Document Preparation And Tools

Dr Pierre Le Bras

October 2020

In this lecture...

- Structuring your dissertation
- Tools
 - Word/Writer/Docs (WYSIWYG)
 - LaTeX
- Top 10 ways to annoy your reader

Structuring your Dissertation



- How does your reader know the work you've done?
- Why should your markers do the work for you?
- Who stands to benefit from a higher mark?

If you've done the work, you should get the mark!



- You need as much time at the end as possible.
- You will forget important details if you don't write them down.
- You may be able to get feedback early enough to use it.

Yesterday if not sooner!

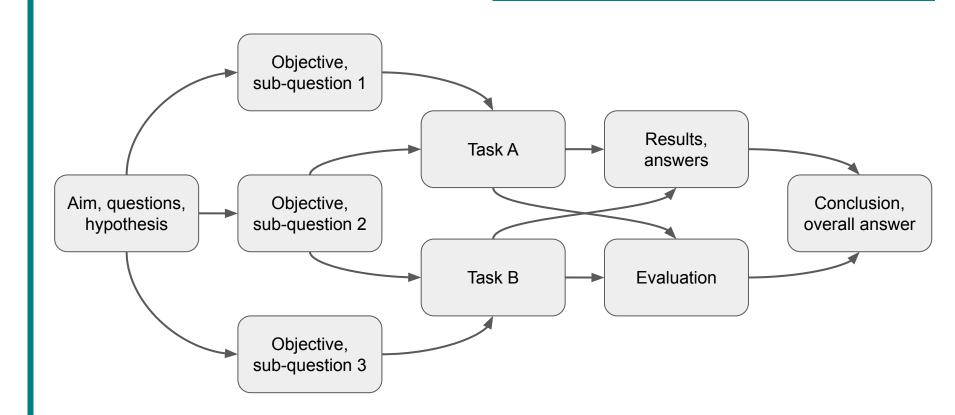
The Dissertation

- The dissertation is what we mark.
- The dissertation is the evidence of what you did.
- It is **not a narrative** of your work, it shows how your mind **tackled** the project.
- The dissertation shows:
 - Understanding
 - Logical and critical thinking

Dissertation Structure

- Structure shows the **logic** of your project. It is an alternative to a chronological narrative.
- Structure shows what the parts of your dissertation are meant to be doing.
- Structure helps you to know what to write.
- Structure is essential for the reader to see what they are getting!

Dissertation Structure



Components

Your dissertation should have:

- A big question, aim, or hypothesis;
- Several **objectives**, sub-questions or sub-hypotheses which combine to answer the big question;
- Several tasks which combine to provide answers for the sub-questions;
- An evaluation to show the reader your tasks do work;
- A collection of results and/or answers, built up by executing the tasks;
- A final answer or set of **conclusions** based on the results and answering the big question.

Notes

- You may change your aim and your objectives depending on how things work out.
- But you should always have a clear idea what your aim and objectives are meant to be.
- You should always know which tasks are addressing which objectives (this will usually not be a one-to-one relationship).
- Your final answer must address your main question.

Signposting

- Think of your dissertation as a map of the project:
 - Chapters and sections are continents and countries
 - Your dissertation is linear, while the project is richer in connections
 - The reader needs to know what the connections are between these parts
- You must plant references to the other parts of the project.

Signposting

- The structure of a project is usually a forking/joining graph of activities.
- The physical constraints of text (it is sequential and linear) make it very difficult to show the actual project structure.
- Thus we put sign posts into the text.
- At the start of each chapter say:
 - What it contains and aims to show
 - What earlier parts of the document have fed into it
- At the end of each chapter say:
 - What the reader was intended to get from it
 - Which sections it feeds into later

Getting Started

- Get hold of some good examples of past dissertations (ask your supervisor, check the library).
- Plot your structures:
 - Produce a version of the diagram for your project.
 - Produce a proposed chapter and section breakdown (table of contents).
 - Start laying out the chapter/section main points.
- Discuss what you have produced with your supervisor.

When Writing

- Write simple, clear English. Avoid long and confusing sentences.
- Don't hesitate to ask for feedback. And make time for it.
- Take time to check/review your document (content and format).

Remember your reader, make the job easy for them!

Tools

Tools



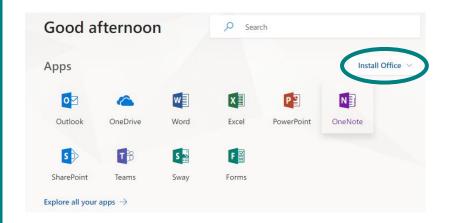


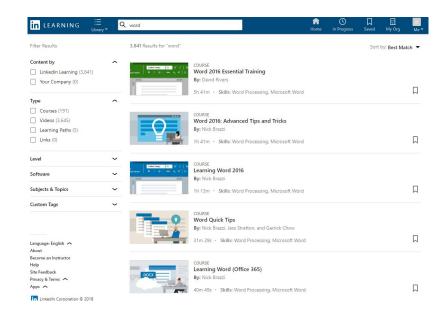




MS Office Word

office.com





LibreOffice Writer

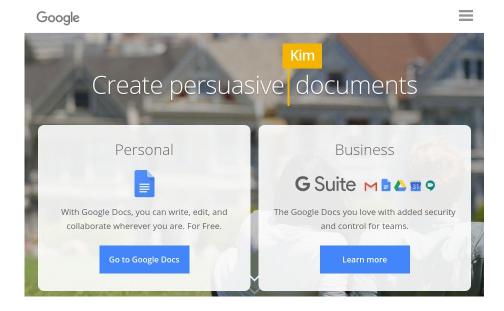
libreoffice.org



Google Docs

- Limited in terms of functionality.
- Lagging with long documents.
- Mainly optimised for collaboration.
 - Your dissertation is not a collaborative document!

