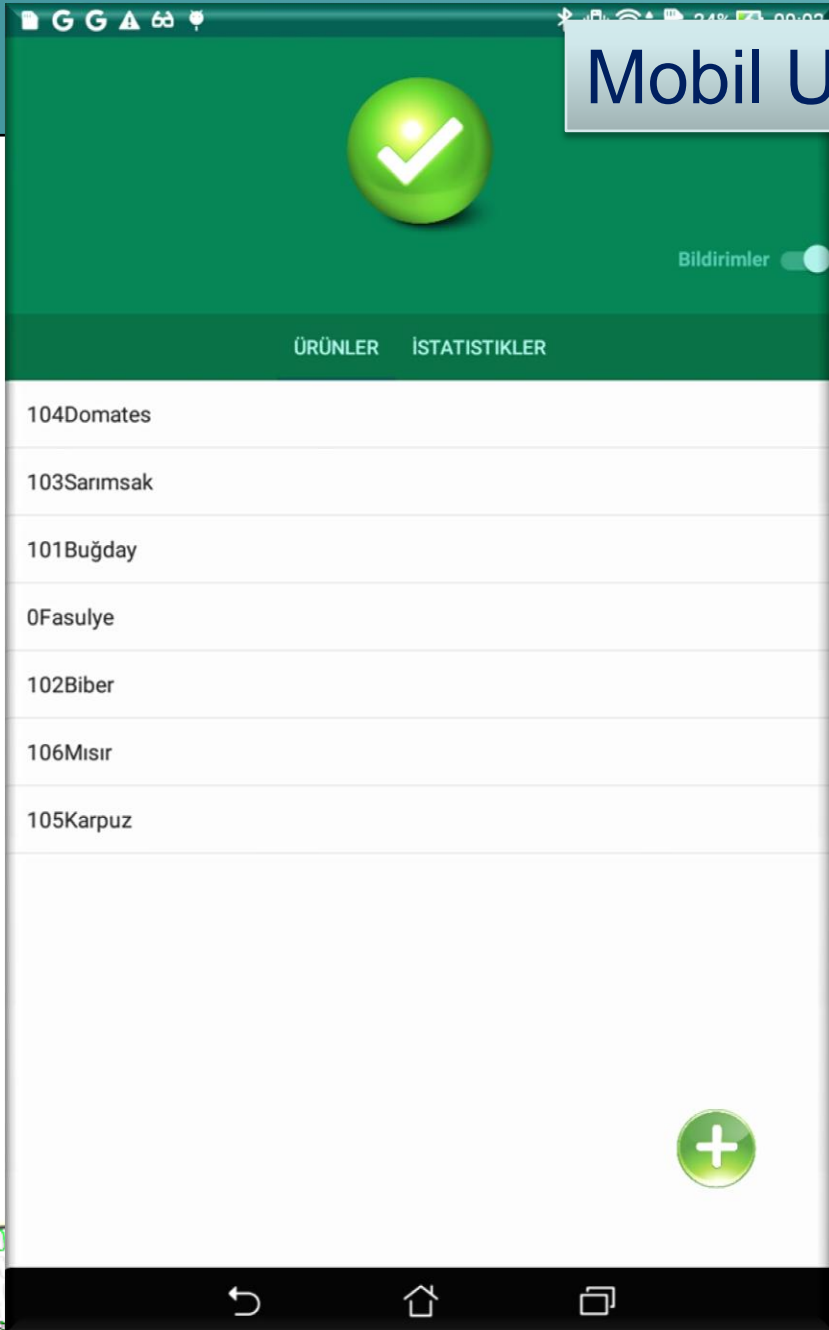
ÇIKIŞ YAP

TARLAYA GİT

Tanımlayıcı ↓	Sağlayıcılar	Oluşturulma tarihi	Oturum açma tarihi	Kullanıcı UID'si ↑
deneme@gmail.com	✉	22 Nis 2019	4 May 2019	KJXJMJM4tfTgtVI2y1Lo5Y4xz8L2
test@gmail.com	✉	4 May 2019	4 May 2019	MTbVDqF8TFWGVdsLgKPsgaAH...
sinanelveren3@gmail.com	✉	27 Nis 2019	27 Nis 2019	RYImEUKyeQWxSvo3BSYIdFIZXM...
sinanelveren@gmail.com	🌐	25 Nis 2019	8 May 2019	kQ0MLMo0ZxSFaitbvTr6L5vJ0vc2
deneme2@gmail.com	✉	25 Nis 2019	25 Nis 2019	t5lwFM3qsJTB6kejyywzZ3Ed93f2

