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30432

Song Composer
Supplementary Specification

Version 1.0

Song Composer	Version: 1.0
Supplementary Specification	Date: 14/MAR/2019
Project SupplementarySpecification.pdf	

Revision History

Date	Version	Description	Author
14/FEB/2019	1.0	Initial Requirements Statement	Vlad-Alexandru Russu

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Supplementary Specification

1. Introduction

The Supplementary Specification captures the system requirements that are not readily captured in the use cases of the use-case model. Such requirements include:

- Legal and regulatory requirements, including application standards.
- Quality attributes of the system to be built, including usability, reliability, performance, and supportability requirements.
- Other requirements such as operating systems and environments, compatibility requirements, and design constraints.

2. Non-functional Requirements

2.1 Availability

The system is not expected to be used in urgent scenarios so we can afford a SLA¹ of 99.5%. This translates into a yearly downtime of roughly 1 day and 19 hours, or a monthly downtime of 3 hours and 39 minutes. This time can be used to perform software updates, data compression and garbage collection.

2.2 Performance

Performance is a key factor for our system. For this reason, we can allow a response time of up to 1 second for audio file playback in the worst-case scenario. The average response time, depending on the load of the system, should be less than half a second.

2.3 Security

The system will be secured using https encrypted connections. Furthermore, we will demand user authentication and will not keep passwords in plain text. Other user data will not be encrypted as we do not find it as being sensible information.

2.4 Testability

The business logic of the application must be tested independently from the user interface. We will employ V-Model testing as illustrated in *Figure 1. V-Model Testing*. We aim to have over 90% test coverage, through unit and integration tests. With respect to manual testing, the system will log all information that is not displayed in the user interface, so that the system is fully observable and testable.

¹ SLA = Service Level Agreement = Availability

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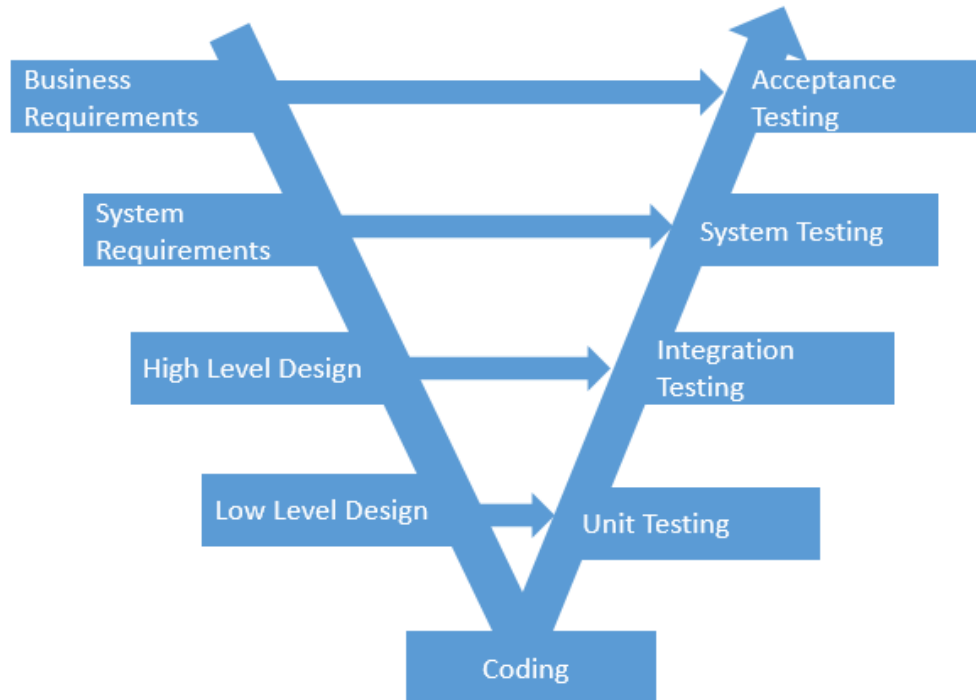


Figure 1. V-Model Testing

2.5 Usability

The user should be able to reach any desired goal in under 30 mouse clicks. The system must be as intuitive and as easy-to-use as it can be.