docs.google.com



LaTeX

- Not WYSIWYG, uses markup:
 - You write the structure and content of the document
 - The program does the formatting for you
- Made for efficient academic writing:
 - Citation management
 - Cross-referencing
 - Equations/Algorithms
 - Customisable macros
- Multiple software:
 - TexMaker, TexStudio
 - Your preferred text editor + a terminal
 - Overleaf (online)





xm1math.net/texmaker



LaTeX

LaTeX mini-tutorial:

overleaf.com/read/tdfmzhcmxdpb

Full dissertation template:

overleaf.com/read/tyqqfvsjkxrz

Top 10 ways to annoy your reader

by Dr Stefano Padilla

1. Blank space

1 Introduction

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Suspendisse tristique ornare erat ut volutpat. Aliquam a purus non augue viverra mattis. Sed interdum sollicitudin nibh, aliquet placerat augue rutrum sed. Sed tincidunt dictum ligula nec portitor. Praesent ac ornare enim. Proin imperdiet id eros eget interdum. In consequat hendrerit ornare. Vestibulum sagittis iaculis leo eget egestas. Proin urna mi, viverra at vehicula vitae, sollicitudin nec urna. Phaselius pellentesque justo vitae ipsum consectetur, ut convaliis velit mattis. Nam condimentum enim sit amet est dapibus, a viverra dui finibus. Nunc nisi metus, ultricies vitae tempus nec, pulvinar sed diam. Nunc nec iaculis magna, id imperdiet diam. Donec facilisis eu sapien at mattis. Integer ac augue volutpat, maximus risus non, luctus ligula. Phaselius eget mollis turpis.

1.1 Aims

Fusce sodales hendrerit tellus pellentesque lobortis. Nam semper, justo non accumsan tincidunt, justo mauris tincidunt mauris, a gravida diam nisi vel sapien. Vivamus et sem luctus, accumsan quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel portitor lacus malesuada. Maecenas feuglat molestie pellentesque. Aliquam erat volutpat. Interdum et malesuada fames ac ante ipsum primis in faucibus. Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vel ipsum dapibus pellentesque. Praesent aliquet dignissim nisi ut gravida. Ut

euismod massa tellus, quis sollicitudin massa euismod finibus.

Morbi nulla nulla, maximus non nisi rhoncus, ornare ullamcorper
tortor. Etiam diam dui, malesuada id malesuada id, suscipit
lobordis metus. Nulla pharetra euismod molestie. Quisque ut diam
eget nunc hendrerit mattis eget ut nisl. Phasellus id sollicitudin
turpis.

Nunc congue fringilla purus, a varius nunc. Nam pharetra risus nec orci feugiat rutrum. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Curabitur finibus pharetra dui, in congue dui interdum volutpat. Cras at nulla vehicula, varius purus et, interdum tellus. Donec sollicitudin ultrices neque non eleifend. Praesent id sapien semper, malesuada lacus et, venenatis odio. Proin at eros justo. Quisque ipsum velit, pharetra a dapibus a, posuere luctus nunc. Morbi fringilla consequat gravida. Fusce et lorem semper, auctor velit id, laculis urna. Donec auctor aliquam sem, eget sollicitudin lectus vestibulum ac. Praesent quis ipsum a felis accumsan dapibus.

1.2 Objectives

Etiam lacus ipsum, blandit eu pulvinar eu, tristique nec arcu. Mauris euismod tincidunt lacinia. Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisl sodales, nec egestas leo laoreet. Praesent pretium venenatis dignissim. Vivamus et ligula at erat suscipit pharetra at at elit. Fusce ullamcorper nisl eget ex pellentesque ultricies. Cras ac ante sapien. Integer eleifend

1. Blank space

C Document Preparation

C.1 Declaration

The following declaration statement should be included in both the first deliverable and the final dissertation.

DECLARATION

I, your name confirm that this work submitted for assessment is my own and is expressed in my own words. Any uses made within it of the works of other authors in any form (e.g., ideas, equations, figures, text, tables, programs) are properly acknowledged at any point of their use. A list of the references employed is included.

Signed: your signature
Date: date of submission

C.2 Formatting

- Typed, <u>single sided</u>, double spaced, point size 11, 1-inch margins on A4 sheets. Excerpts of code or pseudo-code, captions and the like should be single spaced.
- Pages should be numbered, as should chapters and sections within chapters.
- Chapters should start on a new page.

2. Difficult to read

1 Main Heading

Lorem Ipsum dolor sit amet, consectetur adipiscing elit. Suspendisse tristique ornare erat ut volutpat. Aliquam a purus non augue viverra mattis. Sed interdum sollicitudin nibh, aliquet placerat augue rutrum sed. Sed tincidunt dictum ligula nec portitior. Praesent ac ornare enim. Proin imperdiet id eros eget interdum. In consequat hendrerit ornare. Vestibulum sagittis iaculis leo eget egestas. Proin urna mi, viverra at vehicula vitae, sollicitudin nec urna. Phasellus pellentesque justo vitae ipsum consectetur, ut convallis velit mattis. Nam condimentum enim sit amet est dapibus, a viverra dui finibus. Nunc nisi metus, ultricies vitae tempus nec, pulvinar sed diam. Nunc nec iaculis magna, id imperdiet diam. Donec facilisis eu sapien at mattis. Integer ac augue volutpat, maximus risus non, luctus ligula. Phasellus eget mollis turpis.

1.1 Sub Heading

Fusce sodales hendrerit tellus pellentesque lobortis. Nam semper, justo non accumsan tincidunt, justo mauris tincidunt mauris, a gravida diam nisi vel sapien. Vivamus et sem luctus, accumsan quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel portitor lacus malesuada. Maecenas feugiat molestie pellentesque. Aliquam erat volutpat. Interdum et malesuada fames ac ante ipaum primis in faucibus. Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vel ipsum dapibus pellentesque. Praesent aliquet dignissim nisi ut gravida. Ut euismod massa tellus, quis sollicitudin massa euismod finibus. Morbi nulla nulla, maximus non nisi rhoncus, ornare ullamcorper tortor. Etiam diam dui, malesuada id malesuada id, suscipit lobortis metus. Nulla pharetra euismod molestie. Quisque ut diam eget nunc hendrerit mattis eget ut nisi.

