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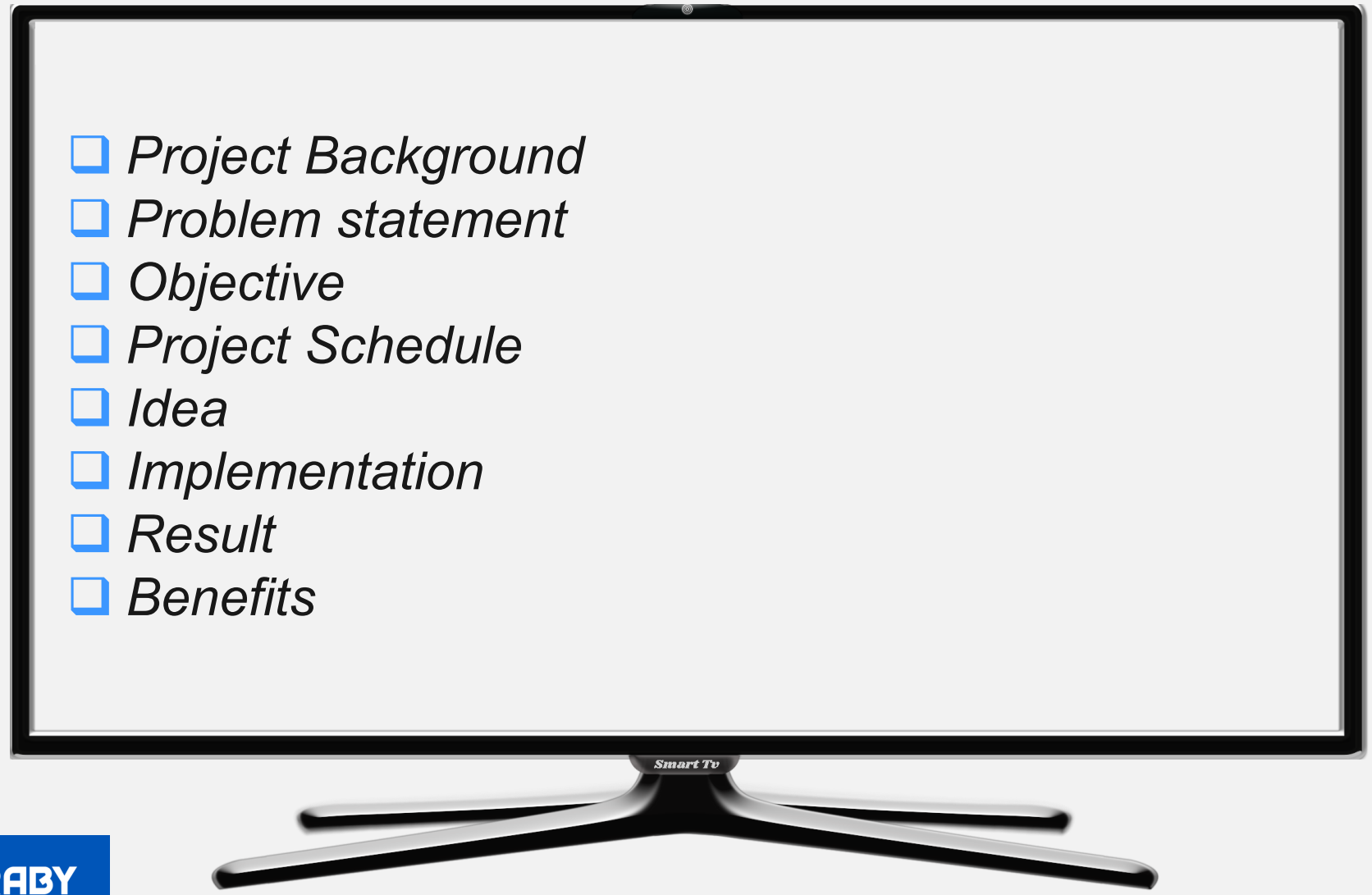
Key Components Traceability System

TEVP

❖ Agenda



- ❑ *Project Background*
- ❑ *Problem statement*
- ❑ *Objective*
- ❑ *Project Schedule*
- ❑ *Idea*
- ❑ *Implementation*
- ❑ *Result*
- ❑ *Benefits*

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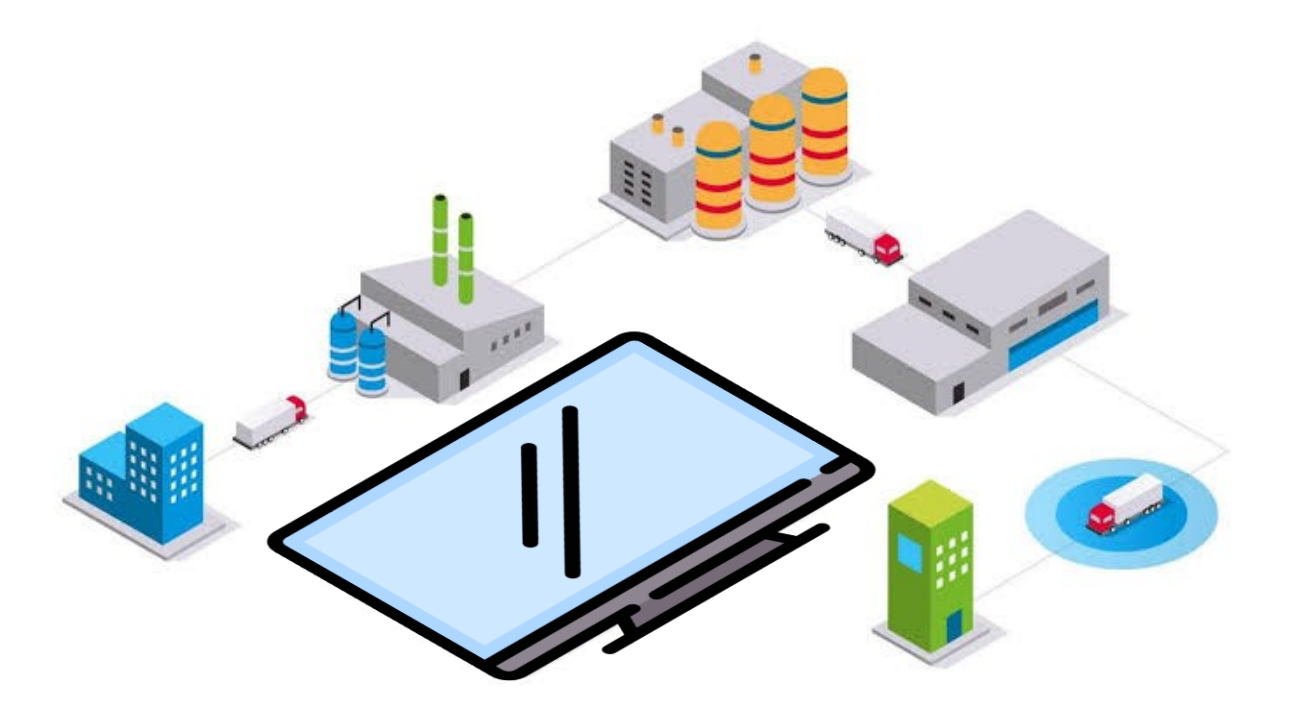
Project Background

Traceability

Tracing is the activity that is carried out for the purpose of historical tracing of things such as (the source of raw materials, components and parts - the date of the operation - product / service / material data - the monitor - ... etc.) or spatial tracking such as (the place of the material / product after its production - the place of production Service provision - place of delivery) of the traced object



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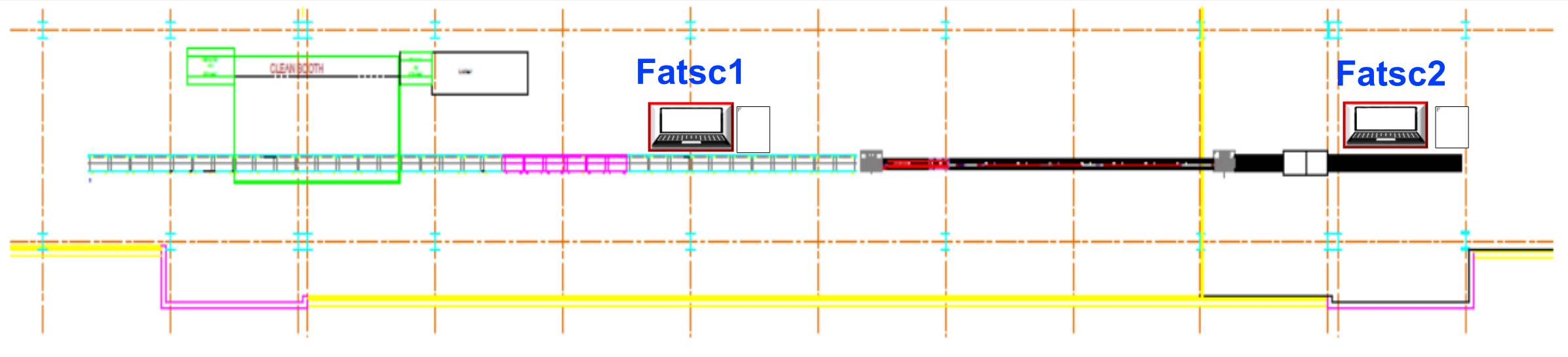
Scanning stations

Production line Has 2 Scanning stations	
Fatsc1	Fatsc2



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Key Component (TV)

- ❑ **The most critical parts of any device which plays the most important role in determining the properties of the final product.**
- ➢ **In TV we have several component which considered as key component such as:**

Open cell

PCB

Led bar

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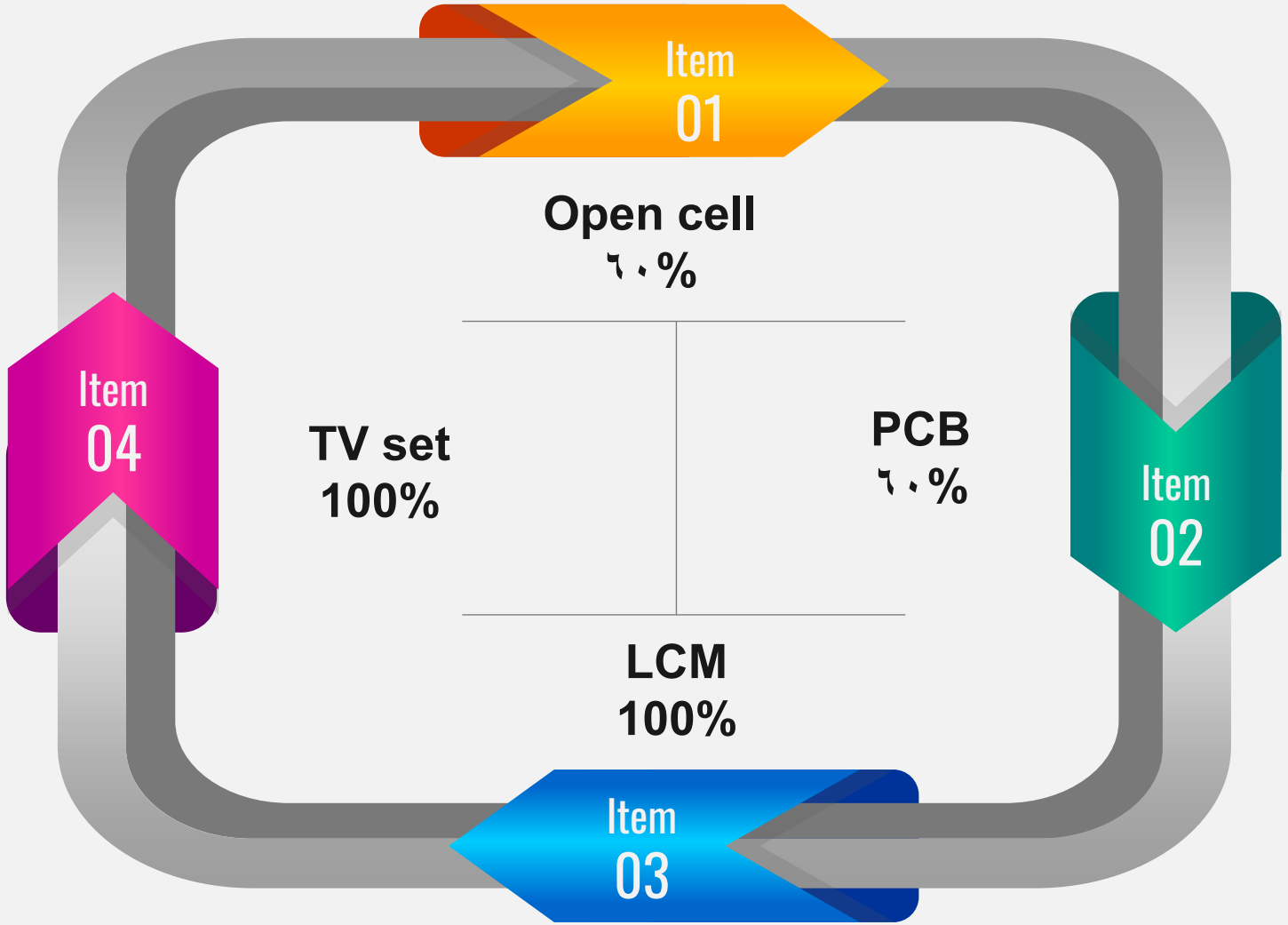
Efficiency of the tracking system



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Problem Statement

Problems

A Serial structure for SKD models isn't compatible with SINOBI system specs

B Server issues

C Low O.C tracking percentage.

