PH.D. THESIS TITLE

MY PH.D. THESIS TITLE

BY

HABIB GHAFFARI HADIGHEH, Ph.D.

A THESIS

SUBMITTED TO THE DEPARTMENT OF YOUR DEPARTMENT NAME

AND THE SCHOOL OF GRADUATE STUDIES

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(Your department name)   Hamilton, Ontario, Canada

TITLE: My Ph.D. Thesis Title

AUTHOR: Habib Ghaffari Hadigheh

                          Ph.D. (Domain & Sub domain),

                          McMaster University, Hamilton, Canada

SUPERVISOR: Prof. First Supervisor, Prof. Second Supervisor

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Lay Abstract

A lay abstract of not more 150 words must be included explaining the key goals and contributions of the thesis in lay terms that is accessible to the general public.

Abstract

Abstract here (no more than 300 words)

Your Dedication

Optional second line

Acknowledgements

Acknowledgements go here.

Contents

Bibliography

List of Figures

List of Tables

Notation, Definitions, and Abbreviations

Notation

$A \leq B$ A is less than or equal to B

Definitions

Challenge   With respect to video games, a challenge is a set of goals presented to the player that they are tasks with completing; challenges can test a variety of player skills, including accuracy, logical reasoning, and creative problem solving

Abbreviations

AI   Artificial intelligence

Chapter 1

Introduction

Every thesis needs an introductory chapter

x3 i

Chapter 2

Your Chapter Title

This is a sample chapter. For the sake of labelling, I assume this is the first chapter of your thesis. As you can see I define the chapter using one *. After writing the chapter name you need to define the chapter properties. Here where we define the chapter label as :CUSTOM_ID:. The cp# is abbreviation for **Chapter**. In order to cross references the chapter 2 using link definition in org mode. In order to reference the chapter you should use # follow by the label name inside link definition as it can be seen above.

2.1 Referencing

Here we defined a new section for the Chapter 2. As it can be seen, we use the abbreviation s for labelling the section follow by section number. For the cross-referencing of sections, follow the same instruction for cross-referencing of chapters.

These are some sample references to GAMYGDALA [2] from the index.bib file and state effects of cognition [1] from the same file. In the latex template, these

references are in separate `.bib` files, while here we merge two files together for convenience. However, references should be defined at the end of this document using the instruction.

2.2   Figures

This is a single image figure (Figure 2.1). You can label the figure using `#+name`. The latex related attributes for the figure should written using `+#attr_latex`. Finally caption for the figure should be written using `#+caption`. Figure 2.1 depicts an example figure and its org-mode definition.

Figure 2.1: This is a single figure environment

I haven't find any solution to display to images side by side using org-mode. But fortunately it is still possible to solve this problem using the pure `latex` coding embedded to an `org` file. Here is the example

You can also define multi-image figure using latex sub-figure definition. Figure2.2 depicts an example of multi-image figure.

```
\begin{figure}[ht]

  \centering

  \begin{subfigure}[t]{\textwidth}

    \centering

    \includegraphics[width=0.7\textwidth]{Image URL}

    \caption{Figure 1}

    \label{fig_multienv_1}

  \end{subfigure}

  ~

  \begin{subfigure}[t]{\textwidth}

    \centering

    \includegraphics[width=0.7\textwidth]{Image URL}

    \caption{Figure 2}

    \label{fig_multienv_2}

  \end{subfigure}


  \caption{A Multi-Figure Environment}

  \label{cp1:s2:fig2}

\end{figure}
```

For the side by side `HTML` version you can use the code bellow. It is worthful to state that, we assumed all of the images are going to be saved in `figure` folder. The code generates what can be see above this paragraph.

```html
<div  class="figure">

<div style="width:50%; float:left">
```

```
<p>

  <img src="./figures/[image_url]" width="80%"  alt="[image_alt text]">

</p>

<p><span class="figure-number">(a): </span>caption for figure a</p>

</div>

<div style="width:50%; float:left">

  <p>

    <img src="./figures/[image_url]" width="80%"  alt="[image_alt text]">

  </p>

  <p><span class="figure-number">(b):</span>Caption for figure b</p>

</div>

<div style="width:100%">

<p><span class="figure-number">Figure #</span> Caption for figure</p>

</div>

</div>
```

2.3 Tables

Here is a sample table coded using table builder of the `org-mode`. You can use
`ATTR_LATEX` to set the different attributes of the table (Table 2.1):

Table 2.1: This is table's long caption A table sample

A	$\longleftrightarrow$	B
C	$\longleftrightarrow$	D

You can also directly embed the `latex` code inside the `org` file. Here is the example

of typing latex table inside the the org file. The code bellow will generate the table depicts above.

```
#+name: cp1:s2:tbl1
#+attr_latex: :width \textwidth :placement [!ht]
#+caption: A table sample
\begin{table}
  \centering
  \begin{tabular}{ m{0.2\textwidth} m {0.1\textwidth} m{0.15\textwidth} }
    \toprule
    A & $\longleftrightarrow$ & B \\
    C & $\longleftrightarrow$ & D \\
    \bottomrule
  \end{tabular}
\end{table}
```

You can use `latex` base table definition for this purpose as it depicted above.

2.3.1 Long Tables

A sample long table is shown in Appendix B where we described the application of long table.

2.4   Equations

Here is a sample equation (Equation 2.1):

$$y = mx + b \tag{2.1}$$

(a) Figure 1

(b) Figure 2

Figure 2.2: A Multi-Figure Environment

Chapter 3

Conclusion

Every thesis also needs a concluding chapter

Appendix A

Your Appendix

Your appendix goes here.

Appendix B

Long Tables

This appendix demonstrates the use of a long table that spans multiple pages.

Col A	Col B	Col C	Col D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D

Continued from previous page

Col A	Col B	Col C	Col D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D
A	B	C	D

As it stated before, you can generate the same long table by embedding the `latex` code inside `org` file. Here is the example of what the final results will be.

```
\begin{center}
\begin{longtable}{P{3cm}P{3cm}P{2.5cm}P{3.5cm}}
\toprule
\hline
\textbf{Col A} & \textbf{Col B} & \textbf{Col C} & \textbf{Col D} \\ \midrule
```

```
\endfirsthead

\multicolumn{4}{c}{\textit{Continued from previous page}} \\ \hline

\textbf{Col A} & \textbf{Col B} & \textbf{Col C} & \textbf{Col D} \\ \hline

\end head

\hline \multicolumn{4}{r}{\textit{Continued on the next page}} \\

\endfoot

\hline

\endlastfoot


A & B & C & D \\ \midrule


A & B & C & D \\ \midrule


A & B & C & D \\ \midrule


A & B & C & D \\ \midrule


A & B & C & D \\ \midrule


A & B & C & D \\ \midrule


A & B & C & D \\ \midrule
```

```
A & B & C & D \\ \midrule
```

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A & B & C & D \\ \midrule
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A & B & C & D \\ \midrule
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A & B & C & D \\ \midrule
```

```
A & B & C & D \\ \midrule
```

```
A & B & C & D \\ \midrule
```

```
\hline
```

```
\end{longtable}
```

```
\end{center}
```

Bibliography

[1]   Eva Hudlicka. "This time with feeling: Integrated model of trait and state effects on cognition and behavior". In: *Applied Artifical Intelligence* 16.7-8 (2019), pp. 611–641.

[2]   Adrian Popescu, Joost Broekens, and Maarten van Someren. "GAMYGDALA: An emotion engine for games". In: 5 (2014), pp. 32–44.