**Question Bank Management System**

**Requirement Analysis Sprint 1 Document**

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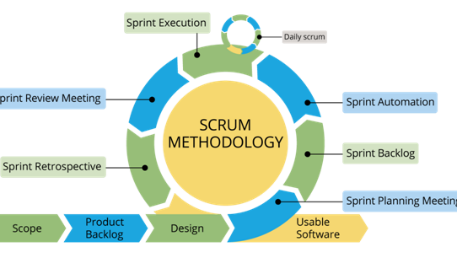
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**Description**

A question bank management system, is a software system that allows a user to view questions, add questions and add answers as well to questions and these questions are stored for use to users who log in into the system. These questions have different types (multiple choice, essay, Boolean). Users can tag questions and create a quiz or test from these questions according to their content they want to be tested on. Flutter will be used as the framework for building this software system. GitHub will be used as our software configuration management. The use of a scrum methodology process will be used in guiding the team to create the software.



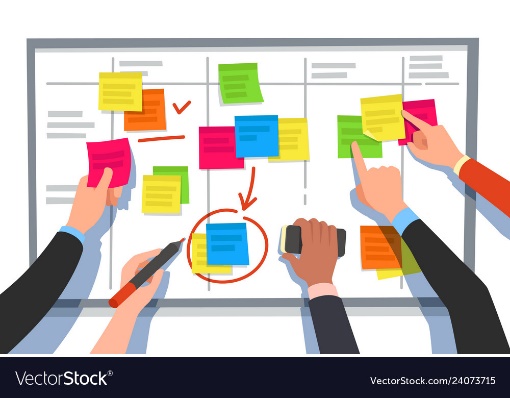


**User Stories**

* As an authorised person (staff member), I can create new questions to add to the question bank.
* As an authorised person (staff member), I can choose to create different types of questions, to add variety and complexity to the tests.
* As an authorised person (staff member), I can view/access questions in the question bank to create quizzes.
* As an authorised person (staff member), I can create quizzes directly on the question bank management system, to avoid using multiple applications and importing.
* As an authorised person (staff member), I can download/ export questions from the question bank to various other LMS platforms to carry out the test.
* As an authorised person (staff member), I can import questions into the question management system from other LMS’s, to avoid having to recreate questions that already exist.
* As an authorised person (staff member), I can attach tags to questions to allow the user to easily find these types of questions in the Question Bank later thereby streamlining the lookup process.
* As an authorised person (staff member), I can peer review questions on the system, to ensure that the questions on the system are of high quality/standard.
* As an authorised person (staff member), I can track my activity on the system to understand which questions I have interacted with.
* As an administrator, I can manage (grant/deny) access to the system.

**Tasks for Sprint 1**

* Decide on a Framework and Software configuration management system and download it.
  + We have chosen Flutter has our framework and GitHub has the software configuration management system.
* Decide on a code coverage software and a continuous integrations software.
  + We have chosen Codecov has the code coverage software and integrated it with badge on GitHub. Our continuous integration software will be Jenkins.
* Create user signup and login interface
  + Interface for user to login into the system and interact with the question bank.
* Create user interface for adding a single type of question (multiple choice, Boolean or essay), tagging, viewing, and importing questions.
  + Interface for user, while interacting with the question bank, can add, view, tag or import questions of a single type.
  + Single type of question is only for sprint 1.
* Questions must follow the QTI format
  + Research on the QTI format for the questions.



**Kanboard on GitHub**

A scrum task board is created on GitHub, Kanboard. This will keep track of the product backlog, sprint backlog and tasks in progress and completed.

A screenshot of part of the Kanboard is shown below.

Graphical user interface, text, application, email, website

Description automatically generated

**User Acceptance**

* Given that I am an authorised user, when I create a new question, it is saved to the question bank management system.
* Given that I am authorised user, when I choose which type of question I would like to record, I am presented with an interface with the necessary input fields.
* Given that I am authorised user, when I select an option to view the data in the question bank, then I am presented with a list of all questions that have been recorded in the question bank.
* Given that I am an authorised user, when I want to load question into the question bank, I am provided with the option to create the question using an integrated interface in the system.
* Given that I am an authorised user, when I want to use questions from the question bank, I am presented with an option to export the questions into other LMS’s.
* Given that I am an authorised user, when I want to load question into the question bank, I am presented with an option to import the questions from external sources.
* Given that I am an authorised student, when I create/load questions into the question bank, I am given the option to attach tags to the question.
* Given that I am an authorised user, when I view questions, I am presented with an option to access an interface that would allow me to peer review it.
* Given that I am an authorised user, when I select the option to view my activity, I am presented with a list of my interaction with questions on the system (creation, editing, peer reviewing, etc.).

**Technical Requirements for Sprint 1**

* Login System with 1 user type
  + There must be an interface where a user can login with their email and password
* Have Hub/menu
  + Hub that navigates you to either create a question or import a question into the question bank or view a question from the question bank
* Create new Question of a certain type
  + Going from the Hub/menu, user will be able to add a new question
* Import a certain type of question into the question bank
  + Going from the Hub/menu, user will be able to import a certain type of question into the question bank
* View Question Bank
  + Going from the Hub/menu, user will be able to view questions from the question bank.

