

T.C.
BAHÇEŞEHİR UNIVERSITY



FACULTY OF ENGINEERING AND NATURAL SCIENCES

CAPSTONE FINAL REPORT

THE TITLE OF THE PROJECT GOES HERE

The Names of the Students and their Departments go here,
In Alphabetical Order by Surname,
Capitalize The First Letters Only

Advisors: Your Advisor's Name Goes Here
(e.g. Assist. Prof., Assoc. Prof., Prof. ...) and their departments

ISTANBUL, May 2022

STUDENT DECLARATION

By submitting this report, as partial fulfillment of the requirements of the Capstone course, the students promise on penalty of failure of the course that

- they have given credit to and declared (by citation), any work that is not their own (e.g. parts of the report that is copied/pasted from the Internet, design or construction performed by another person, etc.);
- they have not received unpermitted aid for the project design, construction, report or presentation;
- they have not falsely assigned credit for work to another student in the group, and not take credit for work done by another student in the group.

ABSTRACT

THE TITLE OF THE PROJECT GOES HERE

Your Names in alphabetical order by surname

Faculty of Engineering and Natural Sciences

Advisor: Your Adviser Titles and Names

May 2021

Write the abstract here (only necessary for the final report).

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Key Words— CO₂, carbon dioxide, microcontroller, air quality, CO₂ meter

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LIST OF ABBREVIATIONS

IoT Internet of Things. vii

M2M Machine-to-Machine. vii

Use acronyms like that: its Internet of Things, which is abbreviated IoT. This process is similar to that used for the Machine-to-Machine (M2M).

1 OVERVIEW

Begin the first paragraph here.
Begin the second paragraph here.

1.1 Identification of the need

Begin the first paragraph here.
Begin the second paragraph here.

1.2 Definition of the problem

Begin the first paragraph here.
Begin the second paragraph here.

1.2.1 Functional requirements

Begin the first paragraph here.
Begin the second paragraph here.

1.2.2 Performance requirements

Begin the first paragraph here.
Begin the second paragraph here.

1.2.3 Constraints

Begin the first paragraph here.
Specifically, write about the economic, environmental and social impact of your product. A whole page is dedicated to this in the report guide; please read the guide carefully and write about how these issues apply to your product.

1.3 Conceptual solutions

Begin the first paragraph here.
Begin the second paragraph here.

1.3.1 Literature Review

Include references to other work and data, for example: Reference [1] states that a base station's power consumption can be divided into four main parts. Bees are flying insects closely related to wasps and ants [2].

Below is an example of including a figure. You should always give the figure a number and a caption (make sure that this is including in the LIST OF FIGURES) and refer to the figure in the text. **Figure. 1** illustrates the steps electric energy takes from the point of generation to the point of use.

