Management and Controlling Electricity Outside home (home Automation)

Executive summary:

In this project we will solve the problem of wasting the electricity by making application that can control electricity from anywhere you are.
We can turn on/off our smart devices like (air conditioner, TV, refrigerator and electric ovens) in our homes from work.
The App enable us to see which device is turn on/off.
We can know which device save or waste electricity.
By applying this App we can see if there are electricity saved.

- ***Deliverables:***
  - **Technical expert collects information about operating system of smart devices.**
  - **Design the Application program.**
  - **Programmers write code and debug it and fixed errors.**
  - **Connect App with smart devices using internet and test the performance of App.**

- **Resource:**

- **A technical smart devices expert.**
- ***20 laptops with core i7.***
- **Team of software developer.**
- ***Team of designers.***
- ***Team of programmers.***

- ***Scope statement of project:***

This Application enable us to turn on or turn off smart devices. show all smart devices at home its turn on/off. But the Application cannot tell you if the device will be damage soon. We use the App on windows, IOS and Android but not Linux.

Milestones:

- **One month for technical experts to collect information.**
- **Five weeks to design the program.**
- **Eight weeks for the programmers write code and fixed errors.**
- **One week to connect App with smart devices.**
- **One month to test the performance of the App.**

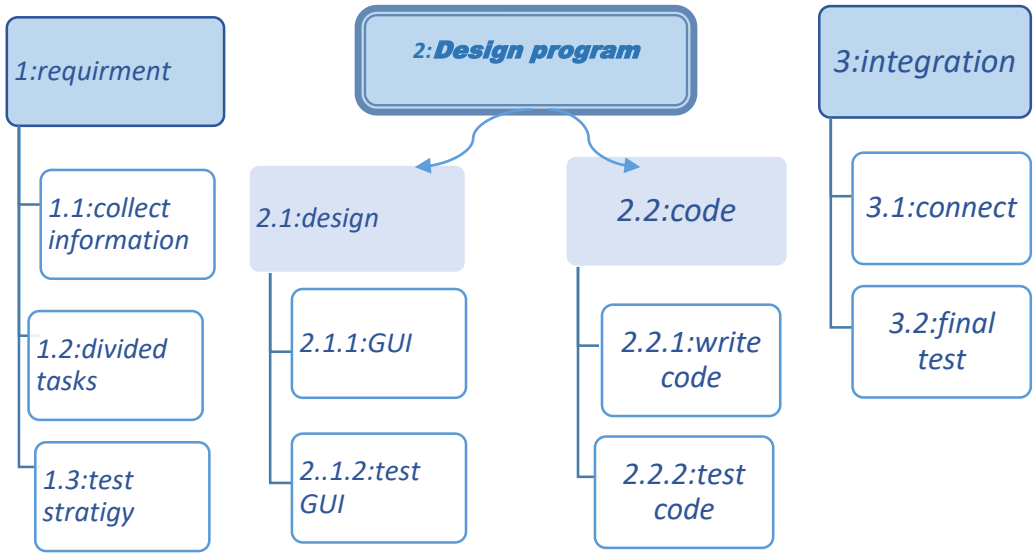
Assumption:

- **The App will not need high internet connection.**
- **This App will be enabled to control smart devices that will be invented in the future.**
- **It is supposed to provide 15% of electricity.**
- **It can make update for the App.**
- **Success in show consumption and numbers of working hours for the device.**

Constraints:

- **Total time: the App will be end before 1 year.**
- **Total Budget: we needed to make the App 100.000$**
- **Limiting be 5 persons in the day.**

