Team Members :

- Noor El-Hoda Mostafa
- Hagar Hussien
- Noura Hamza
- Noor El-Hoda Ahmed

Section : 8.

project number :80.

Project Name : Parking .

Project Sponsor : General Authority for Transport .

Project manger : Dr. Alaa .

Project Description

The app, is a sensor-based system that helps the customer find a place to park in an easy way so it reduces congestion.

Objectives for that project

1. Availability of places where cars can easily be parking.
2. Optimal Use of Areas
3. Reducing time and effort to park a car .
4. Easy application.
5. Protect customer vehicles from damage .

Scope for that project

1. This application runs in a lavish mall that makes it easier for clients to park safely.
2. When a user wants to find a spot for his car, they access the application and identify his car, and the senor sends out the available Spaces with the right space by putting a red flag in front of the occupied areas and a green one in front of the empty areas.
3. An application will only run in a number of mawl .
4. Application only runs out on iPhones and Androids.

Out of the Scope

1. This application can only be used in commercial malls.
2. Application only runs out on iPhones and Androids.

Deliverable

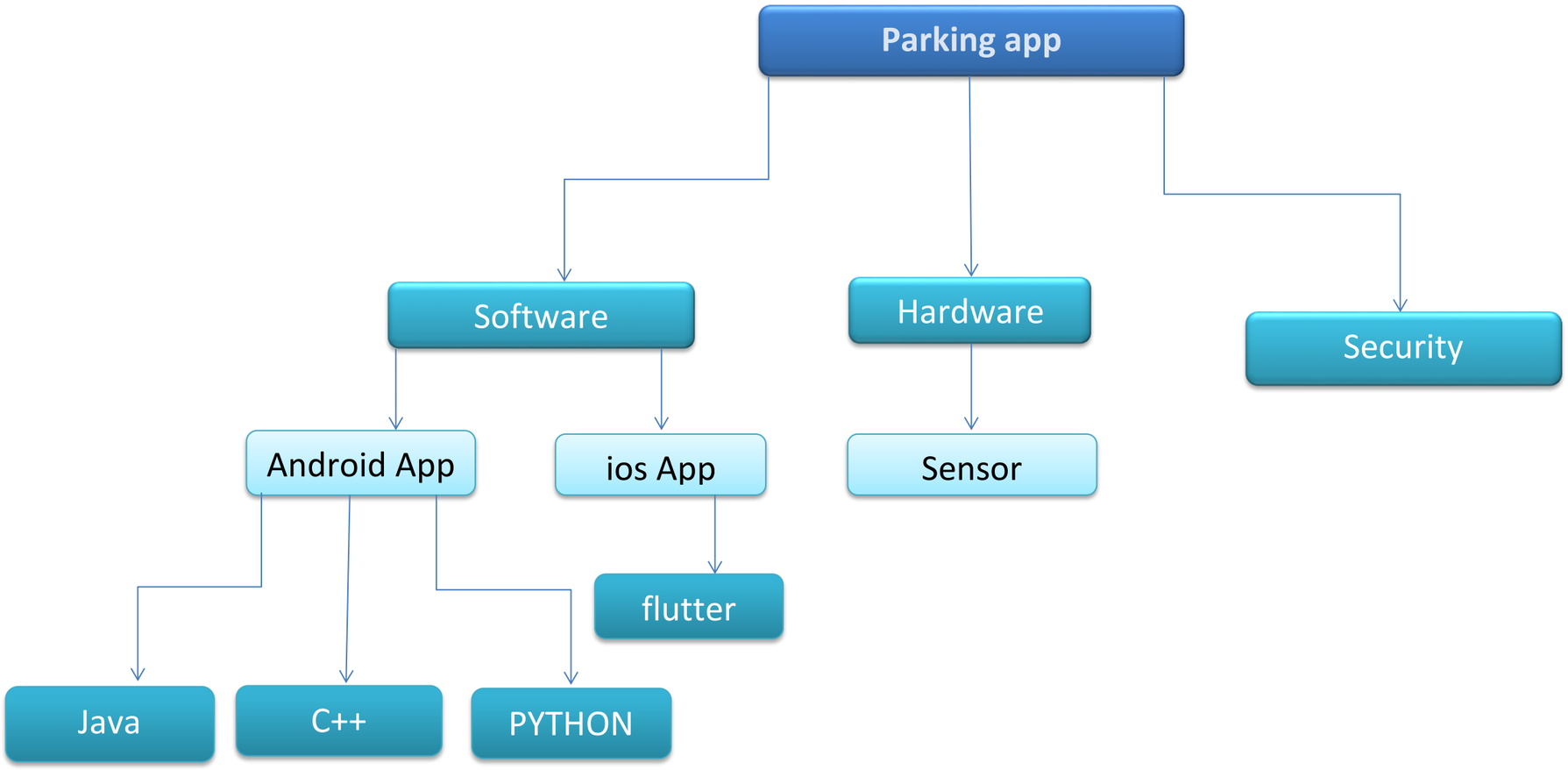
The application enables customers to easily park their cars in the mall and makes it easy to find their cars when leaving, all by installing a sensor that sends notifications to the car owner to know if the place is empty or occupied.

