University of Southampton
Electronics and Computer Science

A group design project report submitted for the award of
Master of Engineering

by **GDP 8**:
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Synote Payment System and QA Process

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Electronics and Computer Science
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ABSTRACT

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Declaration

Acknowledgements

Contents

List of Figures

List of Tables

Chapter 1

Introduction

1.1 Location of files

Chapters go in `chapters` folder. Figures in `images` folder. No content must be written elsewhere. All content must lie in chapters files'. We may need to create files for sections, if chapters get too big.

1.2 Writing Content

You must not write live on Overleaf! I cannot emphasize it enough! Download the project as a git repo from the options on overleaf. Then write what you need to write, compile locally, then once everything compiles nice and well, put it on overleaf.

1.3 Formatting

End each paragraph with a double backslash always.

1.3.1 Labeling

Make sure you label 'every component' with a label like above. Chapters will have labels as `chap:name`, sections as `sec:name` and so on.

1.3.1.1 Naming labels

Use all small alphabets in labels, separated by dash (-).

This way we can refer any Chapter, Section, Table, Figure, sub components etc.

1.3.2 Referring Components

You should do bold-face for reference as follows -
Section 1.3.1.1 is about how to name labels and **Chapter 1** is the introduction.

1.3.3 Figures

You should place the figures in the `figures` folder. They should be transparent background in most cases, named all lower cases with dashes. You must label them as `fig:name`

Figure 1.1: Normal figure

All figures must have captions as well. Sub figures may be left caption less, as long as the entire figure has caption.

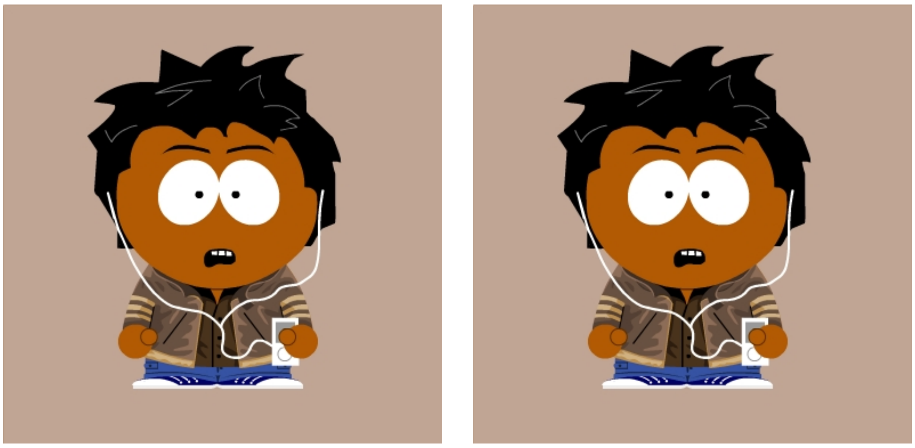
You can use minipage to insert subfigures as done in **Figure 1.4**. This is the recommended way. Otherwise you can use **Figure 1.3**

The subfigure package has caused me problems before, I suggest against it. Similarly, you can use **Figure 1.6** to have side by side caption or text. You can refer to subfigures as well like **Figure 1.5a** I suggest against it. Use two minipages - one side normal figure, other side text for the figure.

Figure 1.2: Left side image

Figure 1.3: Right side image

Figure 1.4: Subfigures using minipage



(a) Left side image

(b) Right Side Image

Figure 1.5: Side by side figures using subfigures

Figure 1.6: Side label with possibly a large amount of text. This is how you would write it

1.4 Adding Tables

Tables must be labeled with usual labeling convention. Also the use of `multicol` package allows for centering text in table fields and merging of fields as shown in the example below.
Referring to a table example: As show in **Table 1.1**.

Table Title Example			
id	Column Heading	Column Heading	Column Heading
1	Field 1,1	Field 1,2	Field 1,3
2	Field 2,1	Field 2,2	Field 2,3
3	Field 3,1	Field 3,2	Field 3,3

Table 1.1: My Table Example

When a larger table is needed that would fit better on a landscape page, the `rotating` package can be used and a `sidewaystable` defined as shown in the example on the next page: **Table 1.2**.

Sideways Table Title Example			
id	Column Heading	Column Heading	Column Heading
1	Field 1,1	Field 1,2	Field 1,3
2	Field 2,1	Field 2,2	Field 2,3
3	Field 3,1	Field 3,2	Field 3,3

Table 1.2: My Sideways Table Example

1.5 Code Listing

You can add code snippets as seen in **Listing 1.5** or **Listing 1.5** full width or mini page listing.

```
Name.prototype = {
  methodName: function(params){
    var doubleQuoteString = "
       some text";
    var singleQuoteString = '
       some more text';
    // this is a comment
    document.createElement('h3')
       ;
    $('#system').append("This
       looks great");
    return false;
  }
}
```

Listing 1.1: My Javascript Example

Table 1.3: Right side image

```
Name.prototype = {
  methodName: function(params){
    var doubleQuoteString = "some text";
    var singleQuoteString = 'some more text';
    // this is a comment
    if(this.confirmed != null && typeof(this.confirmed) ==
       Boolean && this.confirmed == true){
      document.createElement('h3');
      $('#system').append("This looks great");
      return false;
    } else {
      throw new Error;
    }
  }
}
```

Listing 1.2: JS Code Snippet

1.6 References

References are written in `references.bib` file. I will demo you personally about how to write references. Each reference has a key and you can refer it like this [1].

Chapter 2

Project Management

2.1 Pre-project Planning

2.2 Work Hours

2.3 Planning Other Commitments

2.4 Weekly Meetings

2.5 Dividing Work

2.6 Code Quality Management

2.7 Code Submission Process

2.8 Team Skills

2.9 Following Gantt Chart

2.10 Risk Analysis

Chapter 3

Background Reading

Chapter 4

Payment Feature

Chapter 5

E2E Test Framework

Chapter 6

Continuous Integration

Chapter 7

Further Work

Chapter 8

Conclusion

Bibliography

[1] R. Belk, "You are what you can access: Sharing and collaborative consumption online," *Journal of Business Research*, vol. 67, no. 8, pp. 1595 – 1600, 2014.

Appendix A

Client Sign-off

Appendix B

Team Member Contribution

Appendix C

Team Collaboration

Appendix D

Code commits

Appendix E

Server Test Cases

Appendix F

E2E Test Cases

Appendix G

Gantt Charts