WBS

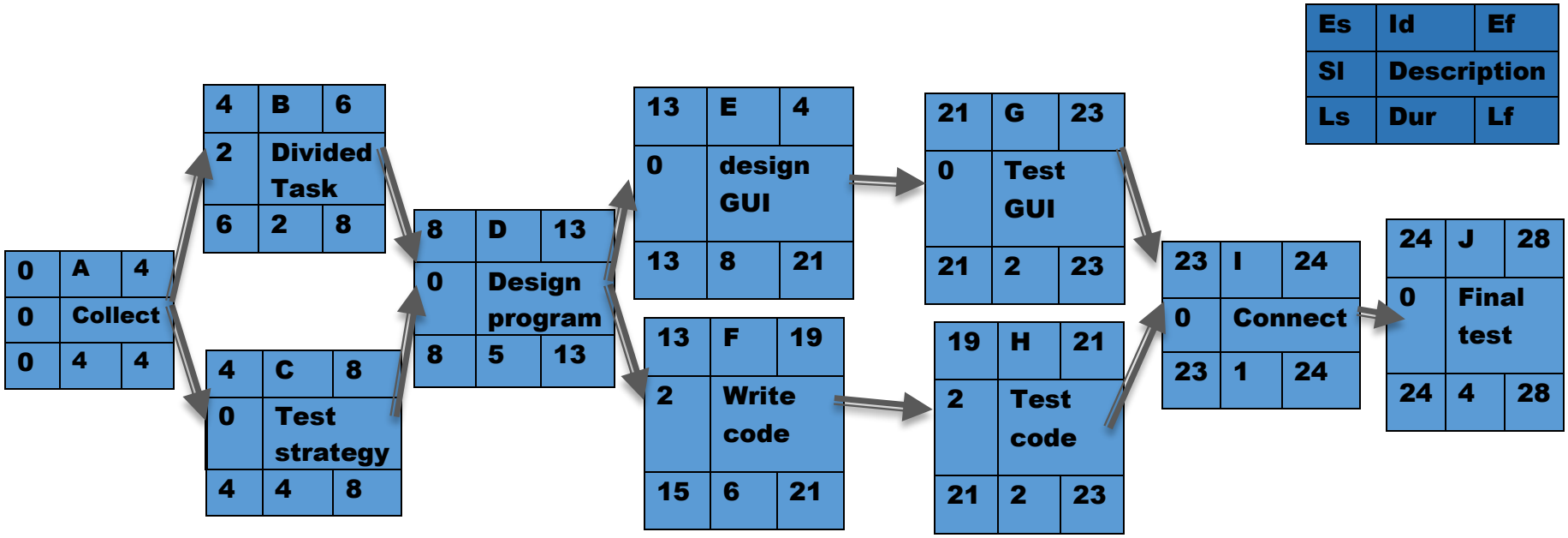

1:requirment
2:Design program
3:integration
1.1:collect information
1.2:divided tasks
1.3:test stratigy
2.1:design
2.2:code
2.1.1:GUI
2..1.2:test GUI
2.2.1:write code
2.2.2:test code
3.1:connect
3.2:final test

❖ Responsibility matrix

ACTIVITIES	NOURHAN	HEND	ALIAA	NERMEEN	MANAL
COLLECT INFORMATION		R	S		
DIVIDE TASKES	R	S	R	S	
TEST STRATIGE		S	R		
DESIGN PROGRAM	S		S	R	S
DESIGN GUI	R		S	S	
TEST GUI	S		R		R
WRITE CODE	R		R		S
TEST CODE		R	S	R	S
CONNECT APP WITH SMART DEVICES	S		R	R	S