Nunc congue fringilla purus, a varius nunc. Nam pharetra risus nec orci feugiat rutrum. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Curabitur finibus pharetra dui, in congue dui interdum volutpat. Cras at nulla vehicula, varius purus et.



interdum tellus. Donec sollicitudin ultrices neque non eleifend. Praesent id sapien semper, malesuada lacus et, venenatis odio. Proin at eros justo. Quisque ipsum velit, pharetra a dapibus a, posuere luctus nunc. Morbi fringilla consequat gravida. Fusce et lorem semper, auctor velit id, laculis urna. Donec auctor aliquam sem, eget sollicitudin lectus vestibulum ac. Praesent quis ipsum ac felis accumsan dapibus.

1.2 Sub Heading

Etiam lacus ipsum, blandit eu pulvinar eu, tristique nec arcu. Mauris euismod tincidunt lacinia. Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisi sodales, nec egestas leo laoreet. Præsent pretium venenatis dignissim. Vivamus et ligula at erat suscipit pharetra at at ellt. Fusce ullamcorper nisi eget ex pellentesque ultricies. Cras ac ante sapien, integer eleifend posuere libero, ac blandit nisi pulvinar at. Vivamus at dolor fringilla, venenatis ante id. tempus nunc.

Suspendisse quis nibh at sapien semper dictum. Etiam laculis cursus euismod. Nam quis est a elit dignissim sodales in vel odio. Duis vestibulum quis neque a rhoncus. Maecenas ullamcorper aliquet magna vel tristique. Nam vitae posuere ex. Suspendisse placerat fermentum ligula id fermentum. Nullam euismod pellentesque ullamcorper. Maecenas nec magna at urna vulputate vehicula. Vestibulum turpis velit, conque vel finibus sed, pharetra non felis. Nulla vehicula commodo massa a imperdiet. Sed ut scelerisque dolor. Fusce urna mi, mollis sed malesuada sit amet, eleifend in ligula. Phaseilus sed tempor dui. Sed molestie mi quis dolor sodales, sed luctus purus condimentum. Nulla ultrices orci a nulla sodales porta id eget turpis.

3. Rushed conclusions

7. Conclusions

Ut consequat orci id imperdiet lobortis. Phasellus sagittis nibh eu felis sodales, id congue lorem

malesuada. Quisque eu consectetur tortor. Nulla volutoat malesuada est. nec condimentum nibh

commodo a. Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis

sed tincidunt enim, sit amet elementum ipsum.

8. References

- Robert Amar, James Eagan, and John Stasko. 2005. Low-Level Components of Analytic Activity in Information Visualization. In Proceedings of the 2005 IEEE Symposium on Information Visualization (INFOVIS 05). IEEE Computer Society, Washington, DC, USA, 15.
- Juhee Bae and Benjamin Watson. 2014. Towards a Better Understanding and Application of the Principles of Visual Communication. In Handbook of Human Centric Visualization, 179-201.
 Springer New York. 5. Mercedes B. Ben-Av and Dov Sagt. 1995. Perceptual grouping by similarity and proximity: Experimental results can be predicted by intensity autocorrelations. Vision Proximals Co. 6: 853-86.
- Alex Bigelow, Steven Drucker, Danyel Fisher, and Mirish Meyer. 2014. Reflections on how designers design with data. In Proceedings of the 2014 International Working Conference on Advanced Visual Interfaces (AVI '14). ACM, New York, NY, USA, 17-24. http://doi.acm.org/10.1145/5598153.2598175
- Stuart K. Card, Jock D. Mackinlay, and Ben Shneiderman (Eds.). 1999. Readings in Information Visualization: Using Vision to Think. Morgan Kaufmann Publishers Inc., San Francisco, CA, USA.
- Marianne Sheelagh Therese Carpendale. 1999. A Framework for Elastic Presentation Space.
 Ph.D. Dissertation. Simon Fraser University, Burnaby, BC, Canada, Canada. AAINQ51848.
- 6. Ed Hual-hain Chi and John Riedl. 1998. An Operator Interaction Framework for Visualization Systems. In Proceedings of the 1998 IEEE Symposium on Information Visualization (INFOVIS'98). IEEE Computer Society, Washington, DC, USA, 63-70. 10. Lydia B. Chilton, Juho Kim, Paul André, Feilcia Cordeiro, James A. Landay, Daniel S. Weld, Steven P. Dow, Robert C. Miller, and Haoqi Zhang. 2014. Frenzy. collaborative data organization for creating conference sessions. In Proceedings of the 32nd annual ACM conference on Human factors in computing systems (CHI '14). ACM, New York, NY, USA, 1255- 1264. DOI=10.1145/2556288.2557375
- Juliet Corbin and Anselm Strauss. 2014. Basics of qualitative research: Techniques and procedures for developing grounded theory. Sage publications.
- Kelly L. Dempski and Brandon L. Harvey. 2005. Touchable interactive walls: opportunities and challenges. In Proceedings of the 4th international conference on Entertainment Computing (ICEC'05). Springer-Verlag, Berlin, Heidelberg. 192-202. http://dx.doi.org/10.1007/11558651 19
- Stephen G. Eick. 2000. Visualizing multi-dimensional data. ACM SIGGRAPH computer graphics 34, no. 1: 61-67, 14. Micheline likes and Anastasia Bezerianos. 2011. Exploration views: understanding dashboard creation and customization for visualization novices. In Proceedings of the 13th IFIP TC 13 international conference on Human-computer interaction - Volume Part IV (NTERACTI), Vol. Part IV. SpringerVerlag, Berlin, Heidelberg. 247-249.
- Niklas Elmqvist and Ji Soo Yi. 2012. Patterns for visualization evaluation. In Proceedings of the 2012 BELIV Workshop: Beyond Time and Errors - Novel Evaluation Methods for Visualization (BELIV '12). ACM, New York, NY, USA, Article 12, 8 pages. http://doi.acm.org/10.1145/2442576.2442588
- Michele Emmer. 2005. The visual mind II. MIT press. 17. EPSRC Working together theme. Retrieved on 23 of September 2015 from
- https://www.epsrc.ac.uk/research/ourportfolio/themes/i ct/introduction/workingtogether/ 18. Anders K. Ericsson, and Simon A. Herbert. 1980. Verbal reports as data. Psychological review 87, no. 3:215.

