Level 2

Group 2 section 5

Name member :

1.MAHMOUD ASHRAF RASHED

2.MAHMOUD AHMED SAUDI

3.MAHMOUD SHABA

Project charter:

• Project name: smart home app.

• Project sponsor: Ministry of electricity and energy.

• Purpose of the project: Make it easier to control the house.

• Business case:

The app will be attached with the all devices at your home and about it you can turn on/off any devices you want from any place even if you are out of home, the app also will see you which devices are turned on and which turned off.

• Project scope:

1. The application will show the user the status of all devices (On or Off).

2-It show the user with the most electricity consuming devices.

3-The application sends notifications to the user on devices that are working for a long time and allows the possibility of closing them automatically.

4-The application allows the user to pay the electronic bill.

• Key deliverables of the project:

The application allow the user to control in turn on and turn off of remote devices and the consumption of each device of electricity. And you can put a limit time to turn off all devices, by this way you can assure that all devices will turn off after this time.

• Project milestons (Time line of project):

-In the first week, the electrical engineer team collects information about the receivers to be able to control the devices automatically.

For a month, electrical engineers install devices and sensors to connect the devices to the application.

-For two weeks, the programmer team designs the program and connects it to the devices.

-The application is tested and faults fixed within ten days.

Project resources:

1. A team of electrical engineering.
2. A team of programing.
3. Device of receiver.

Budget: 200,000$ .

Staff:

- A team of electrical engineers.

- A team of programmers.

Vendor: Marketing companies, and internet markets (like Amazon, and Google play)

• Constraints:

1-The project must take time less than 4 months.

2-The project must not exceed 200,000 $.

• Assumptions:

1. The project does not take more than 4 month.
2. The cost no more 200,000$ .
3. Efficiency in the devices.

• risks:

1. Intrusion into the home control system.
2. The application does not receive sufficient acceptance from users.
3. The cost of the project exceeded the expected limit.

Project scope

1-Project scope discribtion:

• The application allows you to control home appliances so that you can turn on/off any device at home from any where.

• The app also will show you all devices at home whatever it is turn on/off.

• You can pay the electricity bill with the app.

2-Project acceptance criteries:

• The possibility of electronic payment.

• Easy-to-use user interface design.

3-Project deliverables:

• Save time, energy and money.

4-Project excution:

One of the customers' requirements is that the app shows it has an average electricity usage per device over the course of the day , but the sponsor and manager refuse this request as it need a lot of time and cost.

5-Project constraints:

• Rules of company and policies.

• Budget.

• Time of submit.

6-Project assumptions:

• This application can run only on The IOS and Android operating system.

Dictionary of WPS

|  |
| --- |
| Requirement  Meeting with stakeholder and Sponser  Manager and team member  16/11/2020  23/3/2021 |

|  |
| --- |
| work package name  description  person  start project  end project |

Dictionary about our project

|  |  |  |  |
| --- | --- | --- | --- |
| study project | Mahmoud | 16/11/2020 | 1/12/2020 |
| Requirements and budget | Mahmoud | 3/12/2020 | 30/12/2020 |
| Research and development | Ashraf | 1/1/2021 | 14/1/2021 |
| Software code | Mahmoud | 15/1/2021 | 1/28/2021 |
| procurements | Ashraf | 1/2/2021 | 14/2/2021 |
| Test the system | Ashraf | 2/27/2021 | 1/3/2021 |
| Finish and install the app | Shaban | 5/3/2021 | 23/3/2021 |

WBS

**1.3**

**1.2**

**design**

**1.1**

**1.4**

**Coding**

**Starting**

**Finishing**

1.3.1

Dividing Tasks

1.3.2

Coding the Functions in all Tasks

1.3.3

Test Functions

1.3.4

Interface the Application

1.2.1

Purchases

1.2.2

Operating System

1.2.3

procurements

1.1.1

Requirements

1.1.2

Write code

1.1.3

Studying the project

1.1.4

*divided tasks*

1.4.1

Test

the Application

1.4.2

connect

1.4.3

Finish the Application

1.4.4

Install the app

Responsibility Matrix

|  |  |  |  |
| --- | --- | --- | --- |
| Task of team | Mahmoud | Ashraf | Shaban |
| Define requirement | S |  | R |
| Software code | R | S |  |
| Test the system |  | R |  |
| Research and development |  | R | S |
| Study project | S |  |  |
| procurements |  | R |  |
| Finish and install the app | S |  | R |

|  |
| --- |
| Responsible (R)  Supportive (S) |

Project network.

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| 42 | G | 46 |
| 0 | Test GUI | |
| 42 | 4 | 46 |

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| 8 | B | 12 |
| 4 | Dividing tasks | |
| 12 | 8 | 16 |

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| 26 | E | 8 |
| 0 | test function | |
| 26 | 16 | 42 |

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| --- | --- | --- |
| 48 | J | 56 |
| 0 | Final test | |
| 48 | 8 | 56 |

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| 46 | I | 48 |
| 0 | connect | |
| 46 | 2 | 48 |

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| 16 | D | 26 |
| 0 | Design | |
| 16 | 10 | 26 |

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| --- | --- | --- |
| 0 | A | 8 |
| 0 | Requirements | |
| 0 | 8 | 8 |

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| 26 | F | 38 |
| 4 | Write code | |
| 30 | 12 | 42 |

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| --- | --- | --- |
| 38 | H | 42 |
| 4 | Test code | |
| 42 | 4 | 46 |

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| 8 | C | 16 |
| 0 | Test  strategy | |
| 8 | 8 | 16 |