It has the ability to respond to voice commands if the person using it cannot read or write.

Miliestone

We need three weeks to define the requirements of the program, two weeks to assign responsibilities to employees, one week to set the tests, four weeks to build the software, also four weeks to design the program interface, two weeks to make tests on the program, and finally, we need five weeks to launch and market the application

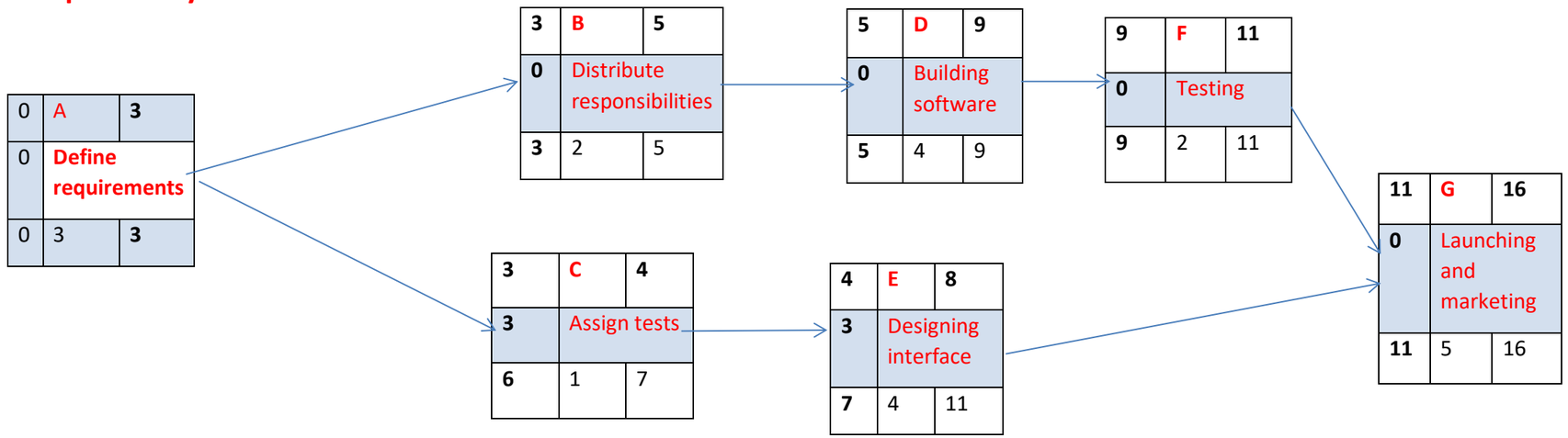
- Work Breakdown Structure (WBS):



- WBS Dictionary

Work package	ID	Responsible	Start Date	End date
Define requirements	A	Hager	27\12\2020	18\1\2021
Distribute responsibilities	B	Noor EL_Hoda Mostafa	18\1\2021	2\2\2021
Assign tests	C	Noor EL_Hoda Ahmed	18\1\2021	25\1\2021
Building software	D	Noor EL_Hoda Mostafa	2\2\2021	1\1\2021
Designing interface	E	Noor EL_Hoda Ahmed	25\1\2021	23\2\2021
Testing	F	Nora Hamza	1\1\2021	14\3\2021
Launching and marketing	G	Hager	14\3\2021	19\5\2021

- **Responsibility matrix:**



Critical Path: (ABDFG).