Project network

ID	Description	predecessor	Time
A	Collect information	none	4
B	Divide task	A	2
C	Develop strategy	A	4
D	Design program	B,C	5
E	GUI	D	8
F	Write code	D	6
G	Test GUI	E	2
H	Test Code	F	2
I	Connect device	G,H	1
J	Final test	I	4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Id
Ef
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Description
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A
4
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Collect
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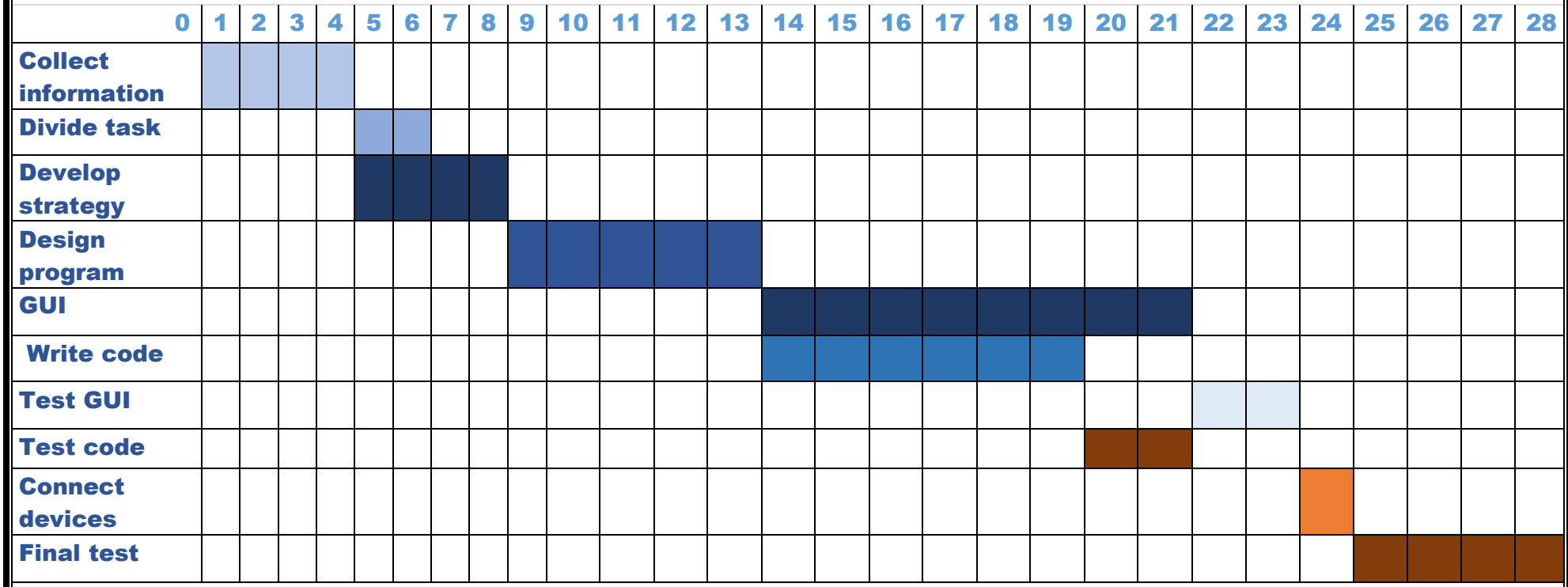
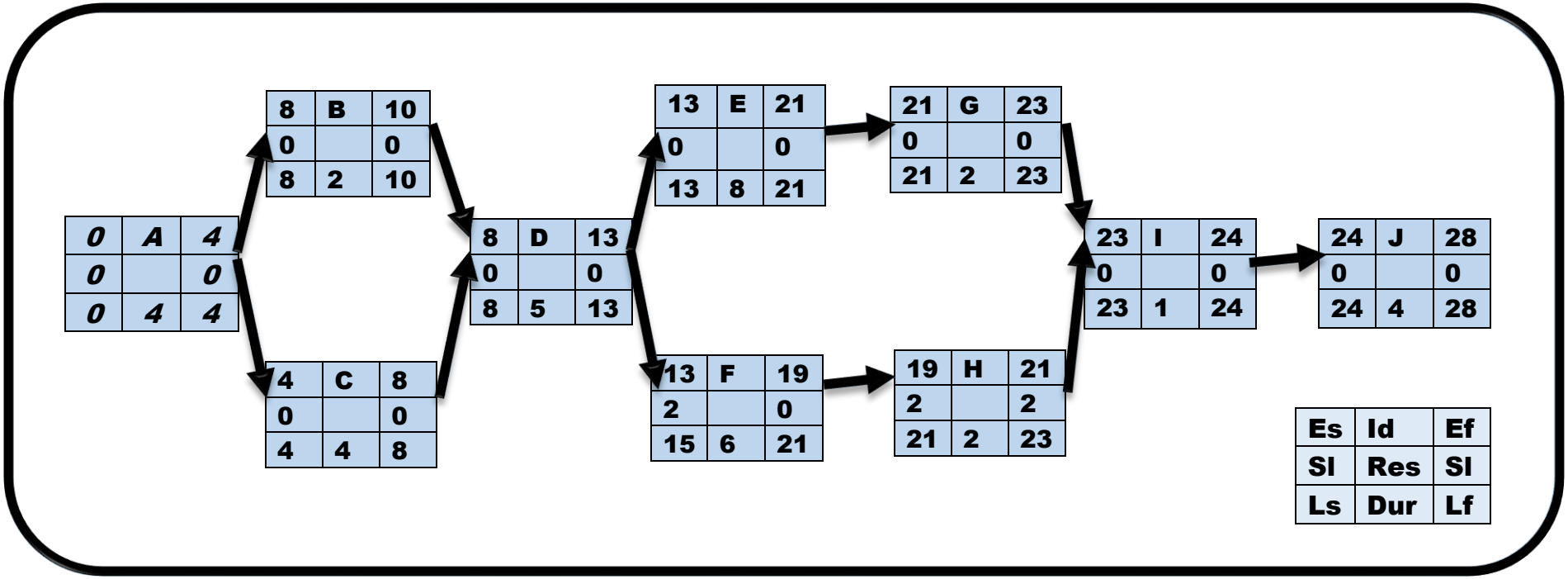
4
4
4
B
6
2
Divided Task
6
2
8
4
C
8
0
Test strategy
4
4
8
8
D
13
0
Design program
8
5
13
13
E
4
0
design GUI
13
8
21
13
F
19
2
Write code
15
6
21
21
G
23
0
Test GUI
21
2
23
19
H
21
2
Test code
21
2
23
23
I
24
0
Connect
23
1
24
24
J
28
0
Final test
24
4
28