3. Design Constraints

The system is constrained to use Java 8 as implementation language. The software development process will be the Rational Unified Process (RUP), tailored to fit the team and the project. The conceptual architecture of the system will be a client server as illustrated in *Figure 2. Conceptual Architecture*. The required development tools are either Eclipse IDE or IntelliJ IDEA. In terms of libraries we will use: JavaFX, Hibernate, JDBC and GSON.

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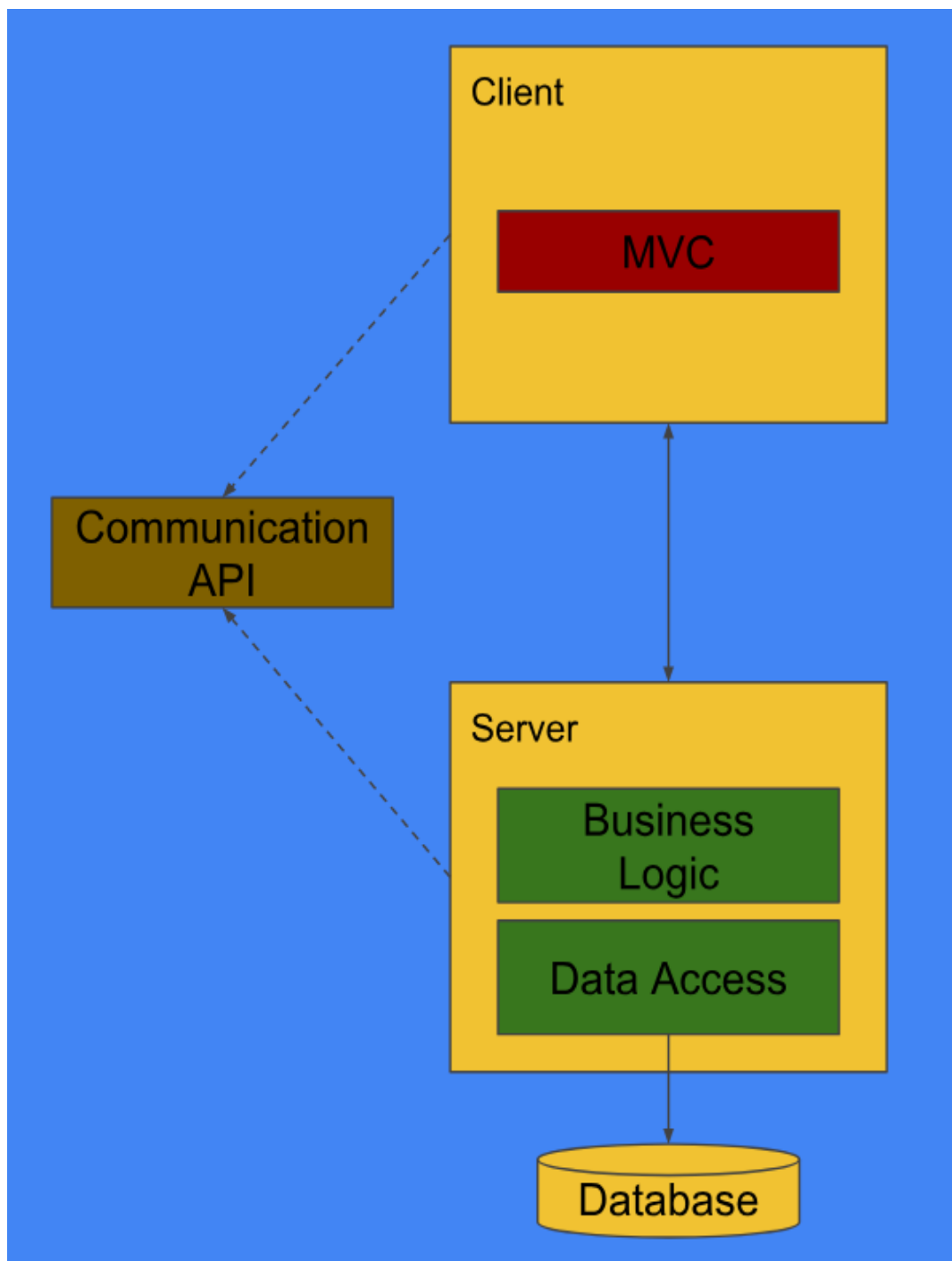


Figure 2. Conceptual Architecture