

Design Document for Bicycle Garage Pro (Group 33, 2015)

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1 References

- *Examples and Exercises in the Software Engineering Process*. ETSA01 VT 2015. Department of Computer Science, Lund University. March 10, 2015.
- *Software Requirements Specification for Bicycle Garage Pro*. ETSA01, Group 33, 2015.

2 Introduction

2.1 Purpose

This document describes the design of the *Bicycle Garage Pro* software.

The intended audience of this document is primarily the developers responsible for producing and maintaining the software. The document's purpose is to act as a guideline during development.

2.2 Glossary

TODO: Section incomplete.

1. General terms

- (a) BGP - Bicycle Garage Pro (software)
- (b) User - A cyclist who uses the BGP system
- (c) Operator - Subject responsible for managing BGP (on-site)

2. Software-related terms

- (a) JAR – Java Archive
- (b) JVM – Java Virtual Machine
- (c) TODO: Add more

2.3 Typographical conventions

The following typographical conventions are used in this document:

Italic

Indicates URLs, section references, and various kinds of titles. Also used for emphasis.

`Constant width`

Used when listing program code, as well as within paragraphs to denote code elements such as classes, variables, data types, statements, keywords, et cetera.

2.4 Scope

TODO: Fix references.

This document is intended to be read in combination with the project's *Software Requirements Specification* and *Test plan*, both referred to in *section 1: References*.

3 Software design overview

TODO: Provide a high-level overview of the entire document; a kind of summary.

The entire software shall be able to be packaged into a JAR file to be run on a JVM installed on the main computer in the BGP system. Therefore, the software shall be written in a JVM-compatible language such as Java, Clojure or Scala. This particular document describes the software as written in the Java language; the rationale for this being that Java is an easily accessible and widely known language. The software thus becomes easy to distribute among BGP systems across the world.

4 Architectural overview

TODO: Describe the system on a high level, i.e. the connection between the operator interface, the database, and the categories of classes.

5 Detailed system description

TODO: Describe the scope and purpose of each class, its data, and its relation to other classes. Refer to one or more UML diagrams in an appendix.

5.1 Modules or Java packages

This section describes the different modules, organized by Java **packages**, that compose the BGP software.

5.1.1 bicyclegarage

Below are the classes found in package `bicyclegarage`.

`Bicycle`

Describes a bicycle owned by a user.

`User`

Describes a cyclist using the BGP system.

`Garage`

...

Manager

...

Logger

A simple logger used to keep an audit log.

5.1.2 tests

5.1.3 interfaces

5.1.4 testdrivers

6 (Data design)

TODO: Describe and motivate the use of the chosen data structures...

A Example appendix section

TODO: An UML diagram could be found here, if needed.