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

Current version: 1.0.0

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1 References

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

See section 1.2 in the Requirement Specification for Bicycle Garage Pro

2.3 Scope

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

3 Software design overview

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.

3.1 Detailed system description

See fig. 1 under appendix A for the UML diagram that describes the relations between the internal software classes.

3.2 Modules or Java `packages`

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

3.2.1 `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.

`UserDB`
: Mainly handles database saving/loading

`Garage`
: Ties classes together. Contains the CLI.

`Manager`
: Mainly implements the methods needed to make the garage work

3.2.2 `interfaces`

Contains the hardware interfaces. Not within this project scope, but still mentioned for convinience sake.

3.2.3 `testdrivers`

Hardware implementations. Not within this project scope, but still mentioned for convinience sake.

A UML diagram

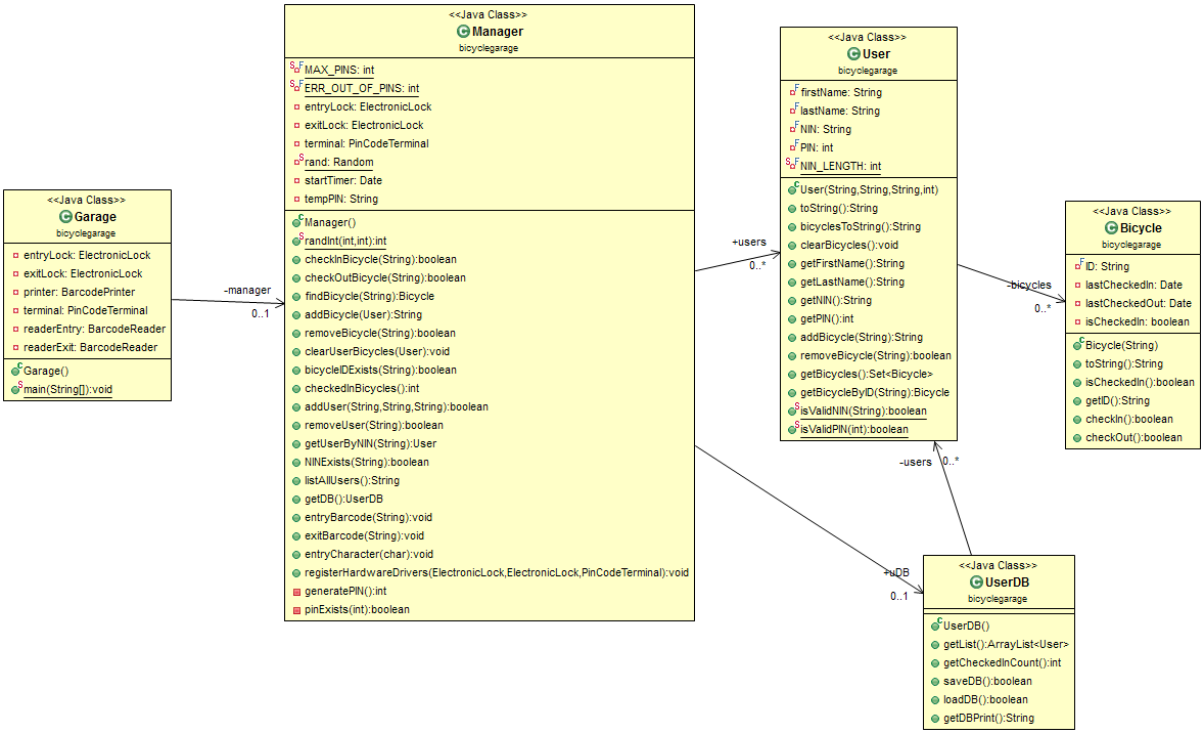

Figure 1: UML diagram for Bicycle Garage Pro (zoomable)