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Serial structure for SKD models isn't match with SINOBI system specs

The current system has a maximum limit of 25 digits for scanning, but the large models as it works as SKD has serials that's consist of more than 25 digits

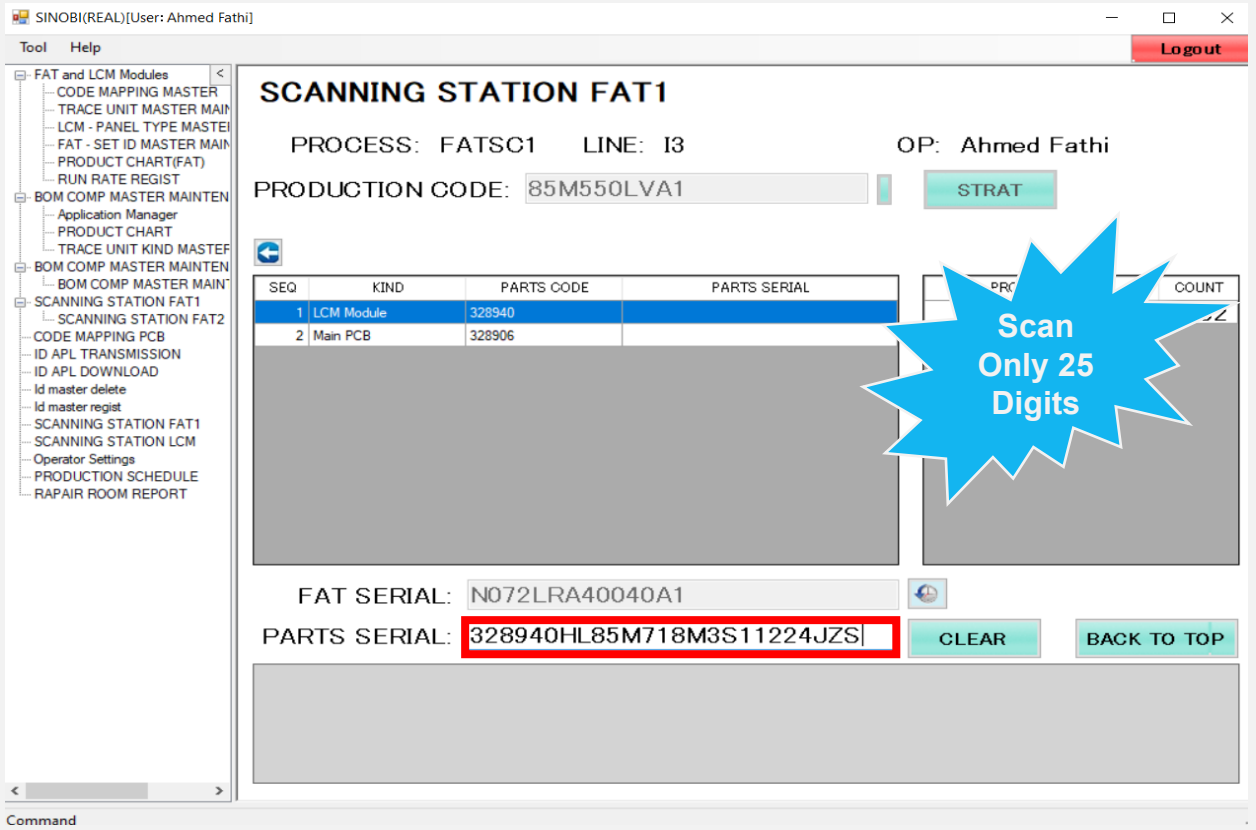
TEVP Serial Structure 14 Digit

J072TZA11945X1

SKD Serial Structure 29 Digit

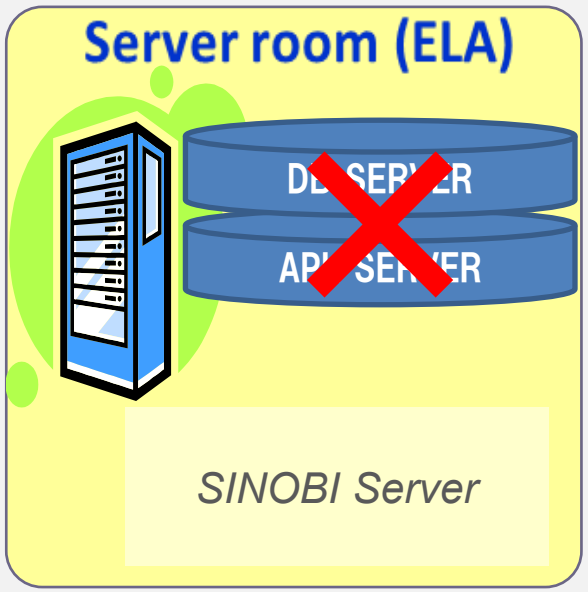
328940HL85M718M3S11224JZS0113

Not Scanned

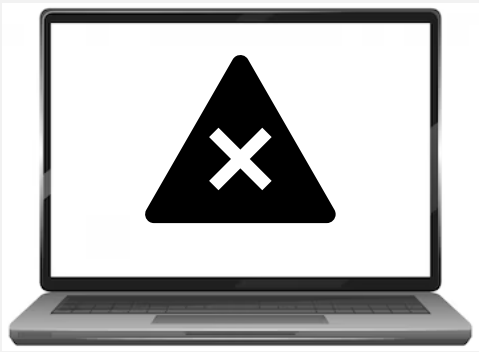


Line stoppage due to server issues **(3%)**

The current system is based on servers that's exists in IT servers room , and any problems happen to the servers would stop the SINOBI system from working , and so as the production line



Connection



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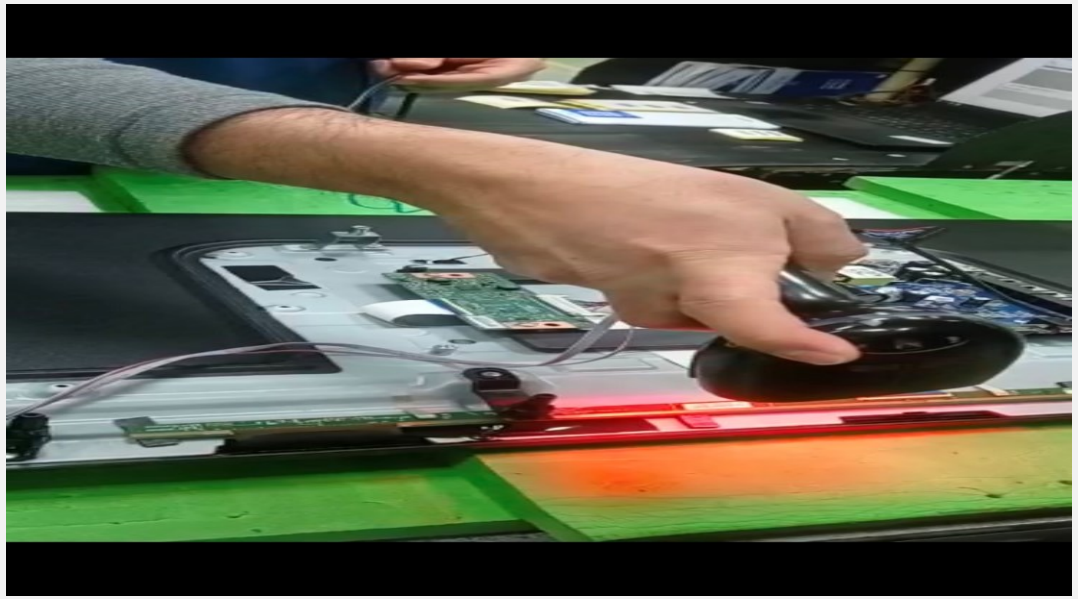
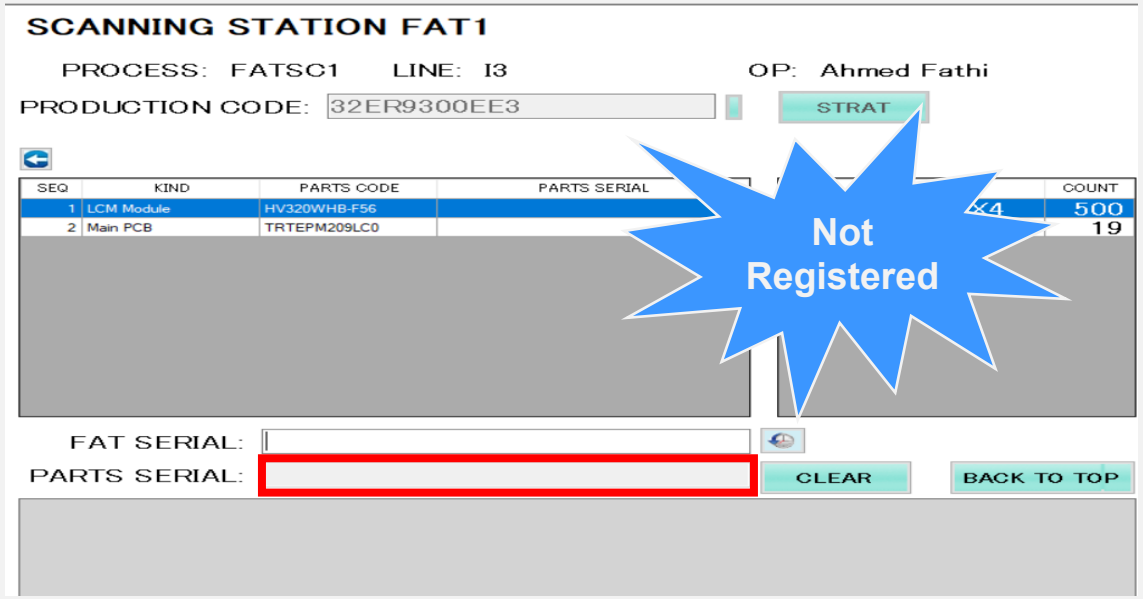
Low O.C tracking percentage

The current system can not scan some Open Cell serials that’s too small to read , and the scanner isn’t efficient enough to read it





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Objectives

Objectives

1 *Productivity*

- Prevent stoppage of production line due to S.W issues (3%)

2 *Quality*

- Fully control on O.C & PCB tracking (100%)

3 *Cost*

- Reduce the cost of running a tracking program by 53K EGP on new line (L4)

4 Technology

- Design Mobile Application as backup for current tracing system
- Introducing new knowledge that can be used appropriately for work

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Idea

IDEA

1

Better Scanner

2

Portable System

3

Support After sales

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IDEA

Better Scanner

More efficient tool that can scan all needed barcodes with less response time

Portable System

the system is easier to be moved throughout the production line as it uses only a mobile phone

