Global statistics show that, DSpace is the most widely used open source repository software for institutional and open access repositories. High use of the software has been observed in universities and research‐based institutions as a way to provide access to research output, scholarly publications, and more (Smith et al., 2003). Usage Statistics show that out of 2792 repositories worldwide, 1159 (42%) are using Dspace software (OpenDOAR, 2014). This is the main reason why Dspace software was chosen to implement Dspace@NM‐AIST. Also the suitability for a stable repository system is another factor that favoured its choice (Lewis, de Castro, & Jones, 2012).

DSpace supports Qualified Dublin Core metadata by default and is oriented towards open standards and protocols, and therefore, fully supports the Open Archive Initiative for Metadata Harvesting Protocol (OAI‐PMH). The search engine is based on Lucene, a popular and powerful open‐source engine. In fact, the DSpace software has proven to be a solid repository platform since its launch.That is why it remains promising and competitive amidst other software platforms, like its follower Eprints which currently has 381 (14%) repositories out of 2792 worldwide (OpenDOAR, 2014). Content in DSpace is at the highest level organized into communities. At an institutional level,

Materials and Methods

This section describes the study methodology and materials used. A case study approach was

adopted. A comparative survey of repository software was undertaken to select the best repository

software to use. Data used in the survey were collected from the Directory of Open Access Repositories

(OpenDOAR). Visual Paradigm for UML software was used to describe the system overview through

DFDs. Several supporting open source software were chosen and integrated in the repository system.

These include apache Tomcat, apache ant, apache maven, PostgreSQL relational database, and Java

Development Kit (JDK).