

Algebra Intelligence Project Specifications

Authors:

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Project Title

Algebra Intelligence

Project Summary:

Algebra Intelligence is a web based learning tool designed to help students with algebra. The website generates 15-20 multiple choice questions from a database holding various skill levels. The skill levels of the questions generated are based on the skill level of the student. At the end of a quiz, users may be redirected to external sources for additional practice.

Project Goals

The main objective of Algebra Intelligence is to educate Algebra students by determining their strengths and weaknesses in the subject. When weaknesses are identified, Algebra Intelligence will offer additional help to students by redirecting them to external sources when assessment is complete.

Product Features

Algebra Intelligence will have a user account system. The system will keep track of a student's skill level in each algebra topic. Quiz questions will be generated from a database based on these skill levels. The questions within the database will also have a skill level. Questions with a skill level close to the user's skill level are chosen. Multiple answers to the same question will change a question's skill level based on the number of correct and incorrect responses given by all users.

The system will, as best as possible, allow the specification of question templates and solution algorithms in a general manner. Based on the question template, an answer is calculated using an algorithm. In doing so, Algebra Intelligence will prevent duplicate questions from appearing during the length of the quiz to the student using these question templates. During a quiz, students are given the chance to see a question's solution at the cost of an incorrect answer.

Upon completion of the quiz, the students will receive a report of their strengths and weaknesses. Based on this report, the student will be offered additional sources for extra practice and lessons based on their algebraic weakness.

Any Limitations

Algebra Intelligence tests a student's knowledge through testing, it does not provide lessons. The website is designed for those transitioning from middle school to high school level math. The site is being designed for desktop use and may not operate as intended on mobile devices.