1 Overview

This document is a Technical Design document for the Transaction component of the eSciDoc Technical prototype.

The eSciDoc Technical Prototype is a proof-of-concept that the development tools and technologies proposed during the planning phase of the eSciDoc project fit together and are suitable for the eSciDoc requirements.

The intention of this document is to describe in detail how the Transaction component described in the *eSciDoc Prototype Functional Design* will be implemented. The document should be detailed enough for the developer to base the development on it.

The Transaction component offers the functionality for what in terms of the prototype is called "transactions". A transaction is a set of file upload operations to the Fedora repository, that should be executed in one go. In case the upload fails at one of the files, the upload operation can be triggered to be continued at a later point. Please note, that these "transactions" do not fully comply with the ACID principles at the moment. This might be implemented as an extension to the prototype later.

The scope of this document only comprises specifics for the Transaction component. General technical details and assumptions are not included, but can be found in the document *eSciDoc Prototype Technical Specification*. Furthermore, no functional description is included in this document. For such information, please refer to the *eSciDoc Prototype Functional Design* document.

2 Implementation Details

This section describes the implementation details of the Transaction component of the eSciDoc Technical Prototype.

First a class diagram with all classes that comprise the Transaction component is provided. After that each class is described in details, including general information, variables and (public) methods. Finally the database tables that are needed for the Transaction component are described.

2.1 Class Diagram

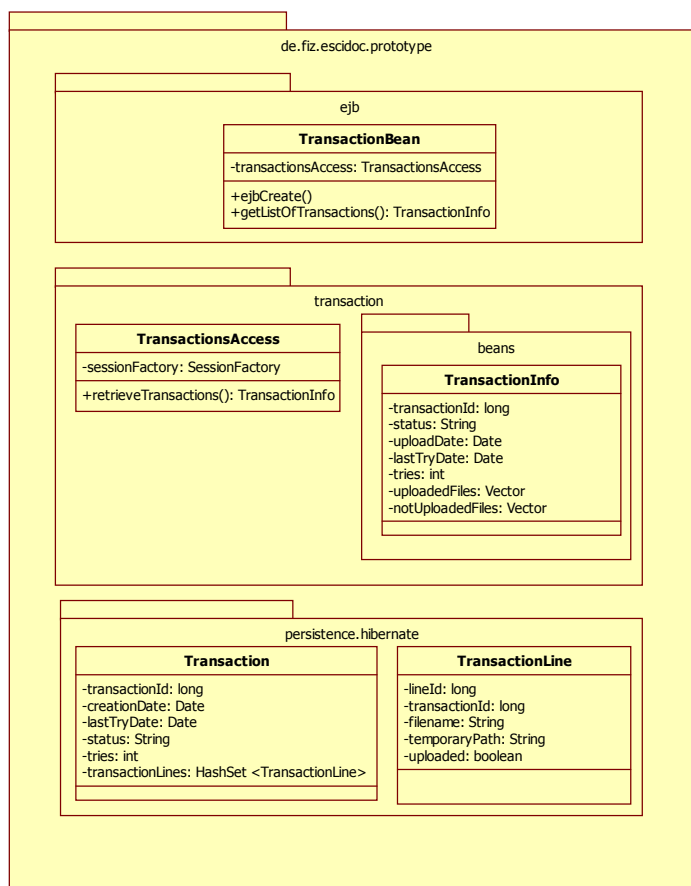Figure 1 shows the class diagram for the Transaction component of the eSciDoc Technical Prototype.

Figure 1: UML class diagram of Transaction component