Sayfa başına satır: 50 1-5 / 5

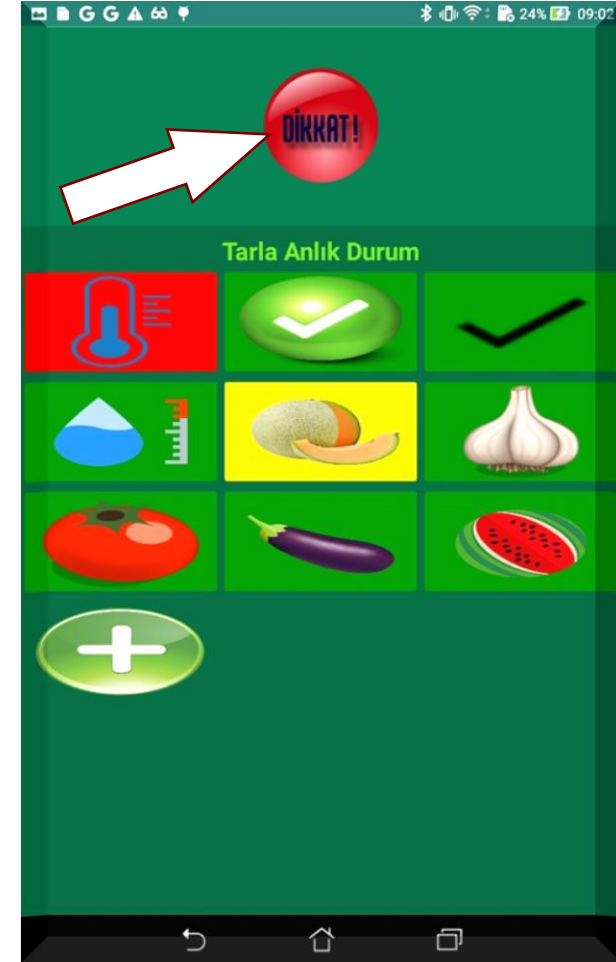
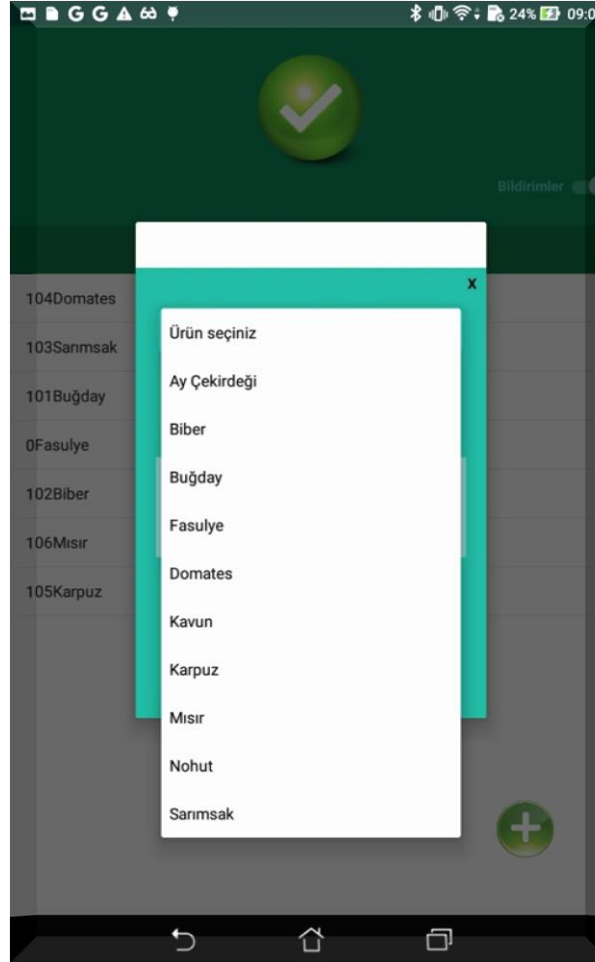
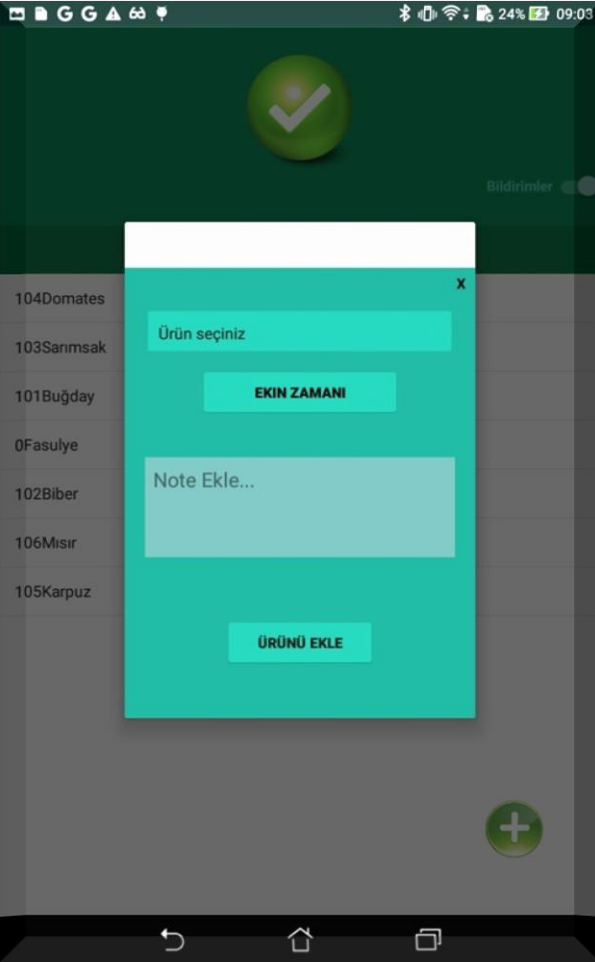
# Mobil Uygulama