4. Shopping lists as content

Nam venenatis veilt justo, sit amet egestas augue fringilla tincidunt. Ut mattis hendrerit lacus vitse tincidunt. Maecenas felis libero, pellentesque nec vulputate id, tincidunt ac ligula. Duis purus risus, tincidunt egestas est et, consectetur dictum elit. Quisque mattis imperdiet commodo. Maecenas dictum massa orci, sit amet varius ex cursus eget. Vivamus vitae aliquet veilit, nec porta odio. Vivamus varius orci et magna ornare, eget blandit dolor lobortis. Pellentesque porta nisi volutpat, ultricies diam ac, mollis teilus. Nulla rutrum efficitur purus, sit amet venenatis est vestibulum ut.

2. Main Heading

Sed sed augue dui. Mauris nibh urna, condimentum sit amet hendrerit quis, malesuada vel dolor.
Morbi dictum pretium diam, dignissim condimentum falis aliquam et. Curabitur sed pretium
tortor. Etiam sit amet fringilla leo. Suspendisse pretium quam vel neque fringilla, blandit vehicula
eros accumsan. Pellentesque sollicitudin leo nec sapien malesuada faucibus eu ut sapien.
Vestibulum laoreet metus euismod nisi sagittis, quis imperdiet mauris mattis. Sed nec placerat
sem. In urna est, tincidunt at eleifend a, molestie vitae nisi. Aliquam erat volutpat. Maecenas
cursus nec erat fermentum semper. Pellentesque tincidunt risus non augue ultricies, non semper
ex iaculis.

2.1 Sub Heading

Proin sed risus erat. Aenean ac sagittis elit. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Nulla non dui eget ligula efficitur placerat. Sed varius accumsan hendrerit. Maecenas ut lobortis elit, quis interdum nulla. Morbi portitior volutipat urna, id laoreet erat bibendum sed. Curabitur sollicitudin egestas sem, ac maximus elit placerat at. Duis sit amet ultricles tellus.

2.2 Sub Headin

Etiam lacus ipsum, blandit eu pulvinar eu, tristique nec arcu. Mauris euismod tincidunt lacinia.

Integer pretium maximus massa, sit amet auttor neque scelerisque pretium. Donec id congue
urna. Donec tempus tortor non nisi sodales, nec egestas leo laoreet. Praesent pretium venenatis

dignissim. Vivamus et ligula at erat suscipit pharetra at at elit. Fusce ullamcorper nisl eget ex pellentesque ultricies. Cras ac ante sapien. Integer eleifend posuere libero, ac blandit nisl pulvinar at. Vivamus at dolor fringilla, venenatis ante id, tempus nunc.

2.2.1 Sub Heading A

Mauris euismod tincidunt lacinia. Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisl sodales, nec egestas leo lacreet. Praesent pretium venenatis dignissim. Vivamus et ligula at erat suscipit pharetra at at elit. Fusce ullamcoreer nisl eret ex pellentesque ultricies.

2.2.2 Sub Heading

Mauris euismod tincidunt lacinia. Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisl sodales, nec egestas leo laoreet. Praesent pretium venenatis dignissim. Vivamus et ligula at erat suscipit pharetra at at elit. Fusce ullamcorper nisl eget ex pellentesque ultricies.

2.2.3 Sub Heading C

Mauris eulismod tincidunt lacinia. Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisl sodales, nec egestas leo laoreet. Praesent pretium venenatis dignissim.

2.3 Sub Heading

Mauris eulismod tincidunt lacinia. Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisl sodales, nec egestas leo laoreet. Praesent pretium venenatis dignissim. Vivamus et ligula at erat suscipit pharetra at at elit. Fusce ullamcorper nisl eget ex pellentesque utricies.

Vestibulum a tellus non nulla volutpat vulputate. Sed enim purus, portitor in ligula sed, dignissim eleifend augue. Nulla facilisi. Quisque pretium semper efficitur. Ut nunc nisi, rhoncus eget suscipit a, dignissim id lectus.

5a. Missing consistency

Nam venenatis velit justo, sit amet egestas augue fringilla tincidunt. Ut mattis hendrerit lacus vitae tincidunt. Maecenas felis libero, pellentesque nec vulputate id, tincidunt ac ligula. Duis purus risus, tincidunt egestas est et, consectetur dictum elit. Quisque mattis imperdiet commodo. Maecenas dictum massa orci, sit amet varius ex cursus eget. Vivamus vitae aliquet velit, nec porta odio. Vivamus varius orci et magna ornare, eget bilandit dolor lobortis. Pellentesque porta nisi volutpat, ultricies diam ac, mollis tellus. Nulla rutrum effictur purus, sit amet venenatis est vestibulum ut.

