**Technical Memo 3: Configurable ID Generation**

**Issue:** The inability to support different formats of ID generation for lending and author records.

**Problem**

The system presently does not offer flexibility in the generation of unique IDs in multiple formats, necessary for meeting different requirements or integrating with other systems.

**Summary of Solution**

Provide an ID generation module that can be configured according to multiple formats and specifications; this will provide administrators with an opportunity to select or edit the format of the ID during runtime.

**Factors**

* Compliance: Other ID format may be required to fulfill regulatory standards or due to integrations' requirements.
* Unique: Each ID format should ensure uniqueness of identifiers so that there will not be any potential conflicts while maintaining data integrity.
* Flexibility: Having an ID format configurable makes the system adoptable for other use cases without code modification.

**Solution**

Design an ID generation module using the Strategy pattern. Each strategy can be a different format of an ID. The format to be used can be specified during runtime depending on the configuration.

**Motivation**

This solution will provide the support to have different types of ID formats so that the system can easily adapt to external requirements.

**Alternatives**

* Have only one ID format for all records. This will limit the adaptability.
* Generate IDs manually in different formats, which increases the chances of more errors and complexity.

**Pending Issues**

* Set the norms for ID format compatibility with the system's requirements.
* Verify uniqueness across formats for conflict avoidance.