Gantt chart:


0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Collect information
Divide task
Develop strategy
Design program
GUI
Write code
Test GUI
Test code
Connect devices
Final test

❖ resource constrained project

Id	Res	Dur	Es	LF	Ls	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
A	2p	4	0	4	0	2	2	2	2																										
B	2p	2	4	8	2					2	2																								
C	4p	4	4	8	0					4	4	4	4																						
D	3p	5	8	13	0									3	3	3	3	3																	
E	2p	8	13	21	0														2	2	2	2	2	2	2	2									
F	3p	6	13	21	2														3	3	3	3	3	3											
G	3p	2	21	23	0																						3	3							
H	3p	2	19	23	2																				3	3									
I	4p	1	23	24	0																								4						
J	4p	4	24	28	0																									4	4	4	4		
Total resource						2	2	2	2	6	6	4	4	3	3	3	3	3	5	5	5	5	5	5	5	5	3	3	4	4	4	4	4		
Resource available						5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5


0 A 4
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0 4 4
8 B 10
0 0
8 2 10
4 C 8
0 0
4 4 8
8 D 13
0 0
8 5 13
13 E 21
0 0
13 8 21
13 F 19
2 0
15 6 21
21 G 23
0 0
21 2 23
19 H 21
2 2
21 2 23
23 I 24
0 0
23 1 24
24 J 28
0 0
24 4 28
Es Id Ef
Sl Res Sl
Ls Dur Lf