Support After sales

the program gives the after sales the ability to check defected devices' components and the alternative components

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Proposals

Proposals

	Proposal 1	Proposal 2
Explain	Buy new scanners	Design an Android app using the camera as a scanner to scan devices
Result	Didn't solve the problem of the disability to scan long serials of SKD models	Higher sensitivity than the current scanners , also has the ability to scan the serials of the SKD models
	Rejected	*Accepted*

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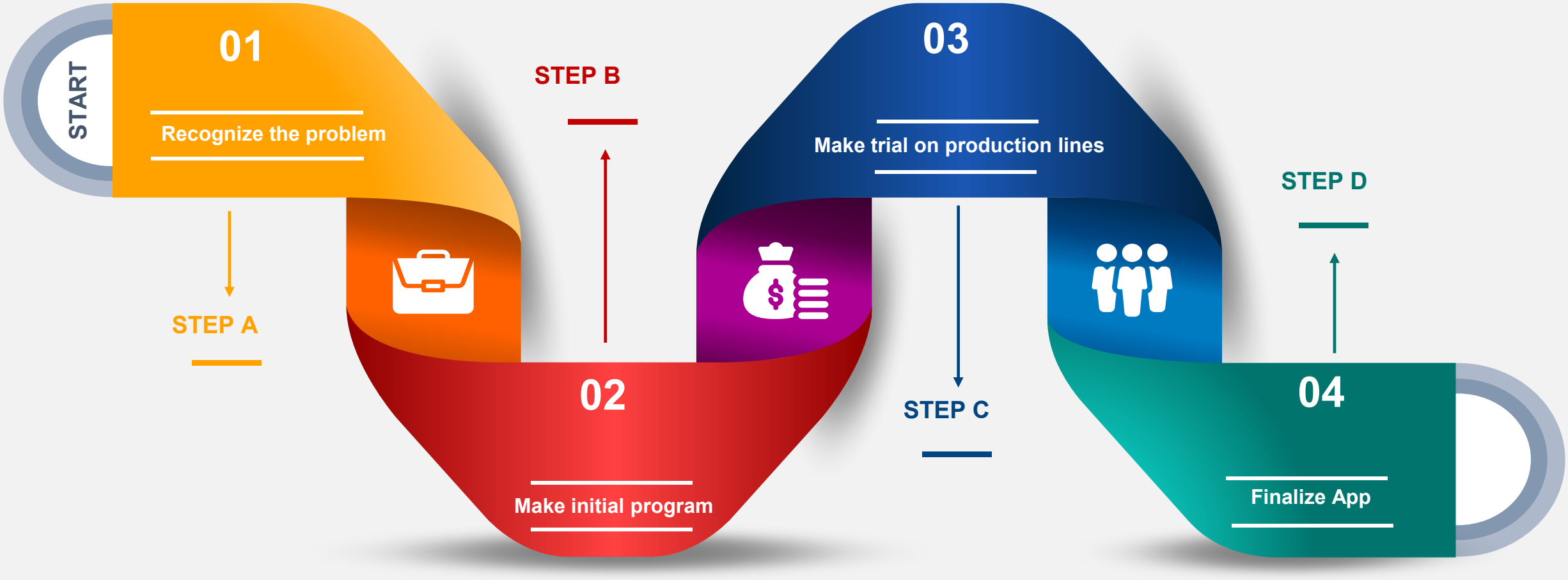
Milestones

Milestone plan



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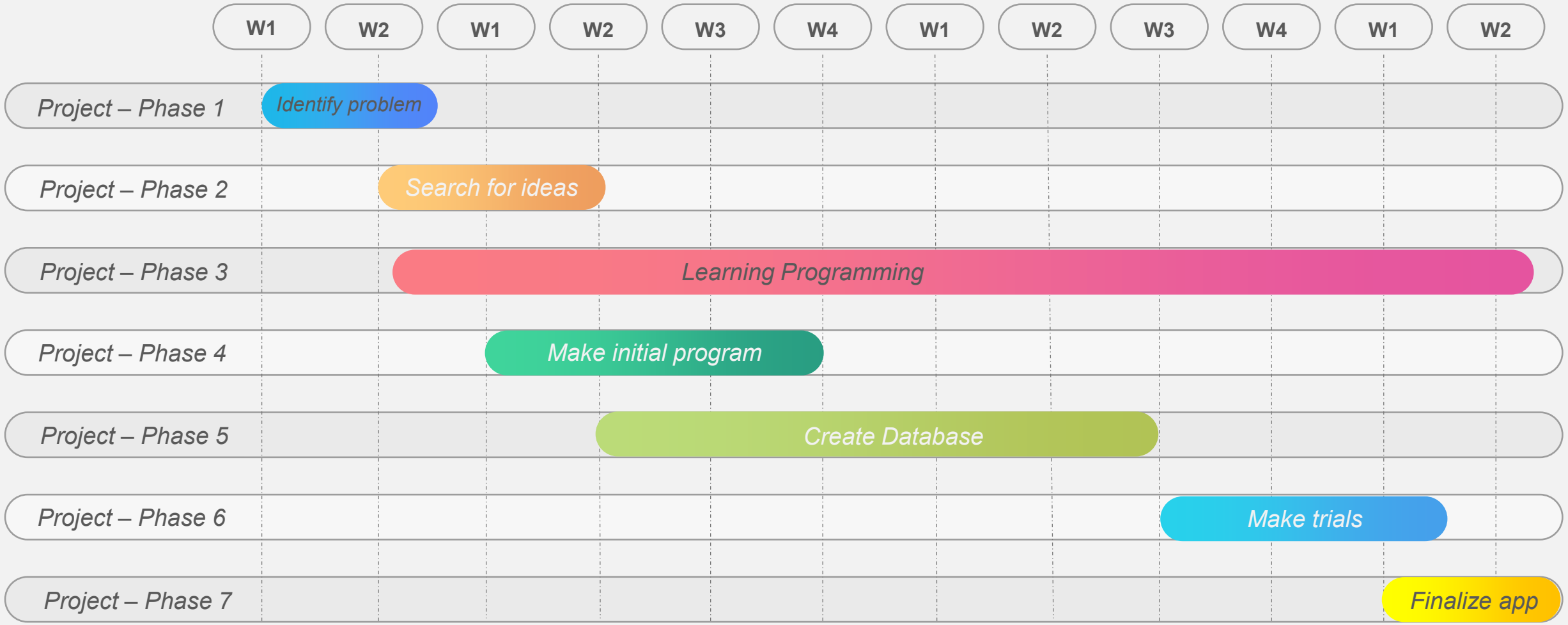
Schedule



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Actions

How we started

Flutter

- *Large and Weighty Apps*
- *Limited Ecosystem*
- *Hard to learn how to use it*

kodular

- *Blocks-based coding programs.*
- *Has more options for designing than app inventor.*

Android studio

- *Needs to learn programing.*
- *It will take a lot of time.*

App inventor

- *Easy to learn*
- *Also easy to use*
- *Blocks-based coding programs*
- *It doesn't have many options for designing*

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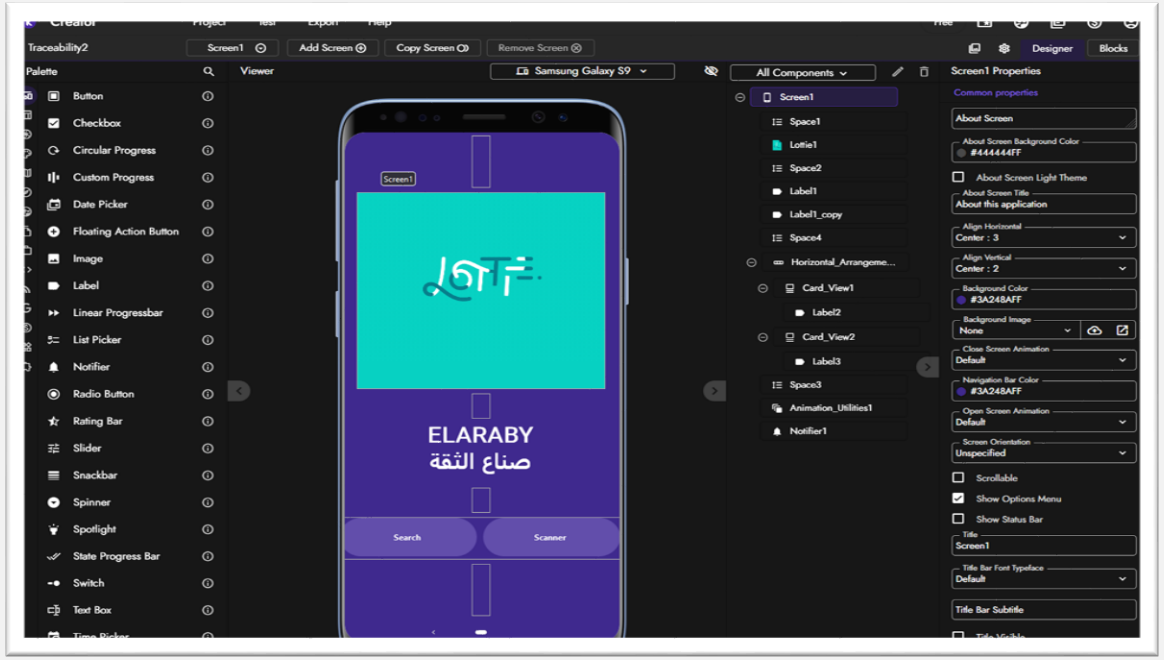
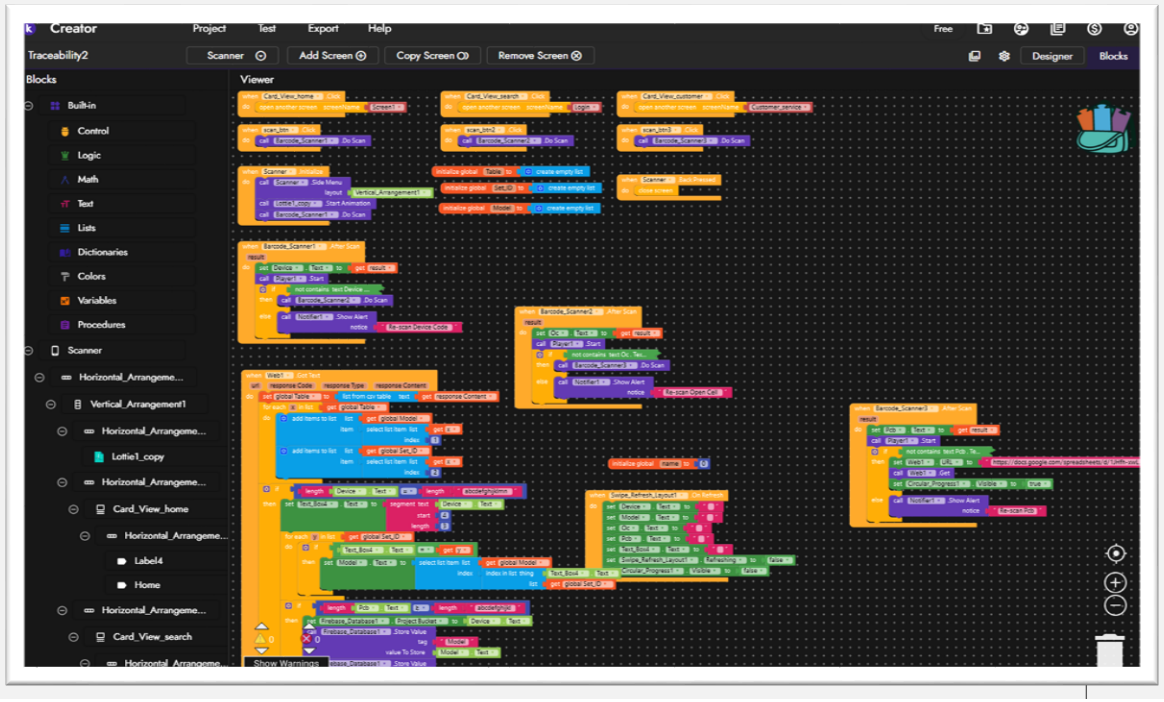
What we used