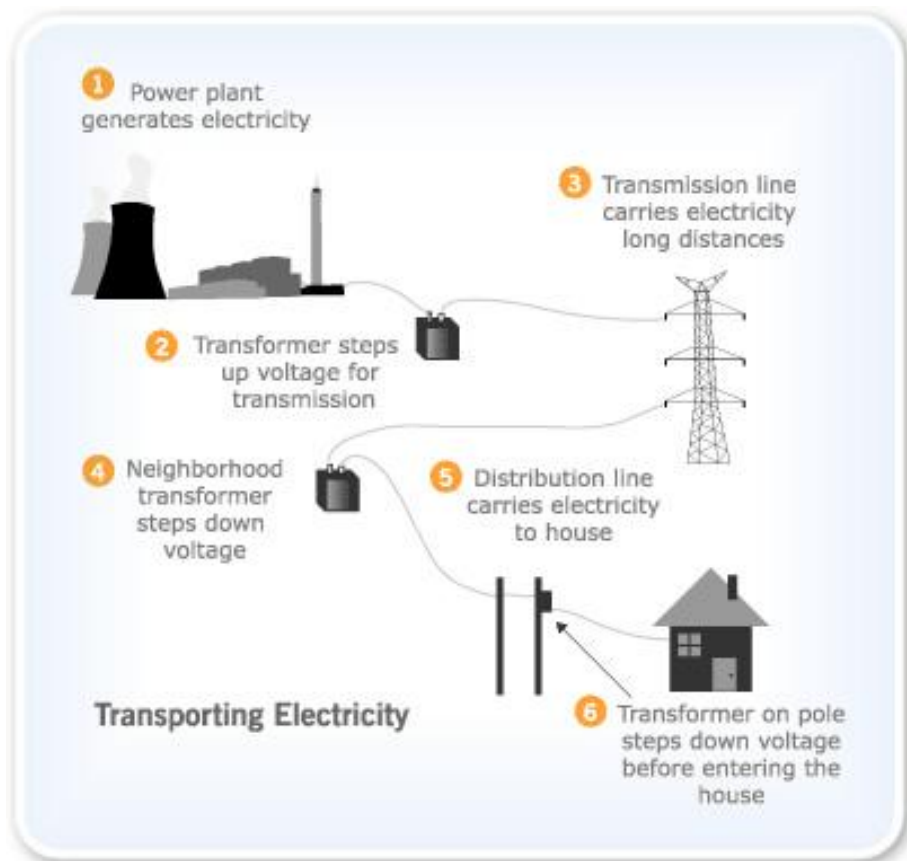


Figure 1: Path of electrical energy from the power plant to the home.

1.3.2 Concepts

Begin the first paragraph here.

Begin the second paragraph here.

Below is an example of including a table. You should always give the table a number and a caption (make sure that this is including in the LIST OF TABLES) and refer to the table in the text. For example:

Table. 1 compares different conceptual solutions with respect to the four most important requirements; Concept 2 is chosen for this project due to its low cost and reasonable score in all the other categories.

Country List		
Country Name or Area Name	ISO ALPHA 2 Code	ISO ALPHA 3
Afghanistan	AF	AFG
Aland Islands	AX	ALA
Albania	AL	ALB
Algeria	DZ	DZA
American Samoa	AS	ASM
Andorra	AD	AND
Angola	AO	AGO

Table 1: A table showing some data

1.4 Physical architecture

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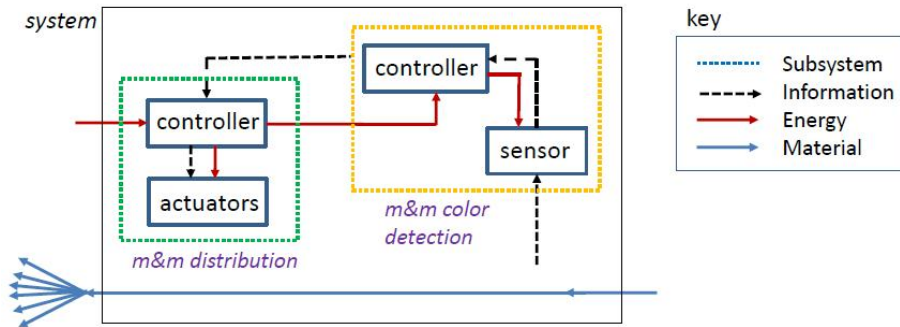


Figure 2: Interface diagram for the system

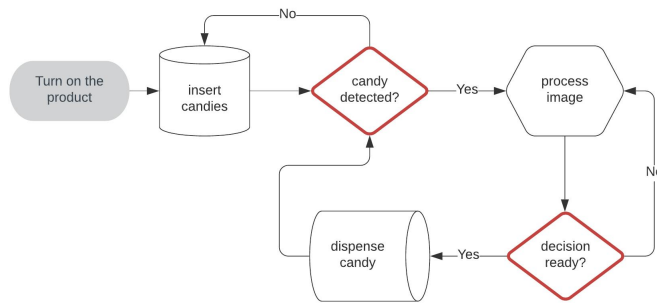


Figure 3: Process chart for the system

2 WORK PLAN

2.1 Work Breakdown Structure

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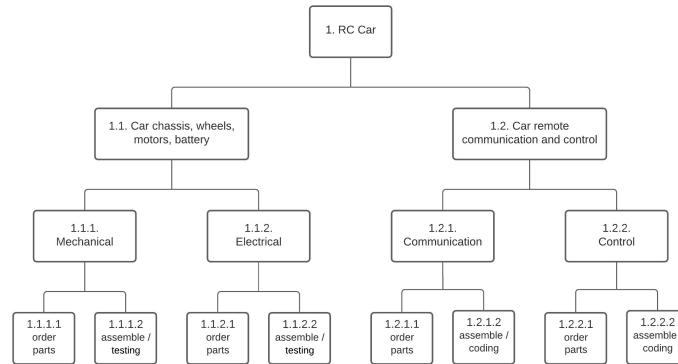


Figure 4: Work Breakdown Structure

2.2 Responsibility Matrix

Begin the first paragraph here.
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Task	Ayşe	Ahmed	Peter
Mechanical	R		
Electrical	R		S
Comm.		R	S
Control		S	R
Planning	S	S	R
Reporting	R	S	S
Integration	S	R	S

