University of Science
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Thesis Synopsis

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Thesis Name: **DESIGN BACHELOR THESIS AND REPORT TEMPLATE IN LaTeX**
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Abstract

Nowadays, aside from conventional text processors or editors, LaTeX is an alternative choice for authors with different fields of expertise. It also introduces a completely new philosophy, which differs from many popular text editors, to its user and easily becomes the most used typesetting system among academic environment. In 1977, Donald E.Knuth first developed the TeX system, which later received further development to become what is known today as LaTeX, from Leslie Lamport. Its raison d'être was (is and will always be) providing utilities for authors to leave the visual design to the typesetting system, and instead, focus on the contents of their works.

Realizing that LaTeX is appropriate for composing text with clear and unified standards, and the system itself allows users to design layouts and styles for custom types of documents, this thesis was conceived with the purpose is to design, build a template for bachelor theses. This template will help students spend less time in designing and formating the visual aspect of their theses, reports and concentrate more on the contents and logical structure of components of their works, staying true to the ideal of LaTeX's creators.

This thesis incorporated necessary packages, configurations and definitions for new commands (or control sequences as Knuth calls them) into a single class file, which will form a standard layout for bachelor theses and reports, the thesis's report also includes introductory manual to guide users in creating LaTeX environment as well as composing a simple LaTeX input file, which is then built into a human-readable document.

Due to time constraints, the produced class file still haves undesired flaws, and in need of test-run to evaluate performance and any necessary adjustments. However, the product is enough to become a foundation for future development; moreover, the thesis's report has detailed

analysis on the structure of this class file and includes essential documentation, which, combining with the class file, will serve as a guideline and reference for anyone who wants to build their own class or package for LaTeX.

This thesis's directions for future development include (for more directions, please refer to chapter 4 of the report):

- Refer to other class files for new ideas, search for new packages to offset the shortcomings of this class.
- Define more flexible commands and new formatting environment, modify the produced class to better support documents that require double-sided printing.
- Study the concept of text encoding and font packages to suppress Vietnamese characters encoding warnings, that are still present when building LaTeX input file on this class.
- Study about tools and utilities that support writing large and complex classes or packages.