Emulator

kodular

Block-based code





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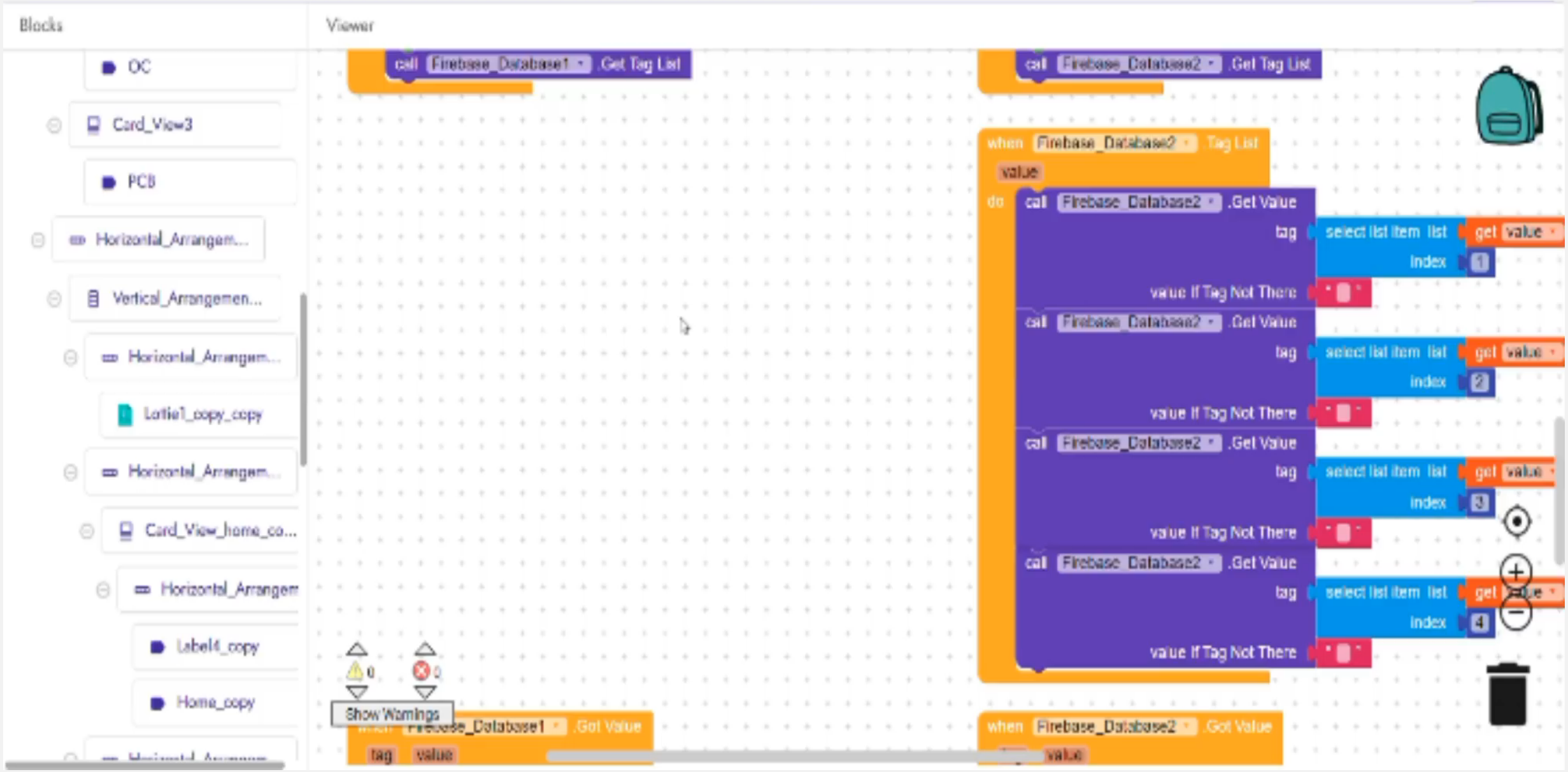

Action

We Made 2 App

Traceability → used by TEVP factory , After Sales team
Elaraby Customer Service → used by customer

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Traceability App

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Scanner

Search

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Station Choice

FAT SC1

FAT SC2

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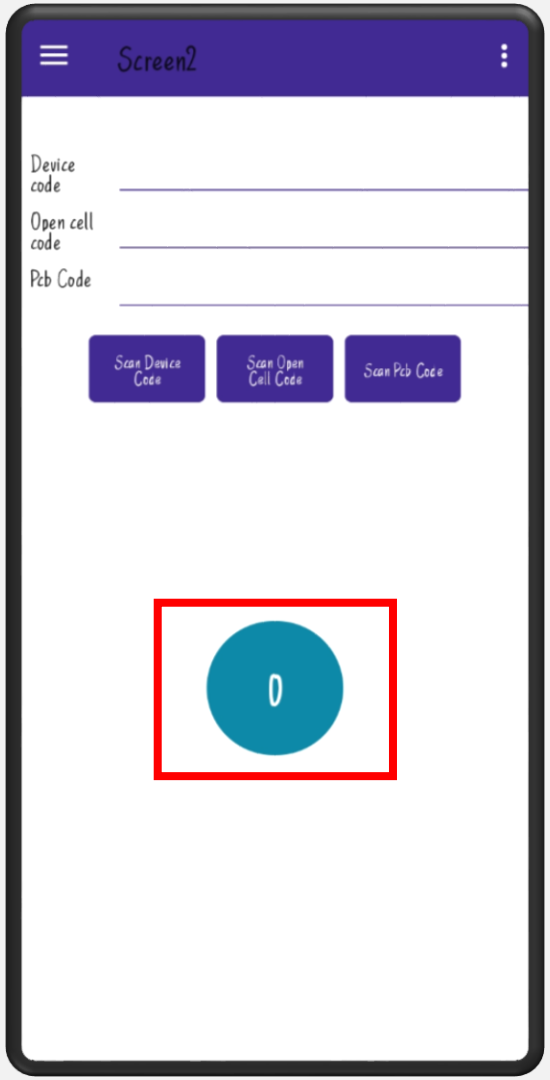
Fatsc1



- the part responsible for recording the data of device.
- Counter is responsible for counting devices

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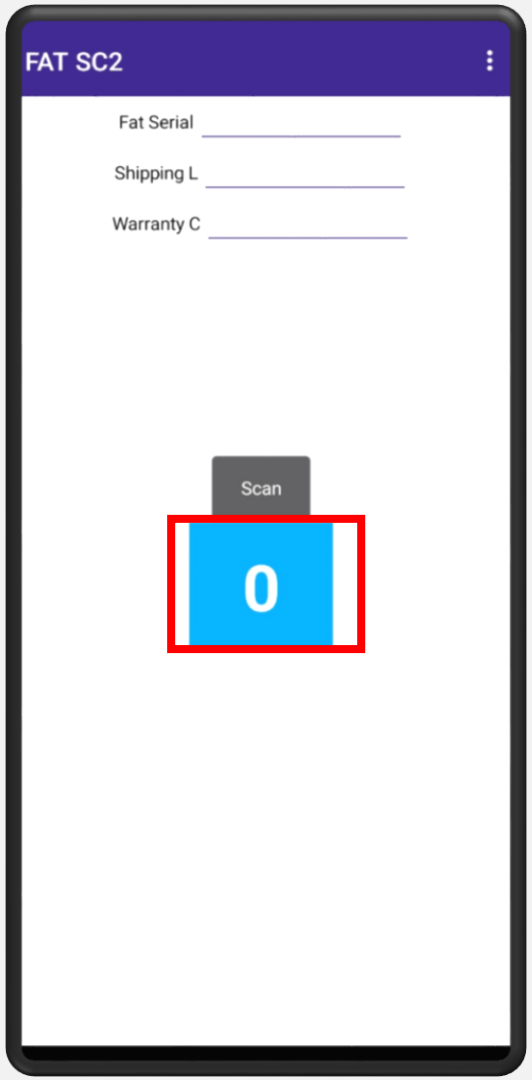
Fatsc2



- the part responsible for checking the device barcode if it's similar or not
- Counter is responsible for counting devices

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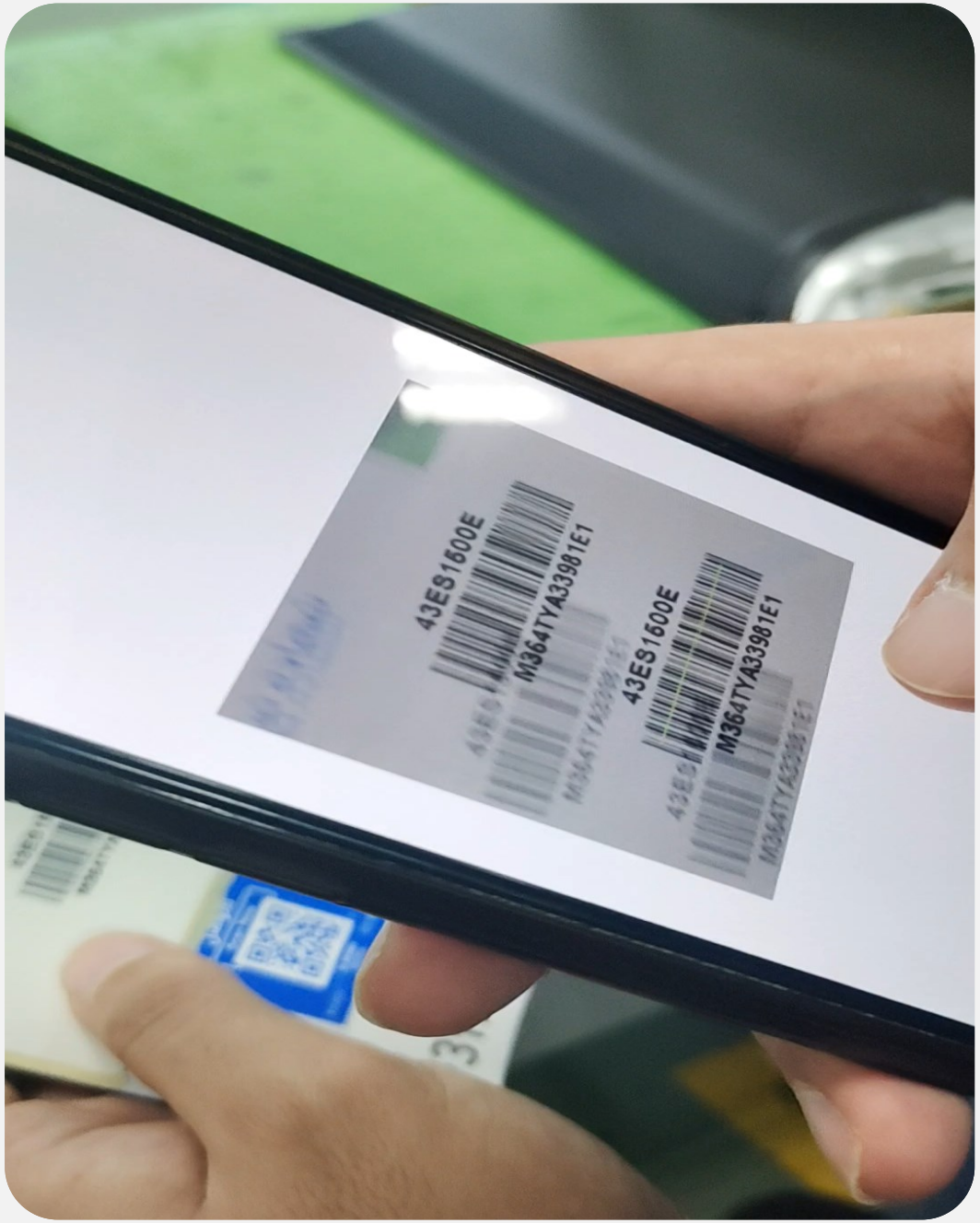

