

Concepts



BEFORE tackling the implementation, we need to take a closer look at the concepts central to this thesis, so that we can form a concrete idea of which parts of the *Language Server Protocol* (LSP) are well-suited to being integrated into *code cities*. Thus, we need to examine the Language Server Protocol (which we do in section 1.1) as well as the concept of code cities (which we do in section 1.2), where we will use *Software Engineering Experience* (SEE) as a concrete implementation. For the former, we will go over the available *capabilities* and take a look at both existing *Language Servers* and *Language Clients* to get an idea of what the Language Server Protocol offers and how it is most commonly used. As for the latter, we will go over some of the existing literature regarding code cities (as this is more of an academic topic than LSP) and describe the essentials that we need to work with in the implementation, such as the project graph.

1.1 Language Server Protocol

TODO!

TODO: Better title for this one?

1.1.1 Basics

TODO!

New Term: LSP

A protocol which specifies how language servers can provide language-specific features to IDEs, such as hover information, go to definition, or diagnostics.

New Term: Code City

In the code city metaphor, software components are visualized as buildings within a city, where various metrics of the software are represented visually (e. g., the height of a building could represent the lines of code of the component).

New Term: Capability

A specific set of features a given *Language Server* (and *Language Client*) support.

1.1.2 Capabilities

TODO!

1.1.3 Language Servers

TODO!

1.1.4 Language Clients

TODO!

1.2 SEE

TODO!

1.2.1 Basics

TODO!

New Term: Language Server

A locally-running JSON-RPC-based application following the Language Server Protocol that provides language-specific features and aids to the Language Client.

TODO: Better title
for this one?
TODO: Also
provide
screenshots here

New Term: Language Client

A development tool, such as an *IDE*, that supports LSP and can hence integrate language-specific features into itself using compatible Language Servers.

1.2.2 Literature

TODO!

1.2.3 Project Graph

TODO!

1.2.4 Relevant Features

TODO!

1.3 Plan

TODO!

TODO: Really here? Maybe instead as a section of the next chapter?