akillitarimgtu

```
message: "SmartFarm_SinanElveren"
plantation
  humidity&temperature
    nem: "%70"
    rain: false
    sicaklik: 35
    valveStatus: "off"
    wetStatus: "true"
  users
    sinanelveren@gmail.com
      101Buğday
      102Biber
        cropBegin: "4/16/2019"
        cropEnd: "2021"
        cropId: "102"
        disinfectionTime: "2026"
        note: ""
        productName: "Biber"
        wetland: true
      103Sarımsak
      104Domates
      105Karpuz
      106Mısır
      107Domates
```

# Mobil Uygulama





# Mobil Uygulama

The screenshot displays a Raspberry Pi desktop with a Geany IDE open. The IDE has two tabs: 'test2.py' and 'servoTest.py'. The 'servoTest.py' tab is active, showing a Python script that imports the 'firebase\_admin' and 'GPIO' modules. The script configures a servo motor and connects to a Firebase database. The 'Symbols' panel on the left lists variables like 'config', 'control', 'cred', 'isOpen', 'p', 'ref', 'servo', and imports like 'GPIO', 'RPi', 'credentials', 'db', 'firebase\_admin', and 'time'. The status bar at the bottom shows file saving and opening messages.

```
1 #author Sinan Elveren, Gebze Technical University
2 #Connection Database and send sensors's info
3
4 #FIREBASE
5 import firebase_admin
6 from firebase_admin import credentials
7 from firebase_admin import db
8
9 #SERVO
10 import RPi.GPIO as GPIO
11 import time
12
13 control = [5,5.5,6,6.5,7,7.5,8,8.5,9,9.5,10]
14
15 servo = 22
16
17 GPIO.setmode(GPIO.BOARD)
18
19 GPIO.setup(servo, GPIO.OUT)
20 # in servo motor,
21 # 1ms pulse for 0 degree (LEFT)
22 # 1.5ms pulse for 90 degree (MIDDLE)
23 # 2ms pulse for 180 degree (RIGHT)
24
25 # so for 50hz, one frequency is 20ms
26 # duty cycle for 0 degree = (1/20)*100 = 5%
27 # duty cycle for 90 degree = (1.5/20)*100 = 7.5%
28 # duty cycle for 180 degree = (2/20)*100 = 10%
29
30
31 p=GPIO.PWM(servo,50)# 50hz frequency
32
33 #p.start(2.5)# starting duty cycle ( it set the servo to 0 degree )
34
35 time.sleep(3)
36
37
38 #Firebase login information
39 config = {
40     "apiKey": "AIzaSyCUFiZhkwyj3k9R0jIByysrWwY9pqyj1hg",
41     "authDomain": "akillitarimgtu.firebaseio.com",
42     "databaseURL": "akillitarimgtu.firebaseio.com",
43     "storageBucket": "akillitarimgtu.appspot.com"
44 }
45
46
47 # Fetch the service account key JSON file contents
```

Status  
23:48:04: File /home/pi/Desktop/test2.py saved.  
23:48:18: File /home/pi/Desktop/test2.py saved.  
23:50:25: New file "untitled" opened.

1. International Journal of Advanced Research in Computer and Communication Engineering Vol. 5, Issue 6, June 2016. “IoT based Smart Agriculture” Nikesh Gondchawar , Prof. Dr. R. S. Kawitkar2
2. Seraist, Akıllı Hobi Sera[online], <http://www.serasist.com/> [Ziyaret Tarihi: 9 Ekim 2018].