- Gantt chart:

Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Define requirements																
Distribute responsibilities																
Assign tests																
Building software																
Designing interface																
Testing																
Launching and marketing																

- **Resource-constrained Schedule:**

ID	Res	Dur	Es	Lf	Sl	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	2	3	0	3	0	2	2	2													
B	2	2	3	5	0				2	2											
C	2	1	3	7	3				2	-	-	-									
D	3	4	5	9	0						3	3	3	3							
E	3	4	4	11	3					3	3	3	3								
F	4	2	9	11	0										4	4					
G	3	5	11	16	0												3	3	3	3	3
Total resource						2	2	2	4	5	6	6	6	3	4	4	3	3	3	3	3
Resource available						6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

- **Network:**

Activity	Description	Processor	Duraction
A	Define requirements	None	3
B	Distribute responsibilities	A	2
C	Assign tests	A	1
D	Building software	B	4
E	Designing interface	C	4
F	Testing	D	2
G	Launching and marketing	E,F	5

Resource-constrained:

ID	RES	Dur	0	25	70	155	180	250	280	295	350
A	2	3									
B	1	2									
C	2	1									
D	3	4									
E	3	4									
F	2	2									
G	2	5									
Resources Scheduled			3	6	5	4	5	3	3	2	
Resources Available			6	6	6	6	6	6	6	6	

Resources

1. Team members.
2. Appstore (iPhone,Android).
3. Sensor.

Resource constrain

1. It should not take more than 4 months.
2. Project Cost Should not be More than 400000$.

Task	Budget	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Define requirements	38,000	10,500	10,000	17,500													
Distribute responsibilities	66,000				53,000	13,000											
Assign tests	54,000				50,000	2,000	1,400	600									
Building software	50,000						34,000	12,500	500	3000							
Designing interface	72,000					30,600	11,000	20,100	10.000	100		200					
Testing	43,000										32,000	11,000					
Launching and marketing	77,000												41,000	16,000	12,000	3,000	5,000
Total	400,000	10,500	10,000	17,500	103.000	45,600	46,400	33,200	10,500	3,100	32,000	11,200	41,000	16,000	12,000	3,000	5.000
Cumulative		10,500	20,500	38,000	141,000	186,000	233,000	266,200	276,700	279,800	311,000	323,000	364,000	380,000	392,000	395,000	400,000

Task allocation

task / Name	Noor EL_Hoda Ahmmed	Noora Hamza	Noor EL_Hoda Moustafa	**Hager**
Define requirements		S		**R**
Distribute responsibilities			R	**S**
Assign tests	R	S		
Building software	S		R	**S**
Designing interface	R	S	S	
Testing	S	R	S	**S**
Launching and marketing		**S**	**S**	**R**

R ⇒ responsibilities

S ⇒ Support

Budget :

400,000$ (includes servers, project licenses, developers, designers,equipments) .

Work Package Description software . page 1 of 1 .

Work Package ID 11.3.2.4.1 and 11.3.2.4.2 Project PC Prototype .

Deliverable Circuit board . Date 27\12\2020 .

Rosponsiblo organization unit Software . Estimator LGG .

Work Package Duration 16 weeks . Total labor cost 400,000$.

Time_Phased Labor Budget

Work package	Resource	Labor rate	Work perids_weeks																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Code 1.1.3.2.4.1	Program'rs	50,000$ week	10,500	2,000$	17,000$	100,000$	45,000$	46,000$	30,000$	10,000	3,000	32,000	10,000	30,000	12,000	10,500	1,500	5,000	364,500$
Code 1.1.3.2.4.2	System\ Program'rs	43,000$ week		8,000$		3,000$	600	400	3,200	500	100		1,200	11,000	4,000	2,000	1,500		35,500$
Ttotal			10,500$	10,000$	17,000$	103.000$	45,600$	46,400$	33,200$	10,500$	3,100	32,000	11,200	41,000	16,000	12,000	3,000	5.000	400,000

Risk

1. Possible senor allergy to any object other than a car so we can make the sensor so that it only induces metals Weight of at least 10 kg.
2. There are some people who can't read and write, so we have to make the application respond to the voice commands of the corner service.
3. There are some people who are not subscribed to this application. The solution is to put a device outside the garage gate that determines the empty places and their area for people.