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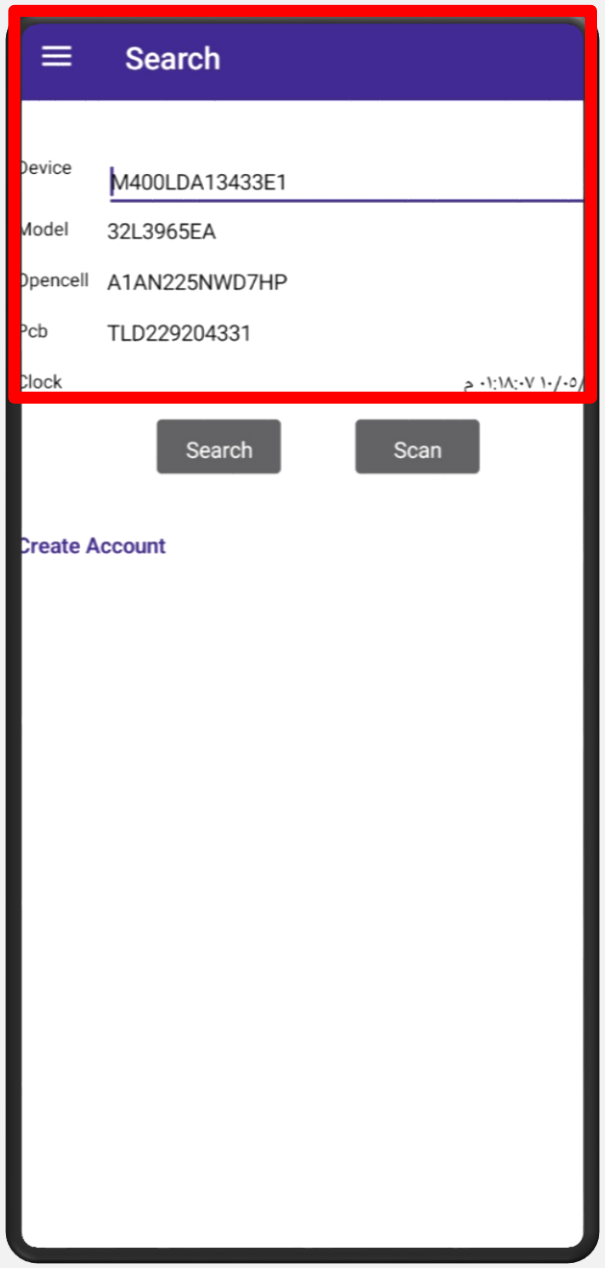
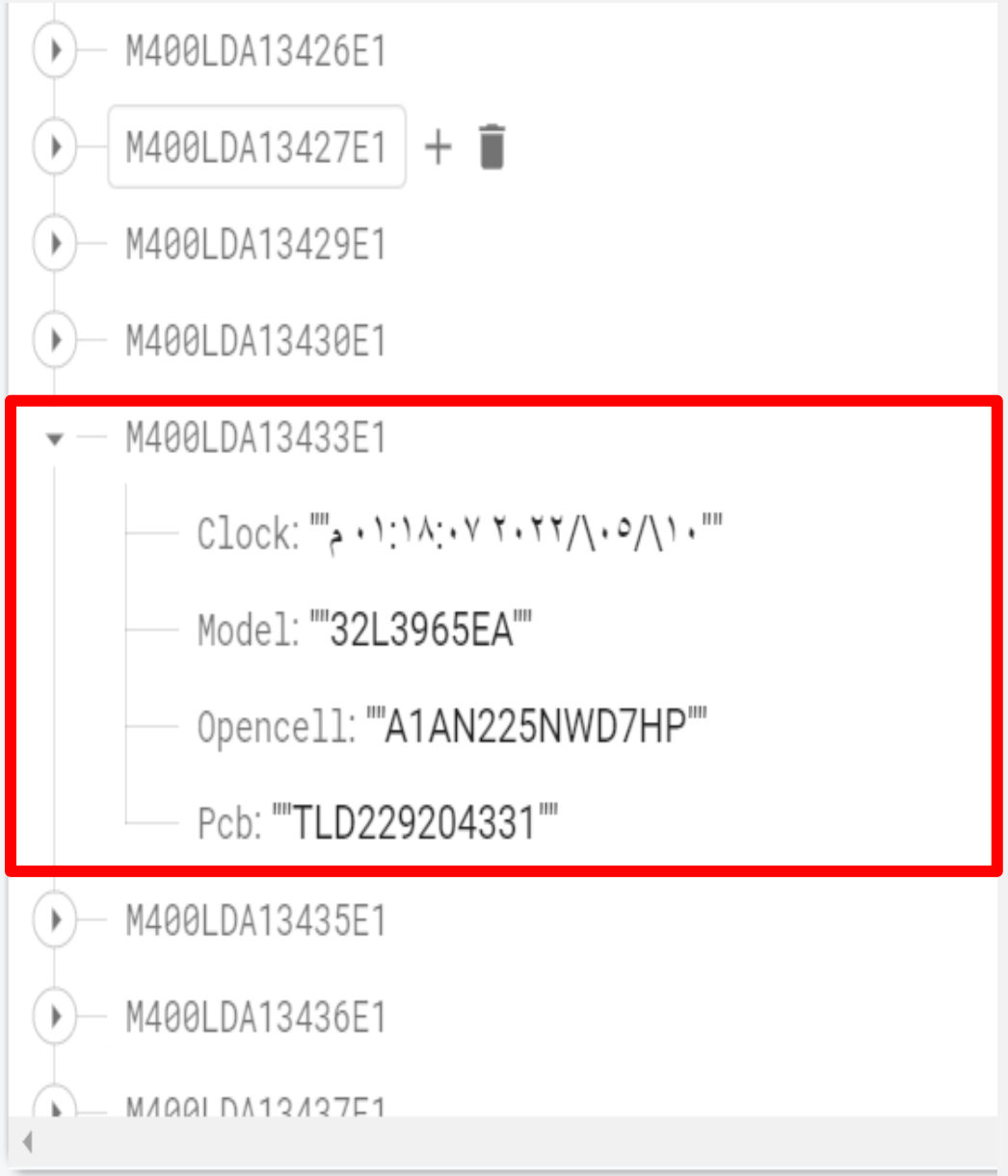
Search Feature

Facilitate access to data





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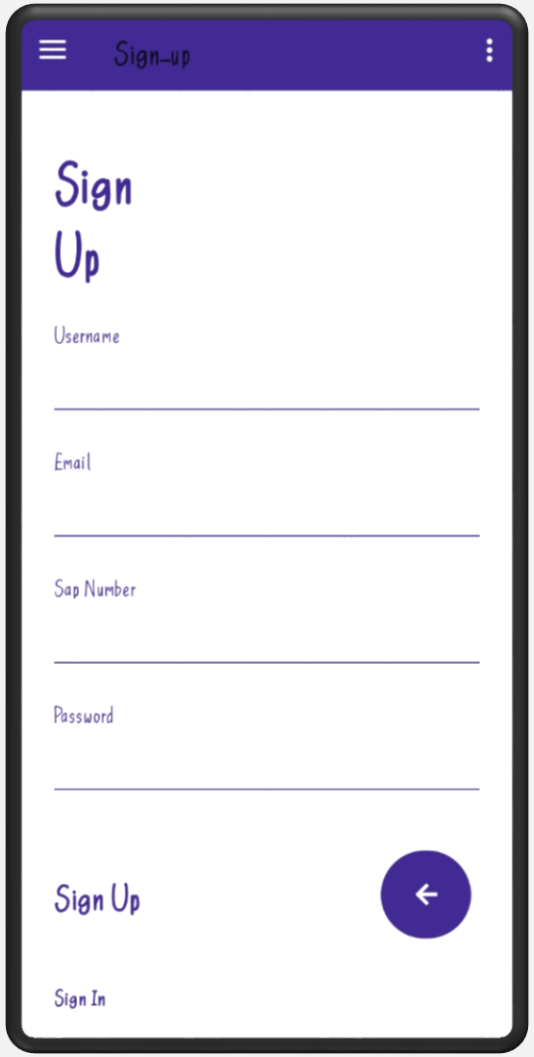
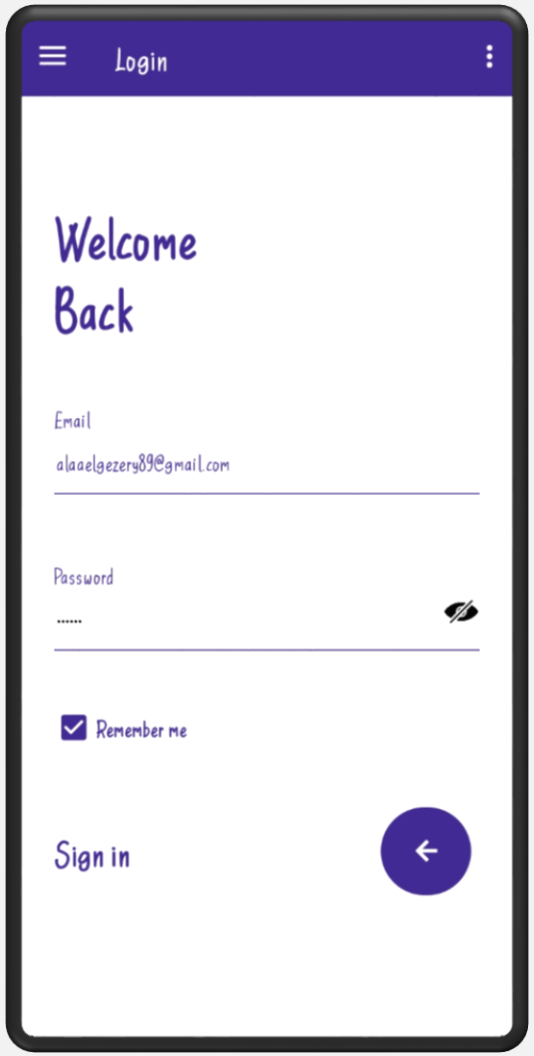
*Can anyone do a **search** inside the factory??* 🤔

Only Users can Do search





Sign In log

	A	B	C	D
1	User name	Email	Password	Sap num
2	mahmoud	mahmoud@gmail	123456789	1234567
3	Ahmed	ahmed@gmail.com	22222222	1111111
4	ammar	ammar@gmail.com	123123	6666666
5	ammar	ammar@gmail.com	12341234	7777777
6	ammar	ammar@gmail.com	123412345	7777777
7	ammar	ammar1@gmail.com	123451234	1234123
8	عمار ياسر	ammar12@gmail.com	am1234567	1234567
9	alaa Amin	alaaelgezery89@gmail.com	552002	1234567
10	Amim7md	mami02688@gmail.com	amiramero	ggggggg8
11	alaa Amin	alaaaminelgezery25@gmail.com	123456	1245678
12	islam	islam123@gmail.com	is123456	1472583
13	aya	amau@gmail.com	vsgeud	1234567
14	aya	ayau@gmail.com	vwydhdirj	1234567
15	alaa Amin Elgezery	alaaelgezery56@gmail.com	112233	1234567
16	ammar	ammar1234@gmail.com	aa1234567	1234567

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Side Menu

- Home → takes you to the interface of the app
- Search → enables you to do a search on any device that has been registered
- customer service → takes you to the data-specific data for customer
- Scan→ takes you to the Scanner