2. Main Heading

Sed sed augue dui. Mauris nibh urna, condimentum sit amet hendrerit quis, malesuada vel dolor. Morbi dictum pretium diam, dignissim condimentum felis aliquam et. Curabitur sed pretium tortor. Etiam sit amet fringilla leo. Suspendisse pretium quam vel neque fringilla, blandit vehicula eros accumsan. Pellentesque sollicitudin leo nec sapien malesuada faucibus eu ut sapien. Vestibulum laoreet metus euismod nisi sagittis, quis imperdiet mauris mattis. Sed nec placerat sem. In urna est, tincidunt at eleifend a, molestie vitae nisi. Aliquam erat volutpat. Maecenas cursus nec erat fermentum semper. Pellentesque tincidunt risus non augue ultricies, non semper ex larcilis.

2.1 Sub Heading

Proin sed risus erat. Aenean ac sagittis elit. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae: Nulla non dui eget ligula efficitur placerat. Sed varius accumsan hendrerit. Maecenas ut lobortis elit, quis interdum nulla. Morbi portitior volutpat urna, id looreet erat bibendum sed. Curabitur sollicitudin egestas sem, ac maximus elit placerat at. Duis sit amet ultrices tellus.

2.2 Sub Heading

Etiam lacus ipsum, blandit eu pulvinar eu, tristique nec arcu. Mauris euismod tincidunt lacinia. Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisl sodales, nec egestas leo laoreet. Praesent pretium venenatis dignissim. Vivamus et ligula at erat suscipit pharetra at at elit. Fusce ullamcorper nisl eget ex pellentesque ultricies. Cras ac ante sapien. Integer eleifend posuere libero, ac blandit nist pulvinar at. Vivamus at dolor fringilla, venenatis ante id, tempus nunc.

2.2.1 Sub Heading A

Mauris euismod tincidunt lacinia. Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisl sodales, nec egestas leo laoreet. Praesent pretium venenatis dignissim. Vivamus et ligula at erat suscipit pharetra at at elit. Fusce ullamororer nisl eget ex pellentesque ultricies:

2.2.2 Sub Heading B

Mauris euismod tincidunt lacinia. Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisi sodales, nec egestas leo lacreet. Praesent pretium venenatis dignissim. Vivamus et ligula at erat suscipit pharetra at at elit. Fusce ullamcorper nisi eget ex pellentesque ultricies.

2.2.3 Sub Heading C

Mauris euismod tincidunt lacinia, Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisi sodales, nec egestas leo laorest. Praesent pretium venenatis dienissim.

Sub Heading

Mauris eulsmod tincidunt lacinia. Integer pretium maximus massa, sit amet auctor neque scelerisque pretium. Donec id congue urna. Donec tempus tortor non nisi sodales, nec egestas leo lacreet. Praesent pretium venenatis dignissim. Vivamus et ligula at erat suscipit pharetra at at elit. Fusce ullamcorper nisi eget ex pellentesque ultricies.

Vestibulum a tellus non nulla volutpat vulputate. Sed enim purus, portitor in ligula sed, dignissim eleifend augue. Nulla facilisi. Quisque pretium semper efficitur. Ut nunc nist, rhoncus eget suscipit a, dignissim id lectus.

5b. Too much consistency

1. Main heading

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum sit amet lacinia leo. Maecenas eget diam pellentesque, maximus elit at, mattis dui. Integer mauris diam, pellentesque eu sodales pellentesque, portitor et nibh. Nunc ut nulla mi.

Etiam molestie justo sed nibh accumsan consectetur. Duis sagittis auctor leo eget tincidunt. Pellentesque erat urna, ullamcorper a egestas a, sagittis ut lorem. In loboritis pretium nibh, nec hendrenit justo consectetur eget.

1.1. Sub-heading

Phasellus congue hendrerit elit, eu luctus metus finibus id. Aenean eu consequat neque. Proin et dapibus nunc. Vestibulum quis ligula eget lectus consequat vehicula. Cras ultricies ex nibh. Pellentesque vitae dapibus diam. Donec elit dui, volutpat eget lorem at, sagtitis gravida magna.



Figure 1: Vestibulum sagittis ante a metus gravida scelerisque. Suspendisse congue vehicula en im vitae facilisis. Nulla dapibus massa ac est consectetur, vel auctor turpis ullamcorper. Aliquam dictum cursus dolor, eu luctus felis mattis a.

Duis eu pulvinar enim, sed interdum forem. Etiam id turpis ipsum. Duis leo augue, aliquam non volutipat eget, viverra eget tortor. Nulla bibendum est quis dui aliquet placerat. Maecenas eu nunc molestie, tristique orci sit amet, volutipat magna. In quis ex commodo tortor consequat eleifend quis ac purus. Vestibulum sit amet rissu justo.

1.2. Sub-heading

Vestibulum eu feugist sem. Morbi volutpat cursus pretium. Aliquam vitae dictumsem. Proint incidunt ante lorem, in cursus ligula consequat non. In hac habitasse platea dictumst. Integer ac cursus orci. Cras luctus mauris vel viverra auctor.

Donec eu elit nec lectus laoreet blandit. Maecenas bibendum dui sem, in euismod nibh elementumid. Suspendisse semper a mauris in dictum. Vivamus congue, diam sed mollis varius, sapien ante efficitur

6. No glue text (signposting)

3. Main Heading

3.1 Sub Heading

Pellentesque pulvinar nisi at mattis commodo. Praesent suscipit urna lectus, scelerisque vehicula velit dictum veli. Sed euismod enim ipsum, eget convallis enim egetas sit amet. Aliquam vel posuere lorem. In hac habitasse platea dictumst. Nam commodo ex sed purus sollicitudin, et congue justo ullamcorper. Nam aliquet venenatis varius. Vestibulum a tellus non nulla volutpat vulputate. Sed enim purus, portitior in ligula sed, dignissim eleifend augue. Nulla facilisi. Quisque pretium semper efficitur. Ut nunc nisi, rhoncus eget suscipit a, dignissim id lectus.