*Gantt chart:*

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| 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 |
| Requirements |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Divide task |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Develop strategy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Design |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Test function |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Write code |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Test system |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Test code |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Connect |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Final test |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

resource constrained project

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| 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 | 8 | 0 | 8 | 0 | 4 | 4 | 4 | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B | 2p | 4 | 8 | 16 | 4 |  |  |  |  | 4 | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| C | 4p | 8 | 8 | 16 | 0 |  |  |  |  | 8 | 8 | 8 | 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| D | 3p | 10 | 16 | 26 | 0 |  |  |  |  |  |  |  |  | 6 | 6 | 6 | 6 | 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| E | 2p | 16 | 26 | 42 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |  |  |  |  |  |  |  |  |  |
| F | 3p | 12 | 26 | 42 | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 | 6 | 6 | 6 | 6 | 6 |  |  |  |  |  |  |  |  |  |  |  |
| G | 3p | 4 | 42 | 46 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 | 6 |  |  |  |  |  |  |  |
| H | 3p | 4 | 38 | 46 | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 | 6 |  |  |  |  |  |  |  |  |  |
| I | 4p | 2 | 46 | 48 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 8 |  |  |  |  |  |  |
| J | 4p | 8 | 48 | 48 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 8 | 8 | 8 | 8 |  |  |
| Total resource | | | | | | 4 | 4 | 4 | 4 | 12 | 12 | 8 | 8 | 6 | 6 | 6 | 6 | 6 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 6 | 6 | 8 | 8 | 8 | 8 | 8 |  |  |
| Resource available | | | | | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

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| 8 | B | 10 |
| 0 |  |  |
| 8 | 2 | 10 |

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| 13 | E | 21 |
| 0 |  |  |
| 13 | 8 | 21 |

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| 21 | G | 23 |
| 0 |  |  |
| 21 | 2 | 23 |

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| 23 | I | 24 |
| 0 |  |  |
| 23 | 1 | 24 |

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| 24 | J | 28 |
| 0 |  |  |
| 24 | 4 | 28 |

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| --- | --- | --- |
| *0* | *A* | *4* |
| *0* |  |  |
| *0* | *4* | *4* |

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| 8 | D | 13 |
| 0 |  |  |
| 8 | 5 | 13 |

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| 19 | H | 21 |
| 2 |  |  |
| 21 | 2 | 23 |

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| 4 | C | 8 |
| 0 |  |  |
| 4 | 4 | 8 |

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| 13 | F | 19 |
| 2 |  |  |
| 15 | 6 | 21 |

Final resource constrained.

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| 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 | 8 | 0 | 8 | 0 | 4 | 4 | 4 | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B | 2p | 4 | 16 | 20 | -4 |  |  |  |  | x | x | x | x | 4 | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| C | 4p | 8 | 8 | 16 | 0 |  |  |  |  | 8 | 8 | 8 | 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| D | 3p | 10 | 16 | 26 | 0 |  |  |  |  |  |  |  |  | 6 | 6 | 6 | 6 | 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| E | 2p | 16 | 26 | 42 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |  |  |  |  |  |  |  |  |  |
| F | 3p | 12 | 26 | 42 | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 | 6 | 6 | 6 | 6 | 6 | sl | sl |  |  |  |  |  |  |  |  |  |
| G | 3p | 4 | 42 | 46 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 | 6 |  |  |  |  |  |  |  |
| H | 3p | 4 | 38 | 46 | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 | 6 | sl | sl |  |  |  |  |  |  |  |
| I | 4p | 2 | 46 | 48 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 8 |  |  |  |  |  |  |
| J | 4p | 8 | 48 | 56 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 8 | 8 | 8 | 8 |  |  |
| Total resource | | | | | | 4 | 4 | 4 | 4 | 8 | 8 | 8 | 8 | 10 | 10 | 6 | 6 | 6 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 8 | 8 | 8 | 8 | 8 |  |  |
| Resource available | | | | | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

legend

Time phased budget.

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| 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 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| E | 8 | 10.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2500 | 2500 | 2500 | 2500 |  |  |  |  |  |  |  |  |  |  |  |
| F | 8 | 10.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5000 |  |  | 2500 | 2500 |  |  |  |  |  |  |  |  |  |  |
| G | 2 | 10.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5000 | 5000 |  |  |  |  |  |  |
| H | 2 | 10.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5000 | 5000 |  |  |  |  |  |  |
| I | 1 | 10.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 10.000 |  |  |  |  |  |
| J | 4 | 10.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2500 | 2500 | 2500 | 2500 |  |
| Total 100.  week 000 | | | 5000 | 5000 |  |  | 10.000 | 5000 | 5000 |  | 2500 | 2500 | 2500 | 2500 |  |  | 7500 | 2500 | 2500 | 5000 | 2500 |  |  | 10.000 | 10.000 | 10.000 | 2500 | 2500 | 2500 | 2500 |  |
| Cumulative | | | 5000 | 10.000 | 10.000 | 10.000 | 20.000 | 25000 | 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 | 100.000 |  |
| *Cumulative baseline budget*  *(pv)* | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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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

Risk

Negative risks:-

-Interruption of the Internet.

-hackers.

-One of our employee leave the company.

-Another competitive company make the same technology with better quality than us

-Damage in the receivers.

-Increase in the cost.

-The lack of efficiency sufficient in the receiver or the teams.

-Not to satisfy the users of product.

Positive risk:-

-There is only our company in the market.

-Make a change in company that may improve our technology.

- This application work The IOS and Android.