

List all requirements for your project. Separate your requirements by type, which may include functional requirements (specification), resource requirements, physical requirements, aesthetic requirements, user experiential requirements, economic/market requirements, environmental requirements, UI requirements, and any others relevant to your project. When a requirement is also a quantitative constraint, either separate it into a list of constraints, or annotate at the end of requirement as “(constraint).” Ensure your requirements are realistic, specific, reflective or in support of user needs, and comprehensive.

## Functional Requirements

- Generate random interactive homework questions based on a specific problem type within the given parameters
- Automatically export/save the graded questions
- Date based accessibility for due date enforcement
- Different homework assignments
- Ability to maintain/update homework questions
- Online accessibility for a few hundred Users
- Must be secure; data must be safe and unable to be accessed by unauthorized persons.
- Store/export user and question data
- Full Stack web application
- Ability to be redeployed

## Resource Requirements

- Hosting server provided by ISU

## Aesthetic Requirements

- easily navigable by students
- provide high quality images for the corresponding question
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## User Experimental Requirements

- TA's need to be able to modify questions as needed
- Students need to be able to easily answer and input HW question answers into the system via multiple choice, short answer, and drop down choices.
- Unique user profiles
- Different User privileges
- Web based user interaction

## UI Requirements

- Display questions including images when needed
- Input for the answers (text, multiple choice, etc.)

What Engineering standards are likely to apply to your project? Some standards might be built into your requirements (Use 802.11 ac wifi standard) and many others might fall out of design. For each standard listed, also provide a brief justification.

## IEEE Standard for Learning Technology-- ECMAScript Application - Programming Interface for Content to Runtime Services

- This is important because students need to be able to turn in their homework and it can't bottleneck the application if one answer has a runtime error.

## IEEE Standard for Learning Technology--Data Model for Content Object Communication

- We use this because we will be using models for each of our questions we are creating in the homework