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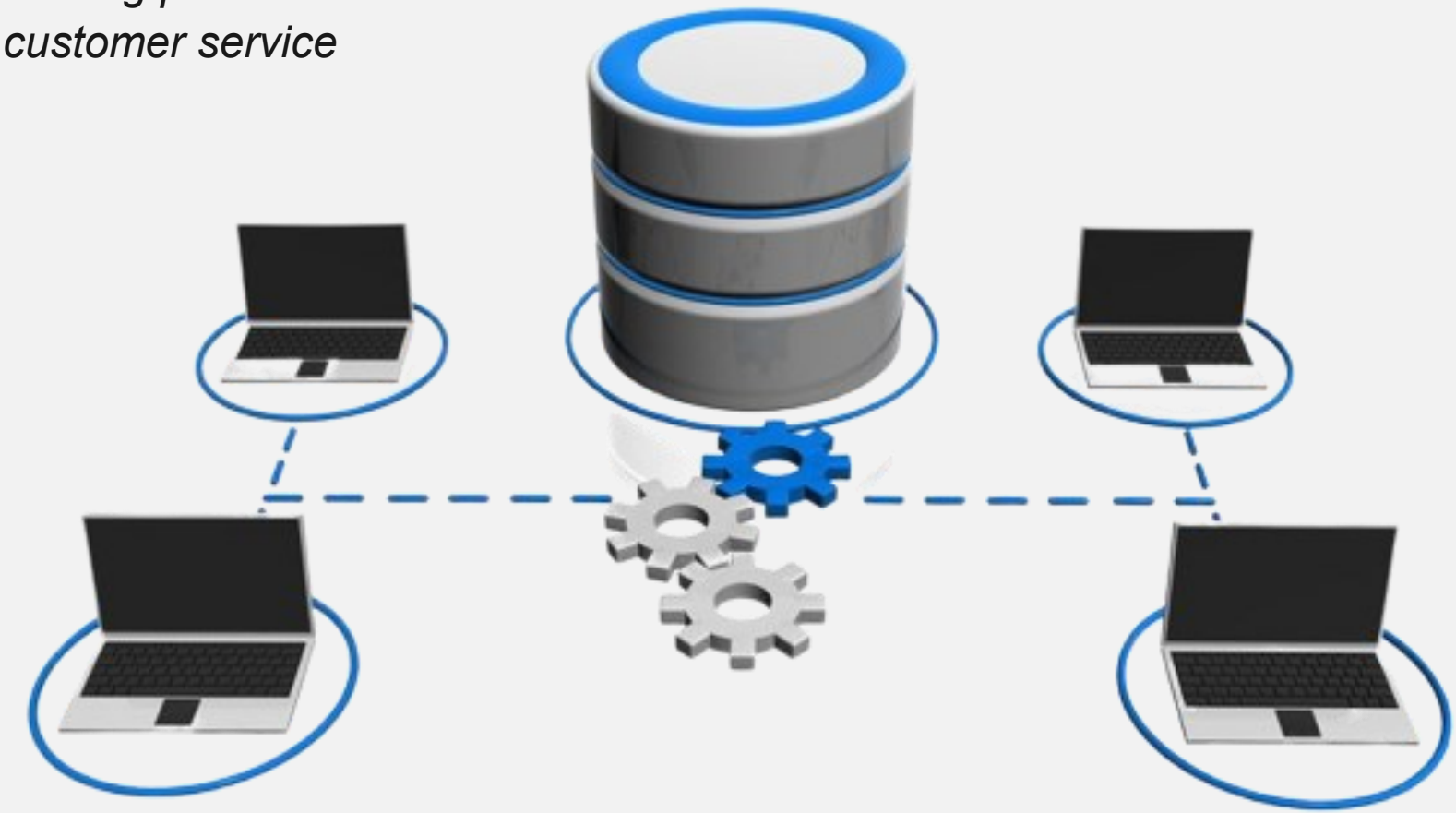
Database

- **Our program won't be complete until we create a database**
- **The database is so important part in our system as it's needed for**
  - ✓*Storing the data of the scanned components of the device*
  - ✓*Getting the needed data in the searching process*
  - ✓*Getting data of the device for the customer service*



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Databases

Google sheets

- *Simple and well organized*
- *Limited capacity*

Firebase

- *Key value store system*
- *Real-time and Support authentication*
- *High level of safety and security*

Tiny DB

- *Small storage (mobile storage)*
- *Local database*

My SQL

- *Preferred for complex data*
- *Well organized*
- *Slow response during the search.*

Firebase

- Firebase is a Realtime database , that’s support authentication , and it’s the used database to store the data in our program
- We created the database and connected it with our app , and imported old data for the searching process .
- In our app the database stores data about device barcode , O.C serial , PCB serial , and the model name.
- We can search for the data of any device using the device barcode or any of its components

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Customer Service App

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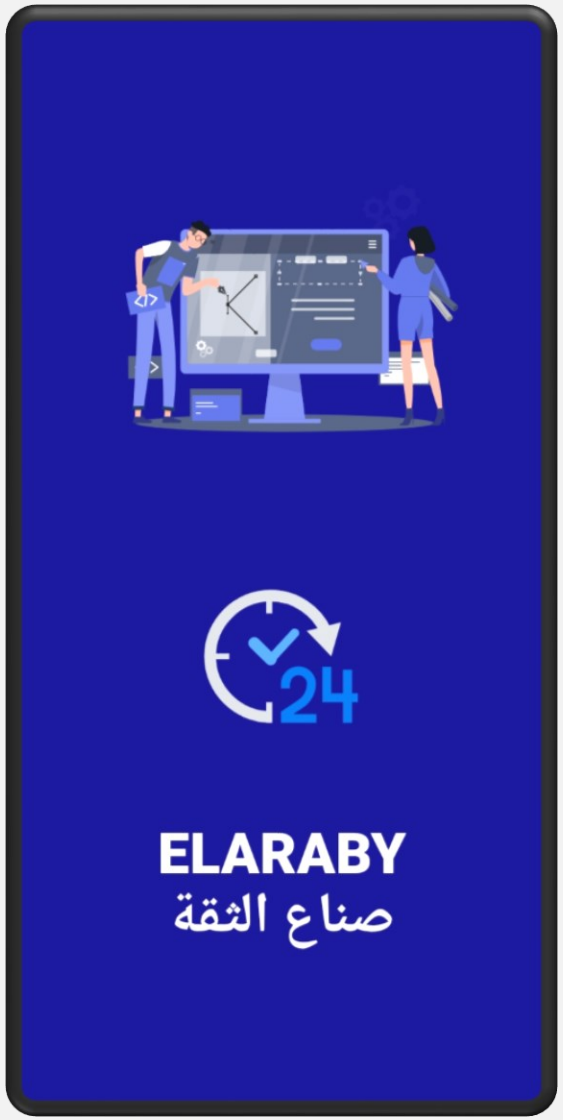

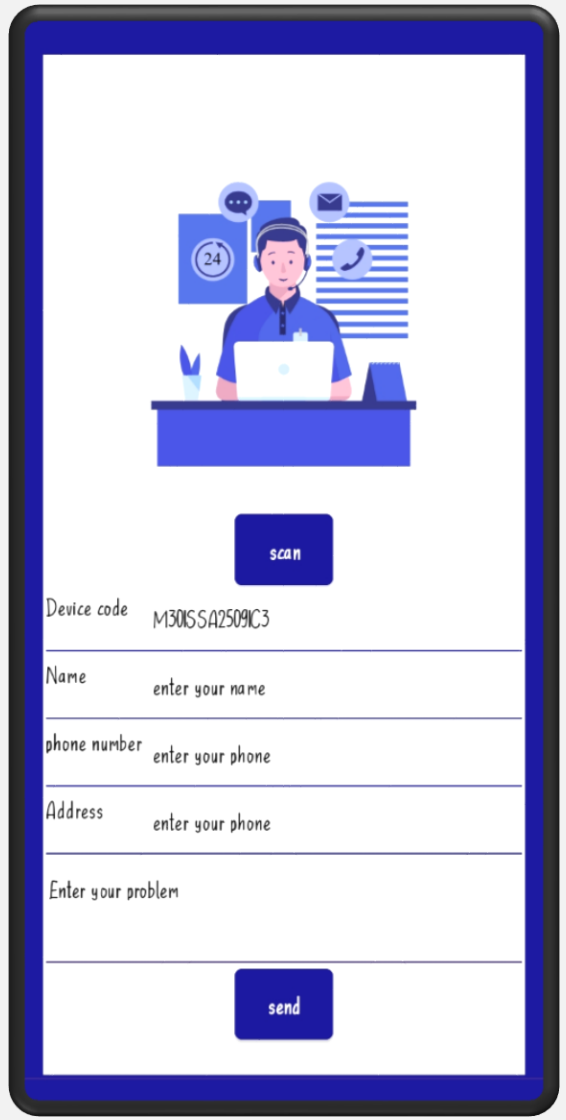

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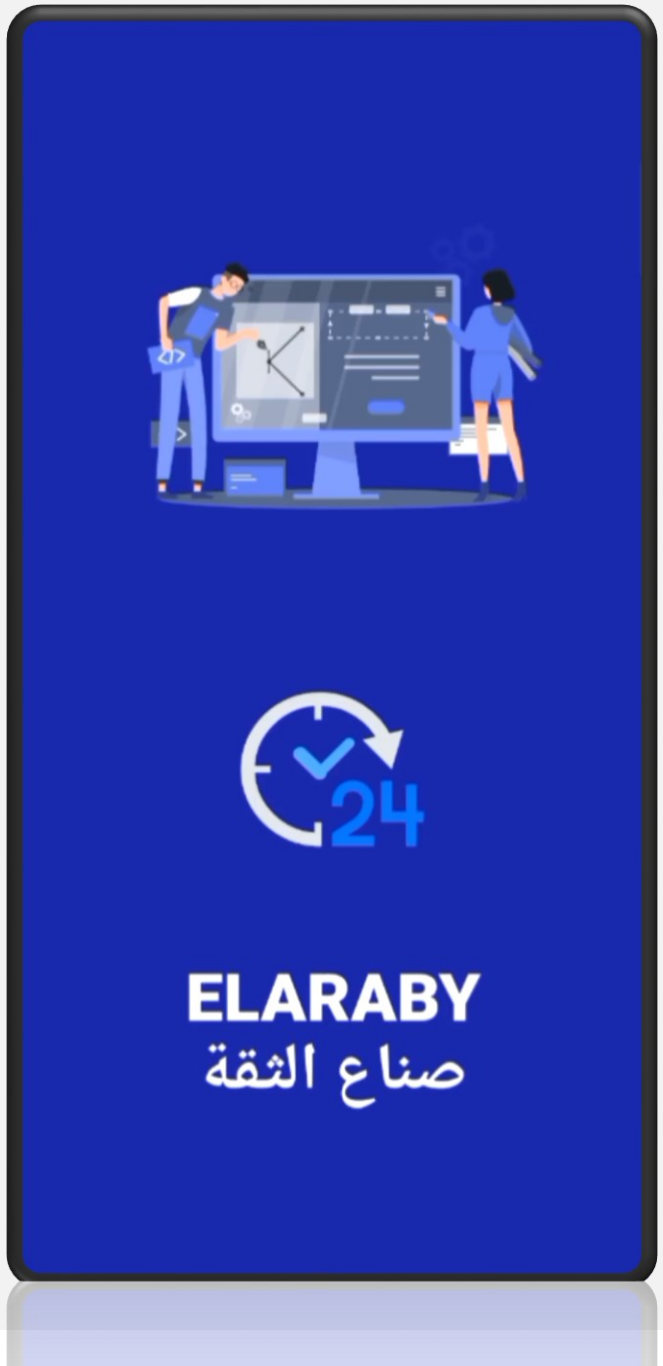