3.2 Sub Heading

Ut consequat ord id imperdiet lobortis. Phasellus sagittis nibh eu felis sodales, id congue lorem malesuada. Quisque eu consectetur tortor. Nulla volutpat malesuada est, nec condimentum nibh commodo a, Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis sed tincidunt enim, sit amet elementum ipsum.

Ut consequat ord id imperdiet lobortis. Phasellus sagittis nibh eu felis sodales, id congue lorem malesuada. Quisque eu consectetur tortor. Nulla volutpat malesuada est, nec condimentum nibh commodo a. Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis sed tincidunt enim, sit amat elementum ipsum.

Ut consequat ord id imperdiet lobortis. Phasellus sagittis nibh eu fells sodales, id congue lorem malesuada. Quisque eu consectetur tortor. Nulla volutpat malesuada est, nec condimentum nibh commodo a. Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis sed tincidunt enim, sit amet elementum ipsum.

4. Main Heading

Ut consequat ord id imperdiet lobortis. Phasellus sagittis nibh eu felis sodales, id congue lorem malesuada. Quisque eu consectetur tortor. Nulla volutpat malesuada est, nec condimentum nibh commodo a. Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis sad tincifium enim sit anne elementum insum.

Fusce sodales hendrent tellus pellentesque lobortis. Nam semper, justo non accumsan tincidunt, justo mauris tincidunt mauris, a gravida diam nisl vel sapien. Vivamus et sem luctus, accumsan quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel porttitor lacus malesuada. Maecenas feugiat molestie pellentesque. Aliquam erat volutpat. Interdum et malesuada fames ac ante ipsum primis in faucibus. Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vel ipsum dapibus pellentesque. Praesent aliquet dignissim nisl ut gravida. Ut euismod massa tellus, quis sollicitudin massa euismod finibus. Morbi nulla nulla, maximus non nisi rhoncus, ornare ullamcorper tortor. Etiam diam dul, malesuada id malesuada id, suscipit lobortis metus. Nulla pharetra euismod molestie, Quisque ut diam eget nunc hendrerit mattis eget ut nisl. Phasellus id sollicitudin turpis.

Fusce sodales hendrerit tellus pellentesque lobordis. Nam semper, justo non accumsan tincidunt,
justo mauris tincidunt mauris, a gravida diam nisi vel sapien. Vivamus et sem luctus, accumsan
quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel portitor lacus malesuada.
Maecenas feuglat molestie pellentesque. Aliquam erat volutpat. Interdum et malesuada fames ac
ante ipsum primis in faucibus. Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu
vel ipsum dapibus pellentesque. Praesent aliquet dignissim nisi ut gravida. Ut euismod massa
tellus, quis sollicitudin massa euismod finibus. Morbi nulla nulla, maximus non nisi rhoncus,
ornare ullamocroret rortor. Etiam diam dui, malesuada id malesuada id. suscioit lobordis metus.

7. Code/images not explained

```
3. Implementation
Pellentesque pulvinar nisi at mattis commodo. Praesent suscipit urna lectus, scelerisque vehicula
velit dictum vel. Sed euismod enim ipsum, eget convallis enim egestas sit amet. Aliquam vel
posuere lorem. In hac habitasse platea dictumst. Nam commodo ex sed purus sollicitudin, et
congue justo ullamcorper. Nam aliquet venenatis varius. Vestibulum a tellus non nulla volutoat
vulputate. Sed enim purus, porttitor in ligula sed, dignissim eleifend augue. Nulla facilisi. Quisque
pretium semper efficitur. Ut nunc nisl, rhoncus eget suscipit a, dignissim id lectus.
        if (!glfwInit()) {
                                                                              // Checking for GLFW
               cout << "Could not initialise GLFW...":
        glfwSetErrorCallback(errorCallbackGLFW); // Setup a function to catch and display all GLFW
                                                                             // Setup elfw with
        hintsGLFW():
Start a window using GLEW
       string title - "My OpenGL Application";
        const GLFWvidmode * mode = glfwGetVideoMode(glfwGetPrimaryMomitor());
        windowWidth = mode->width; windowHeight = mode->height;
        window = glfwCreateWindow(windowWidth, windowHeight, title.c str(), glfwGetPrimaryMonitor(),
        //window = glfwCreateWindow(windowWidth, windowHeight, title.c str(), NULL, NULL);
               cout << "Could not initialise GLFW...";
               endProgram();
        glfwMakeContextCurrent(window);
                                                             // making the OpenGL context current
Start GLEW (note: always initialise GLEW after creating your window context.)
        glowExperimental - GL_TRUE;
                                                                      // hack: catching them all -
forcing newest debug callback (glDebugMessageCallback)
        if (GLEN OK != errGLEN) (
                                                                     // Problems starting GLFW?
               endProgram();
return 0;
debugGL();
callback to catch openGL errors.
        glfwSetNindowSizeCallback(window, onResizeCallback);
                                                                      // Set callback for resize
        glfwSetKeyCallback(window, onKeyCallback);
       glfwSetMouseButtonCallback(window, onMouseButtonCallback):
                                                                      // Set callback for mouse
```

```
glfwSetCursorPosCallback(window. onMouseMoveCallback):
                                                                          // Set callback for mouse
       glfwSetScrollCallback(window, onMouseWheelCallback);
                                                                         // Set callback for mouse
                                //glfwSetInputMode(window, GLFN CURSOR, GLFW CURSOR NORMAL): //
        glfwSetInputMode(window, GLFN_CURSOR, GLFN_CURSOR_DISABLED); // Set mouse cursor FPS.
        setupRender();
                                                                                  // setup some render
                                                                                          // Setup all
necessary information for startup (aka. load texture, shaders, models, etc).
                                                                                         // run until
                 double currentTime = glfwGetTime();
                 deltaTime - currentTime - lastTime;
                                                                         // Save for next frame
                 glfwPollEvents();
                                                                                  // poll callbacks
animation, structures, etc)
                render(currentTime);
                                                                         // call render function.
                glfwSwapBuffers(window);
                                                                 // swap buffers (avoid flickering and
                running &- (glfwGetKey(window, GLFN_KEY_ESCAPE) -- GLFN_RELEASE); // exit if escape
                running &- (glfw@indowShouldClose(window) != GL TRUE):
                                        // Close and clean everything up...
       cout << "\mPress any key to continue...\n";
cin.ignore(); cin.get(); // delay closing console to read debugging errors.</pre>
        cature 8:
void errorCallbackGLFW(int error, const char* description) {
        cout << "Error GLFW: " << description << "\n";
        glfwNindowHint(GLFW_OPENGL_DEBUG_CONTEXT, GL_TRUE);
                                                                                  // Create context in
debug mode - for debug message callback
glfwWindowHint(GLFW CONTEXT VERSION MAJOR, 4);
        #1fwWindowHint(GLFW CONTEXT VERSION MINOR, 3):
void endProgram() {
        glfwHakeContextCurrent(window);
                                                // destroys window handler
        glfwTerminate(); // destroys all windows and releases resources.
                                                 // tidy bean memory
        delete[] texture;
3.1 Sub Heading
Ut consequat orci id imperdiet lobortis. Phasellus sagittis nibh eu felis sodales, id congue lorem
malesuada. Quisque eu consectetur tortor. Nulla volutpat malesuada est, nec condimentum nibh
```