R = Responsible; S = Support

Figure 5: Responsibility Matrix

2.3 Project Network

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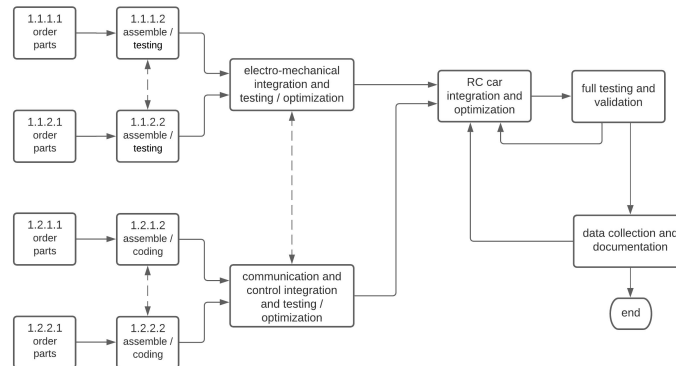


Figure 6: Project Network

2.4 Gantt chart

Since the Gantt chart covers 15 weeks it can be very wide, therefore in this example it is placed on it's own page and turned sideways. There are various forms for a Gantt chart, choose the form that is suitable for the size and complexity of your project.

Discuss the Gantt chart here (refer to the table).

Begin the first paragraph here.

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2.5 Costs

Begin the first paragraph here.

Begin the second paragraph here.

2.6 Risk Assessment

Begin the first paragraph here.

Begin the second paragraph here.

3 SUB-SYSTEMS

There will be at least two sub-systems corresponding to two faculty departments and/or work groups.

3.1 The name of the sub-system 1

Begin the first paragraph here.
Begin the second paragraph here.

3.1.1 Requirements

Begin the first paragraph here.
Begin the second paragraph here.

3.1.2 Technologies and methods

Begin the first paragraph here.
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3.1.3 Conceptualization

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Begin the second paragraph here.

3.1.4 Physical architecture

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Begin the second paragraph here.

3.1.5 Materialization

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Begin the second paragraph here.

3.1.6 Evaluation

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3.2 The name of the sub-system 2

Begin the first paragraph here.
Begin the second paragraph here.

3.2.1 Requirements

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Begin the second paragraph here.

3.2.2 Technologies and methods

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Begin the second paragraph here.

3.2.3 Conceptualization

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3.2.4 Physical architecture

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3.2.5 Materialization

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Begin the second paragraph here.

3.2.6 Evaluation

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Begin the second paragraph here.

4 INTEGRATION & EVALUATION

Begin the first paragraph here.
Begin the second paragraph here.

4.1 Integration

Begin the first paragraph here.
Begin the second paragraph here.

4.2 Evaluation

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Begin the second paragraph here.

5 SUMMARY & CONCLUSION

In summary, ...

Begin the first summary paragraph here.

Begin the second paragraph here.

In conclusion, ...

Begin the first summary paragraph here.

Begin the second paragraph here.

ACKNOWLEDGEMENTS

We wish to thank our adviser Title Name Surname for Also acknowledge any other help/support from friends, technicians and other staff etc...

This work was partly/wholly funded by Bahçeşehir University (remove this if are not requesting funding).

References

- [1] A. Elawady, A. Khetrish, and M. Abuzwidah, "Driver behaviors' impacts on traffic safety at the intersections," *2020 Advances in Science and Engineering Technology International Conferences (ASET)*, pp. 1–6, 2020.
- [2] T. J. Muizelaar and B. van Arem, "Drivers' preferences for traffic information for nonrecurrent traffic situations," *Transportation Research Record*, vol. 2018, no. 1, pp. 72–79, 2007.

APPENDIX A

Information that does not fit naturally into the main body of the report can be put into an appendix. Typically this would be long sections of software code, product user manuals, large tables of validation results, etc.

An example of providing source code is shown in this appendix. Display the source code in a monospace (fixed-width) font and single-spaced.

Alternatively give a link to an online code repository.

Example of code listing:

```
import numpy as np

def incmatrix(genl1, genl2):
    m = len(genl1)
    n = len(genl2)
    M = None #to become the incidence matrix
    VT = np.zeros((n*m,1), int) #dummy variable

    #compute the bitwise xor matrix
    M1 = bitxormatrix(genl1)
    M2 = np.triu(bitxormatrix(genl2),1)

    for i in range(m-1):
        for j in range(i+1, m):
            [r, c] = np.where(M2 == M1[i, j])
            for k in range(len(r)):
                VT[(i)*n + r[k]] = 1;
                VT[(i)*n + c[k]] = 1;
                VT[(j)*n + r[k]] = 1;
                VT[(j)*n + c[k]] = 1;

            if M is None:
                M = np.copy(VT)
            else:
                M = np.concatenate((M, VT), 1)

    VT = np.zeros((n*m,1), int)

    return M
```

APPENDIX B

Another appendix can go here.