# NATIONAL SCHOOL OF GEOGRAPHIC SCIENCES

### Geomatics and Information Systems Technology

# **Architectural Patterns**

ex MapReduce

Author: Mohamed Amjad LASRI

Supervisor: Emmanuel Bardiere

November 23, 2014



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#### Abstract

Architectural patterns provide reusable solutions for common architectural problems. Patterns usually that you can cut and past; instead, they contain architectural and design information that you build into your solution. Nowadays we define architectural patterns sub-domains adapted, more or less, to each type of situations

#### 1 Introduction

Your introduction goes here! Some examples of commonly used commands and features are listed below, to help you get started.

If you have a question, please use the support box in the bottom right of the screen to get in touch.

## 2 Some LATEX Examples

#### 2.1 Sections

Use section and subsection commands to organize your document. LATEX handles all the formatting and numbering automatically. Use ref and label commands for cross-references.

#### 2.2 Comments

Comments can be added to the margins of the document using the <u>todo</u> command, as shown in the example on the right. You can also add inline comments too:

This is an inline comment.

# Here's a comment in the margin!

#### 2.3 Tables and Figures

Use the table and tabular commands for basic tables — see Table 1, for example. You can upload a figure (JPEG, PNG or PDF) using the files menu. To include it in your document, use the include graphics command as in the code for Figure 1 below.



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Figure 1: This is a figure caption.

Item	Quantity
Widgets	42
Gadgets	13

Table 1: An example table.

#### 2.4 Mathematics

LATEX is great at type setting mathematics. Let  $X_1, X_2, \ldots, X_n$  be a sequence of independent and identically distributed random variables with  $\mathrm{E}[X_i] = \mu$  and  $\mathrm{Var}[X_i] = \sigma^2 < \infty$ , and let

$$S_n = \frac{X_1 + X_2 + \dots + X_n}{n} = \frac{1}{n} \sum_{i=1}^{n} X_i$$

denote their mean. Then as n approaches infinity, the random variables  $\sqrt{n}(S_n - \mu)$  converge in distribution to a normal  $\mathcal{N}(0, \sigma^2)$ .

#### 2.5 Lists

You can make lists with automatic numbering ...

- 1. Like this,
- 2. and like this.

 $\dots$  or bullet points  $\dots$ 

- Like this,
- and like this.

We hope you find write LATEX useful, and please let us know if you have any feedback using the help menu above.