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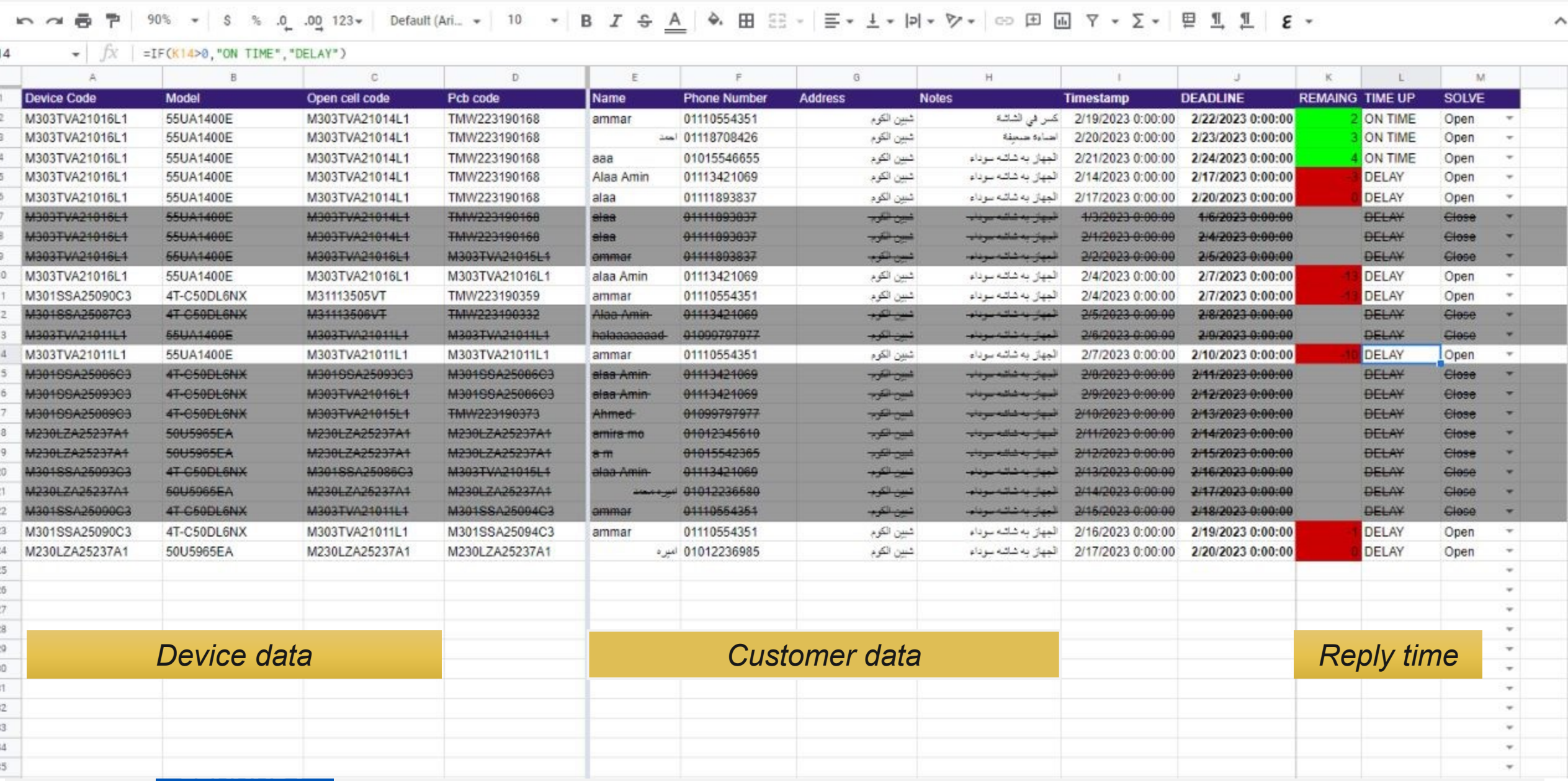

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Device Code	Model	Open cell code	Pcb code	Name	Phone Number	Address	Notes	Timestamp	DEADLINE	REMAING	TIME UP	SOLVE
2	M303TVA21016L1	55UA1400E	M303TVA21014L1	TMW223190168	ammar	01110554351	شبين الكوم	كسر في الشاشة	2/19/2023 0:00:00	2/22/2023 0:00:00	2	ON TIME	Open
3	M303TVA21016L1	55UA1400E	M303TVA21014L1	TMW223190168	احمد	01118708426	شبين الكوم	اصداء ضعيفة	2/20/2023 0:00:00	2/23/2023 0:00:00	3	ON TIME	Open
4	M303TVA21016L1	55UA1400E	M303TVA21014L1	TMW223190168	aaa	01015546655	شبين الكوم	الجهاز به شاشه سوداء	2/21/2023 0:00:00	2/24/2023 0:00:00	4	ON TIME	Open
5	M303TVA21016L1	55UA1400E	M303TVA21014L1	TMW223190168	Alaa Amin	01113421069	شبين الكوم	الجهاز به شاشه سوداء	2/14/2023 0:00:00	2/17/2023 0:00:00	-3	DELAY	Open
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7	~~M303TVA21016L1~~	~~55UA1400E~~	~~M303TVA21014L1~~	~~TMW223190168~~	~~alaa~~	~~01111893837~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~1/3/2023 0:00:00~~	~~1/6/2023 0:00:00~~		~~DELAY~~	~~Close~~
8	~~M303TVA21016L1~~	~~55UA1400E~~	~~M303TVA21014L1~~	~~TMW223190168~~	~~alaa~~	~~01111893837~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~2/1/2023 0:00:00~~	~~2/4/2023 0:00:00~~		~~DELAY~~	~~Close~~
9	~~M303TVA21016L1~~	~~55UA1400E~~	~~M303TVA21016L1~~	~~M303TVA21015L1~~	~~ammar~~	~~01111893837~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~2/2/2023 0:00:00~~	~~2/5/2023 0:00:00~~		~~DELAY~~	~~Close~~
10	M303TVA21016L1	55UA1400E	M303TVA21016L1	M303TVA21016L1	alaa Amin	01113421069	شبين الكوم	الجهاز به شاشه سوداء	2/4/2023 0:00:00	2/7/2023 0:00:00	-13	DELAY	Open
11	M301SSA25090C3	4T-C50DL6NX	M31113505VT	TMW223190359	ammar	01110554351	شبين الكوم	الجهاز به شاشه سوداء	2/4/2023 0:00:00	2/7/2023 0:00:00	-13	DELAY	Open
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13	~~M303TVA21011L1~~	~~55UA1400E~~	~~M303TVA21011L1~~	~~M303TVA21011L1~~	~~halaaaaaaad~~	~~01099797977~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~2/6/2023 0:00:00~~	~~2/9/2023 0:00:00~~		~~DELAY~~	~~Close~~
14	M303TVA21011L1	55UA1400E	M303TVA21011L1	M303TVA21011L1	ammar	01110554351	شبين الكوم	الجهاز به شاشه سوداء	2/7/2023 0:00:00	2/10/2023 0:00:00	-10	DELAY	Open
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16	~~M301SSA25093C3~~	~~4T-C50DL6NX~~	~~M303TVA21016L1~~	~~M301SSA25086C3~~	~~alaa Amin~~	~~01113421069~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~2/9/2023 0:00:00~~	~~2/12/2023 0:00:00~~		~~DELAY~~	~~Close~~
17	~~M301SSA25089C3~~	~~4T-C50DL6NX~~	~~M303TVA21015L1~~	~~TMW223190373~~	~~Ahmed~~	~~01099797977~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~2/10/2023 0:00:00~~	~~2/13/2023 0:00:00~~		~~DELAY~~	~~Close~~
18	~~M230LZA25237A1~~	~~50U5965EA~~	~~M230LZA25237A1~~	~~M230LZA25237A1~~	~~amira mo~~	~~01012345610~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~2/11/2023 0:00:00~~	~~2/14/2023 0:00:00~~		~~DELAY~~	~~Close~~
19	~~M230LZA25237A1~~	~~50U5965EA~~	~~M230LZA25237A1~~	~~M230LZA25237A1~~	~~a m~~	~~01015542365~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~2/12/2023 0:00:00~~	~~2/15/2023 0:00:00~~		~~DELAY~~	~~Close~~
20	~~M301SSA25093C3~~	~~4T-C50DL6NX~~	~~M301SSA25086C3~~	~~M303TVA21015L1~~	~~alaa Amin~~	~~01113421069~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~2/13/2023 0:00:00~~	~~2/16/2023 0:00:00~~		~~DELAY~~	~~Close~~
21	~~M230LZA25237A1~~	~~50U5965EA~~	~~M230LZA25237A1~~	~~M230LZA25237A1~~	~~امير محمد~~	~~01012236580~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~2/14/2023 0:00:00~~	~~2/17/2023 0:00:00~~		~~DELAY~~	~~Close~~
22	~~M301SSA25090C3~~	~~4T-C50DL6NX~~	~~M303TVA21011L1~~	~~M301SSA25094C3~~	~~ammar~~	~~01110554351~~	~~شبين الكوم~~	~~الجهاز به شاشه سوداء~~	~~2/15/2023 0:00:00~~	~~2/18/2023 0:00:00~~		~~DELAY~~	~~Close~~
23	M301SSA25090C3	4T-C50DL6NX	M303TVA21011L1	M301SSA25094C3	ammar	01110554351	شبين الكوم	الجهاز به شاشه سوداء	2/16/2023 0:00:00	2/19/2023 0:00:00	-1	DELAY	Open
24	M230LZA25237A1	50U5965EA	M230LZA25237A1	M230LZA25237A1	امير	01012236985	شبين الكوم	الجهاز به شاشه سوداء	2/17/2023 0:00:00	2/20/2023 0:00:00	0	DELAY	Open

