

**ADAPTIVE TEST SYSTEM**

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REQUIREMENTS

SYSTEM OVERVIEW

The system architecture is mainly composed of 3 components:

* MR business rule set
* GA optimizer algorithm
* Intelligent QnA solver

MR business rules are a set of directives that are used to govern the level in the difficulty of questions per topic (easy/ medium / hard) based on the previous performance of the test taker in the same topics.

GA optimizer algorithm uses the previous test scores in individual topics as a benchmark to decide the number of questions for the subsequent test in that particular topic. The GA caters to individual students and delivers an efficient and optimized set of questions in an adaptive manner in order to test the preparedness of the test taker.

Intelligent QnA solver is used for the purpose of self-learning and reasoning. With the help of this tool the future test taker has the access to the study material and at the same time he/she will have the facility to search for a solution in a question answer format.

RECOMMENDED BROWSERS

Adaptive Test System supports the following browsers:

* Internet Explorer 10 and above
* Firefox 52 ESR and 53 and above
* Google Chrome version 59 and above
* Safari version and above

TECHSTACK

Back-end

* Python
* Mongo DB

Front-end

* HTML/CSS

USER INTERFACE

* Our interface consists of an interface for a student and a teacher.
* The teacher has facility to upload new questions and update scores of the test taker.
* The student has the ability to take a new mock test to assess his/her skills by clicking on the button that generates a new set of questions based on the previous performance. He also has the facility to view his previous test scores along with the solutions where he can assess as to where he was wrong or right.

INSTALLATION GUIDE

Back-end

* Clone the repository <https://github.com/Doraiswamy/Adaptive-Test.git> into a separate directory.
* Choose the editor of your choice. For example, PyCharm, Spyder etc.
* Navigate to the ‘backend’ folder inside the ‘SystemCode’ folder.
* An optional step is that you can set up a virtual environment to install your dependencies inside the project folder. This helps in avoiding mixing up of different environments. Please follow the link given here: https://uoa-eresearch.github.io/eresearch-cookbook/recipe/2014/11/26/python-virtual-env/
* Install all the dependencies for the project with the help of the command ‘pip install -r requirements.txt’.
* Run the server with the help of the command ‘python manage.py runserver 0.0.0.0:8000’.
* Navigate to the browser of your choice and in the search bar paste the following URL: http://localhost:8000 to check whether the server is running or not.

\*\* Note: It is assumed that python 3.0 or above is already installed in your system. If not please install the latest python version from the link given below:

<https://www.python.org/downloads/>

Front-end

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USER GUIDE

TEST CASES: SAMPLE INPUT AND SAMPLE OUPUT