legend

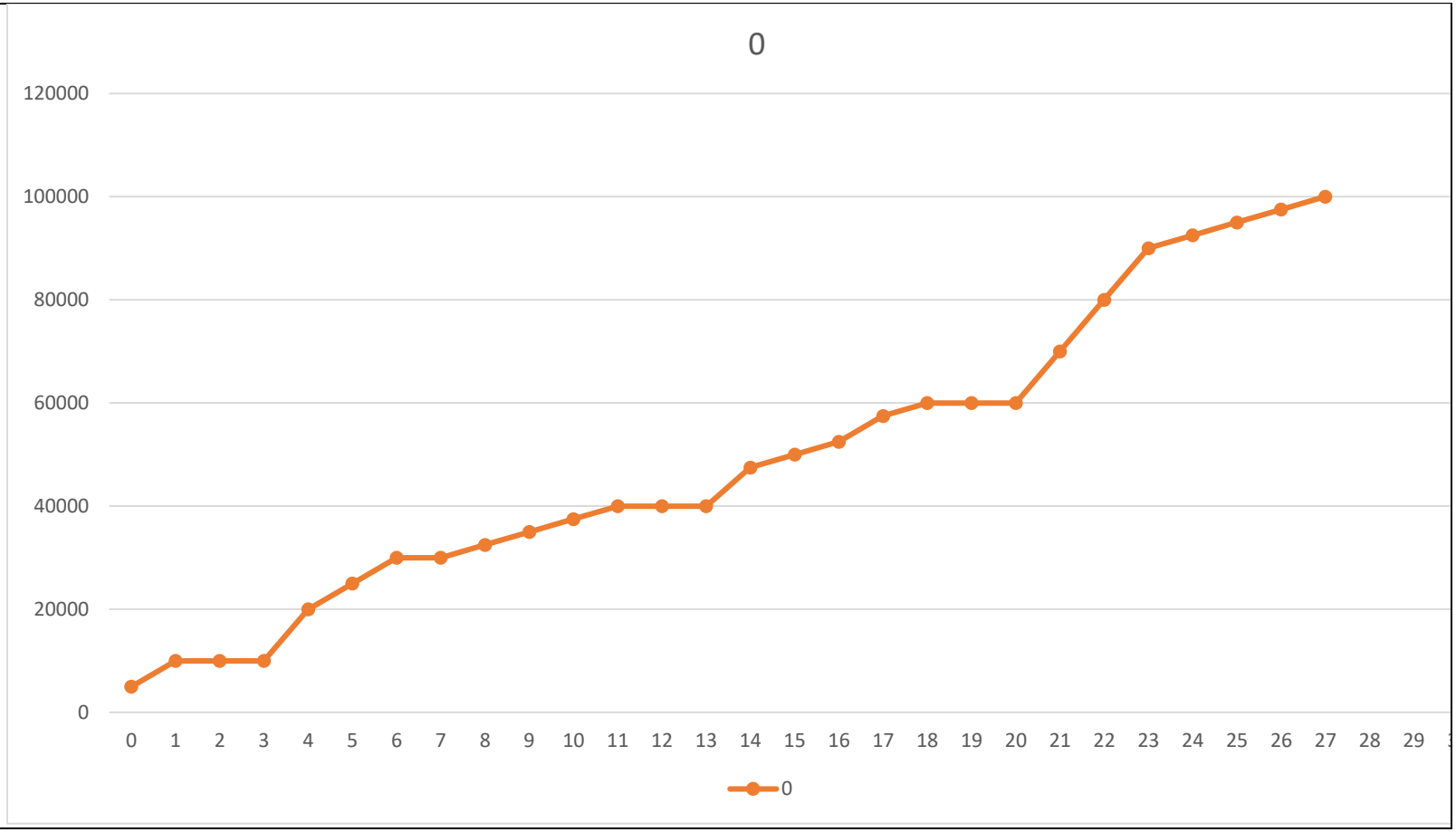
Final resource constrained

Id	Res	Dur	Es	LF	Ls	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
A	2p	4	0	4	0	2	2	2	2																										
B	2p	2	8	10	-2					x	x	x	x	2	2																				
C	4p	4	4	8	0					4	4	4	4																						
D	3p	5	8	13	0									3	3	3	3	3																	
E	2p	8	13	21	0														2	2	2	2	2	2	2	2									
F	3p	6	13	21	2														3	3	3	3	3	3	sl	sl									
G	3p	2	21	23	0																						3	3							
H	3p	2	19	23	2																				3	3	sl	Sl							
I	4p	1	23	24	0																								4						
J	4p	4	24	28	0																									4	4	4	4		
Total resource						2	2	2	2	4	4	4	4	5	5	3	3	3	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4		
Resource available						5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Time phased budget.

id	Dur	budget	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
A	4	10.000	5000	5000																											
B	2	10.000					10.000																								
C	4	10.000						5000	5000																						
D	6	10.000									2500	2500	2500	2500																	
sE	8	10.000															2500	2500	2500	2500											
F	8	10.000															50			25	25										

																	00			00	00										
G	2	10.000																						50000	50000						
H	2	10.000																						50000	50000						
I	1	10.000																								10.000					
J	4	10.000																									25000	25000	25000	25000	
Total week 000		100.	5000	5000			10.000	50000	50000		25000	25000	25000	25000			75000	25000	25000	50000	25000			10.000	10.000	10.000	25000	25000	25000	25000	
Cumulative			5	10.000	10.000	10.000	20.000	250000	30.000	30.000	32500	35000	37500	40.000	40.000	40.000	47500	50.000	52500	57500	60.000	60.000	60.000	70.000	80.000	90.000	92500	95000	97500	1000.000	

Cumulative baseline budget (pv)	

Risk:

- **Cost Risk:**

The project cost is higher than the budget funds

Risk management: changing the project plan to eliminate the high cost

- **Technical Risk:**

Packing wrong system for project.

Risk management: Reload the system for project again to reduce risk.

Computer network problem.

Risk management: we have backup computers when there is a problem with a computer while working.

Poor installation techniques.

Risk management: Rework on installation techniques.

- **Security Risk:**

Wrong implementation of security standers.

Risk management: Accuracy during the implementation of safety standers.

"team member"

1-منال علي سيد سيد 2- هند عبد المنعم سيد عبد الغني 3- علياء احمد ابوزيد

4-نرمين عبد الحميد علي محمد 5-نورهان احمد ابراهيم احمد

"مجموعه 2"