

# **Project Plan: Design and Implementation of an Ontology Editor to Model Instructional Material**

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## **1 Introduction**

This document lays out of a project plan for the development of a android based mobile application. This is a open source ontology editor to model instructional material and is built to serve the purposes of both the students and teachers. We are a team consists of five SSAD students at the International Institute of Information Technology, Hyderabad.

The intended readers of this document are current and future developers working on this ontology editor and the sponsors of the project. The plan will include, but is not restricted to, a summary of the system functionality, the scope of the project from the perspective of the our team, scheduling and how those risks will be mitigated, the process by which the our team will develop the project, and metrics and measurements that will be recorded throughout the project.

## **2 Overview**

The main goal of the project is to develop a android based mobile application which is essentially an E-Learning platform mainly used to educate Adult Illiterates. The tool shall be enough capable of providing a user friendly interface which even a person from a non-technological background can easily learn to operate.

The tool shall be able to adhere to the **teaching goals, teaching process, instructional material of the teacher**. It shall also contain **reasoning support** and **separate multi lingual user interfaces** both to the student and the teacher.

### **2.1 Customers**

We are funded by the SERL lab. IIIT-H and our end users will be any teacher or student.

## 2.2 Functionality

The overall functionality can be broadly broken down to five steps.

**1.Teaching goals:**The tool shall be capable of expressing the teaching goals in a standard way. Since Blooms Taxonomy is a very widely accepted classification of learning objectives our tool will let the user,teacher, represent his teaching goals in this way.

**2.Teaching Process:** This involves the design of the methodology of the teaching which is going to be implemented in the course. Our tool shall represent the teachers teaching goals similar to Blooms Taxonomy.

**3.Instructional Material:** The entire course material is divided into **FCRM** model i.e., Facts ,Cases,Rules and Models.

**4.Reasoning:** This involves the evaluation of each student under some given criteria. This part of the tool can be used by the student to for self evaluation. And this also validates if the teaching goals are met.

**5.User interfaces:** The tool shall contain different interfaces for teacher and student separately. This is a multi-lingual mobile application and the user gets to select between English or any other Indian Language.

## 2.3 Platform

It is a mobile application built on android os.

## 2.4 Development Responsibility

We will be responsible for the multilingual functionality of the user interfaces in this tool. The user gets can chose between English or mostly widely used Indian Language Hindi.

We are going to use Blooms taxonomy of classification of learning and this allows user-teachers to represent their goals and teaching process in a very well organized way.

## 3 Goals and Scope

Assuming we can efficiently use Blooms taxonomy teaching goals and teaching process can be efficiently represented. With a good hand over OWL and RDF we can build ontologies but we are not sure of how efficient these are going to be. Reasoning can be done efficiently provided we store the related data properly using SPARQL or similar.

## **4 Deliverables**

We initially deliver synopsis of our project. We keep updating status tracker every week and all the necessary documentation about different decisions we make all through the course.

## **5 Technical Process**

We spend a good amount of time on learning XML, android and all the other tools, software required to accomplish our project.

Creating a knowledge base ontology is a critical part. So we are going to be incremental in doing away with this. Step followed by a step and test it and iterate the process if the output is not a desired one.

The interfaces we try to use prototyping by actually building and seeking review and improving till it hits the sweet spot.