8. Unnecessary images

commodo a. Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis sed tincidunt enim, sit amet elementum ipsum.

4. Main Heading

Fusce sodales hendrerit tellus pellentesque lobordis. Nam semper, justo non accumsan tincidunt, justo mauris tincidunt mauris, a gravida diam nisi vel sapien. Vivamus et sem luctus, accumsan quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel portitor lacus malesuada. Maecenas feugiat molestie pellentesque, Aliquam erat volutpat. Interdum et malesuada fames ac ante ipsum primis in faucibus. Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vel ipsum dapibus pellentesque. Praesent aliquet dignissim nisi ut gravida.

4.1 Sub Heading

Ut consequat orci id imperdiet lobortis. Phasellus sagittis nibh eu feilis sodales, id congue lorem malesuada. Quisque eu consectetur tortor. Nulla volutpat malesuada est, nec condimentum nibh commodo a. Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis sed tincidunt enim, sit amet elementum iosum.





Fusce sodales hendrerit tellus pellentesque lobortis. Nam semper, justo non accumsan tincidunt,
justo mauris tincidunt mauris, a gravida diam nisi vel sapien. Vivamus et sem luctus, accumsan
quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel portitor lacus malesuada.
Maecenas feugiat molestie pellentesque. Aliquam erat volutpat. Interdum et malesuada fames ac
ante ipsum primis in faucibus. Edam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu
vel ipsum dapibus pellentesque. Praesent aliquet dignissim nisi ut gravida. Ut euismod massa
tellus, quis sollicitudin massa euismod finibus. Morbi nulla nulla, maximus non nisi rhoncus,
ornare ullamcorper tortor. Etiam diam dul, malesuada id malesuada id, suscipit lobortis metus.
Nulla pharetra euismod molestie. Quisque ut diam eget nunc hendrerit mattis eget ut nisi.
Phasellus id sollicitudin turpis.

Fusce sodales hendrerit tellus pellentesque lobortis. Nam semper, justo non accumsan tincidunt, justo mauris tincidunt mauris, a gravida diam nisl vel sapien. Vivamus et sem luctus, accumsan quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel portitor lacus malesuada. Maecenas feusiat molestie pellentesque. Aliquam erat volutpat. Interdum et malesuada fames ac

9. Missing or rushed sections

ante ipsum primis in faucibus. Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vel ipsum dapibus pellentesque. Præsent aliquet dignissim nisi ut gravida. Ut euismod massa tellus, quis sollicitudin massa euismod finibus. Morbi nulla nulla, maximus non nisi rhoncus, ornare ullamcorper tortor. Etiam diam dui, malesuada id malesuada id, suscipit lobortis metus. Nulla pharetra euismod molestie. Quisque ut diam eget nunc hendrerit mattis eget ut nisi. Phasellus id sollicitudin turpis.

5. Implementation

Fusce sodales hendrerit tellus pellentesque lobortis. Nam semper, justo non accumsan tincidunt, justo mauris tincidunt mauris, a gravida diam nisl vel saplen. Vivamus et sem luctus, accumsan quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel portitor lacus malesuada. Maecenas feugiat molestie pellentesque, Aliquam erat volutpat. Interdum et malesuada fames ac ante ipsum primis in faucibus. Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vel ipsum dapibus pellentesque. Praesent aliquet dignissim nisi ut gravida.

5.1 Sub Headin

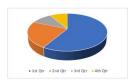
Ut consequat ord id imperdiet lobortis. Phasellus sagittis nibh eu felis sodales, id congue lorem malesuads. Quisque eu consectetur tortor. Nulla volutpat malesuada est, nec condimentum nibh commodo a. Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis sed tincidunt enim, sit amet elementum ipsum.



Figure 1. Mauris rutrum mi sit amet urna rhoncus, vel porttitor lacus malesuada. Maecenas feugiat molestie pellentesque. Fusce sodales hendrerit tellus pellentesque lobortis. Nam semper, justo non accumsan tincidunt,
justo mauris tincidunt mauris, a gravida diam nisi vel sapien. Vivamus et sem luctus, accumsan
quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel portitior lacus malesuada.
Maecenas feugiat molestie pellentesque. Aliquam erat volutpat. Interdum et malesuada fames ac
ante ipsum primis in faucibus: Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu
vel ipsum dapibus pellentesque. Praesent aliquet dignissim nisi ut gravida. Ut euismod massa
tellus, quis sollicitudin massa euismod finibus. Morbi nulla nulla, maximus non nisi rhoncus,
ornare ullamcorper tortor. Etiam diam dui, malesuada id malesuada id, suscipit lobortis metus.
Nulla pharetra euismod molestie. Quisque ut diam eget nunc hendrerit mattis eget ut nisi.
Phasellus id sollicitudin turpis.