Device data

Customer data

Reply time

صُناع الثقة

ELARABY
صُناع الثقة

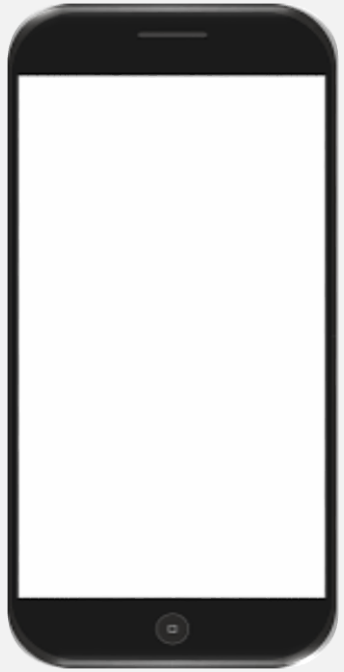
Results

✓ Cost Saving

TEVP

- ✓ **Total saved cost =53 K**

Before



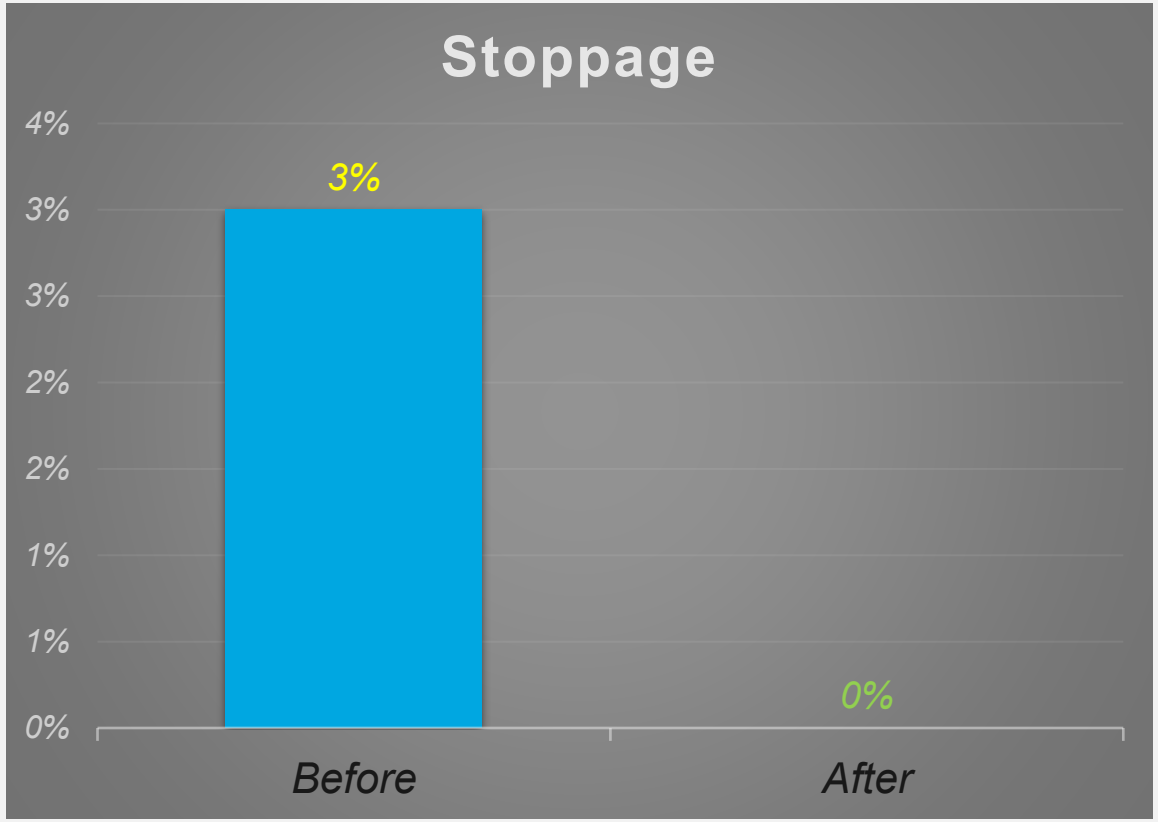
After

ELARABY
صُناع الثقة

✓ *No time stoppage*

TEVP

- **Preventing Line stoppage as it worked perfectly with 0% stops**

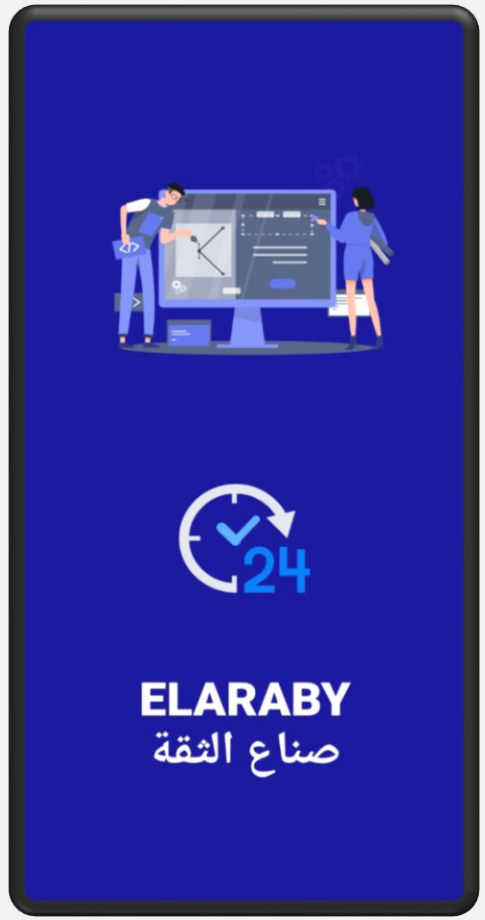


ELARABY
صُناع الثقة

TEVP

✓ *Customer support*

- **Providing customer support with an App for any complains**



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صُناع الثقة

TEVP

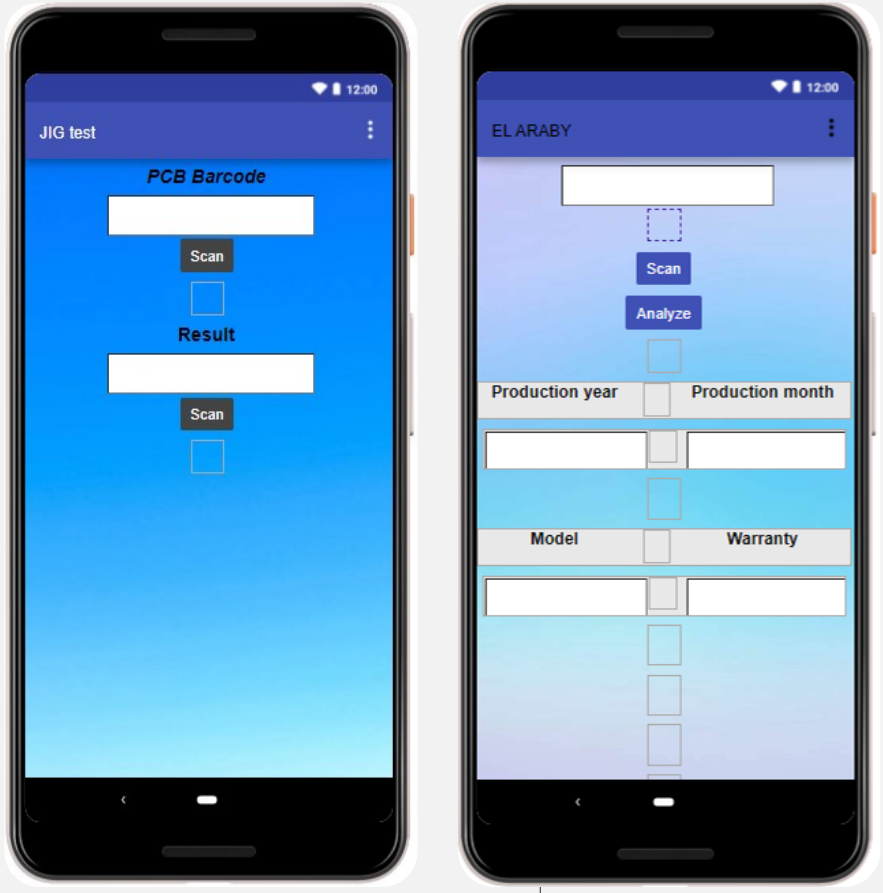
✓ *New knowledge*

Acquiring new skills and learning how to create programs that suit the nature of work in the factory

New App we created after learning how to design Apps on Kodular

PCB Testing

Barcode Analysis



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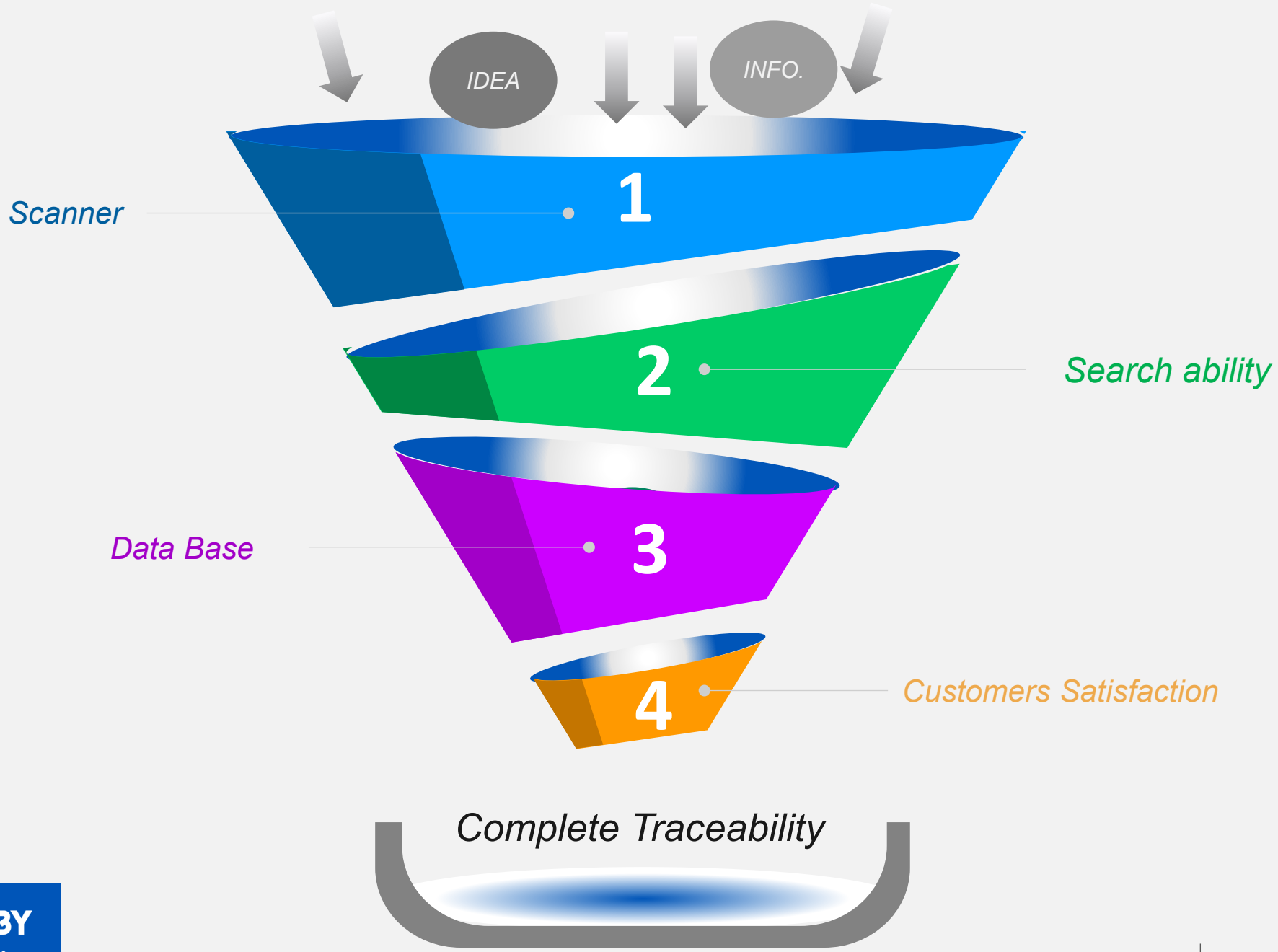
صُناع الثقة

TEVP



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صُناع الثقة

Actual use of the new system on production line
New Line (Large Size Models)

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Benefits

TEVP

Central Office
المكتب المركزي

KAIZEN

DM الادارة المبكرة للمعدات	OPTM الصيانة في المكاتب	SHE السلامة والصحة المهنية	E&T التدريب والتعليم	QM صيانة الجودة	PM الصيانة المخططة	KK التطوير المستمر	JH الصيانة الذاتية	Activity النشاط
الروح المعنوية M		الأمان S	نقل وتداول D	التكلفة C	الجودة Q	الإنتاجية P		Result Area منطقة التحسين

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صناع الثقة

Machine : production lines	Line:
KAIZEN Idea: Developping an Android application for full tracking	Kaizen Theme : Key Component Traceability
Start Date: 7/2022 Finish Date: 11/2022	Counter measure : Developping an android Application for full tracking using better scanner with low response time , supporting after sales with data about the components and its alternative ones , portable system that can be used anywhere in the production line
	Problem: the current traceability system (SINOBI) doesn't have full tracking of the T.V components like (Main PCB , Open cell ..), so It's not considered a complete traceability system

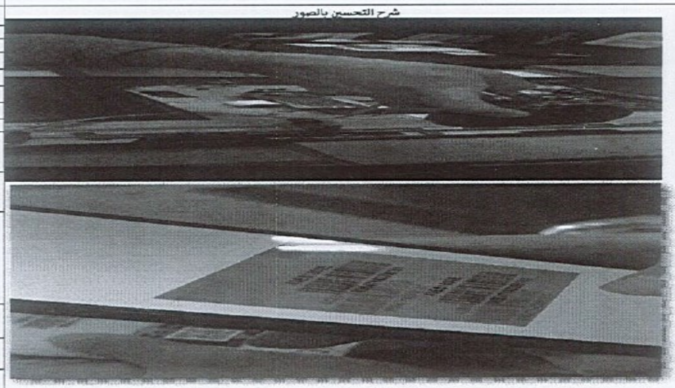
Team Members:

1	Eng	Mostafa Samy	
2	Mr	Ahmed Fathi	
3	Mrs	Amira Mohamed	
4	Mrs	Alaa Ameen	
5	Mr	Mahmoud Ashraf	
6	Mr	Ammar Yasser	
7			

Prevent production line stopping due to S.W issues	P
Fully control on PCB, OC tracking	Q
the total saved cost =60000	C
	D
	S
	M
Status الحالة	

2 Laptop = 2X20,000 = 40,000
2 SCN = 20,000
= 5? K

شرح التحسين بالصور



Analysis التحليل:

Low quality scanner	Why1 لماذا
Server Stopping	Why2 لماذا
Windows update	Why3 لماذا
	Why4 لماذا
	Why5 لماذا

Responsibility المسؤولية	Target date التاريخ المستهدف	No of Machine	Ser. No رقم كايزن

الاداره الماليه | تخطيط المصنع | مدير النشاط

سمير فرج محمد مصطفى
مدير ادارة هندسة العمليات
/ /20

TEVP
Ahmed Abo Elnour
Accountant

ELARABY
صناع الثقة

Teamwork

Eng.Mostafa Samy	Process Engineer
Mr. Ahmed Fathi	System Follow-Up Specialist
Amira Mohamed	Student
Alaa Amin	Student
Mahmoud Ashraf	Student
Ammar Yasser	Student

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Thank You

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