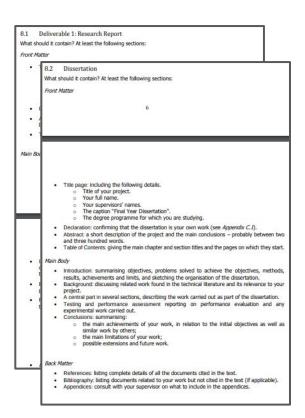
6. Conclusions

Ut consequat orci id imperdiet lobortis. Phasellus sagittis nibh eu felis sodales, id congue lorem malesuada. Quisque eu consectetur tortor. Nulla volutpat malesuada est, nec condimentum nibh commodo a. Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis sed tincidunt enim, sit amet elementum ipsum.



Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vel ipsum dapibus pellentesque.

Praesent aliquet dignissim nisl ut gravida. Ut euismod massa tellus, quis sollicitudin massa
euismod finibus. Morbi nulla nulla maximus non nisi rhoncus, ornare ullamcorper tortor. Etiam



9. Missing or rushed sections

Criteria			L	Level of Achievement Mark			
			e these clear	ese clearly expressed, testable, and 0 to 10			_
Require System Hypoth Questio Strateg evalual Project Profess							
	Criteria			Level of Achievement			1
	Technical Quality •		• Is th	the topic meaningful?			1
		F Dissertation 2 nd /3 rd Reader Marking Rubric					
	Project N	Criteria		Level of Achievement			Marks
		Rationale and Objectives		Is the topic meaningful, complex and challenging? Are the objectives and aims clearly stated? Are the main areas of investigation for the project identified? Has the student provided ideas and approaches of original thinking?			0 to 20
		Review and Methodology		Is there evidence of sufficient background reading? Is there evidence of a clear understanding of the project area/research topic? Is the literature study up to date and critically evaluated? How pertinent is the background/referenced material? Has the student used appropriate tools/software? Have the appropriate design methodologies been emologyed.			0 to 20
	- 1	Results and Evaluation		Are the results presented clearly in a logical			0 to 20

10. Lack of polish

ante ipsum primis in faucibus. Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vel ipsum dapibus pellentesque. Præsent aliquet dilgnissim nisi ut grævida. Ut euismod massa tellus, quis sollicitudin massa euismod finibus. Morbi nulla nulla, maximus non nisi rhoncus, ornare ullamcorper tortor. Etiam diam dui, malesuada id malesuada id, suscipit lobortis metus. Nulla pharetra euismod molestie. Quisque ut diam eget nunc hendrerit mattis eget ut nisi. Phasellus id sollicitudin turpis.

5. Implementation

Fusce sodales hendrerit tellus pellentesque lobordis. Nam semper, justo non accumsan tincidunt, justo mauris tincidunt mauris, a gravida diam nisi vel sapien. Vivamus et sem luctus, accumsan quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel portitor lacus malesuada. Maecenas feugiat molestie pellentesque. Aliquam erat volutpat. Interdum et malesuada fames ac ante ipsum primis in faucibus. Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vel ipsum dapibus pellentesque. Praesent aliquet dignissim nisi ut gravida.

5.1 Sub Heading

Ut consequat orci id imperdiet lobortis. Phasellus sagittis nibh eu felis sodales, id congue lorem malesuada. Quisque eu consectetur tortor. Nulla volutpat malesuada est, nec condimentum nibh commodo a. Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis sed tincidunt enim, sit amet elementum ipsum.



Figure 1. Mauris rutrum mi sit amet urna rhoncus, vel porttitor lacus malesuada. Maecenas feugiat molestie pellentesque.

Fusce sodales hendrerit tellus pellentesque lobordis. Nam semper, justo non accumsan tincidunt, justo mauris tincidunt mauris, a gravida diam nisl vel sapien. Vivamus et sem luctus, accumsan quam in, viverra nibh. Mauris rutrum mi sit amet urna rhoncus, vel portitor lacus malesuada. Maecenas feugiat molestie pellentesque. Aliquam erat volutpat. Interdum et malesuada fames ac ante ipsum primis in faucibus. Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vel ipsum dapibus pellentesque. Praesent aliquet [Add more text here]

5.2 Sub Heading

6 Evaluation

Ut consequat orci id imperdiet lobortis. Phasellus sagittis nibh eu felis sodales, id congue lorem malesuada. Quisque eu consectetur tortor. Nulla volutpat malesuada est, nec condimentum nibh commodo a. Suspendisse vitae ornare ipsum. Aenean venenatis luctus risus vitae congue. Duis sed tincidunt enim, sit amet elementum ipsum.



Etiam pulvinar turpis aliquet cursus faucibus. Fusce tincidunt arcu vei ipsum dapibus pellentesque. Praesent aliquet dignissim nisi ut gravida. Ut euismod massa tellus, quis soillicitudin massa euismod finibus. Morbi nulla nulla, maximus non nisi rhoncus, ornare ullamcorper tortor. Etiam diam dui, malesuada id malesuada id, suscipit lobortis metus. Nulla pharetra euismod molestie. Quisque ut diam eget nunc hendrerit mattis eget ut nisi. Phaseilus id sollicitudin turpis.

Conclusion

Conclusion

- Think about the logic of your project:
 Aim, Objectives, Tasks, Evaluation, Results, Conclusion.
- Structure your dissertation to reflect that logic.
- Give your dissertation a consistent format and clear content.

Remember your reader, make the job easy for them!