User Stories & Requirements

User Stories

As an **instructor**…

➢ I want to have an accessible website so that my students can have robotics visualizations.

➢ I want to have a simple enough framework so that I can add more algorithms later myself.

➢ I want to have a simple UI so that my students can easily reproduce my examples.

➢ I want to host each algorithm/model on a different site so that it is easier to follow during instruction.

➢ I want to be able to adjust the speed so that the example is easy to follow.

➢ I want to be able to use the website offline so that I don't have to lose connection when teaching.

➢ I want to include parameters so that my students can try to replicate my example.

As a **student**…

➢ I want to be able to draw obstacles so that I can visualize how pathfinding algorithms react.

➢ I want to choose different pathfinding algorithms so that I can see the difference between them.

➢ I want to choose different models of robots so that I can see the difference between them.

➢ I want to have parameters for my paths so that I can see the subtle differences between the algorithms.

➢ I want to have access to the website on my phone so that I can view it easily.

➢ I want to be able to see the wheels move so that I can understand the movement.

➢ I want to be able to see the failed paths the algorithm made, so that I can understand it better.

➢ I want to be able to use the website offline so I can do the assignment in a last minute situation.

Requirements

Functional Requirements
- Input/Output

Requirement	Priority
Bug Algorithm simulator (bug0, bug1, bug2)	Definite ˅
PID Controller simulator	Definite ˅
Visualization improvement on kinematics model	Perhaps ˅
Login portal/IP tracker for user tracking to see what algorithms they are using and to see the correlation between students' grades and the usage of the web app	Improbable ˅

Non-functional Requirements
- Usability, Reliability, Performance, Supportability, +Design, +Implementation, +Physical

Requirement	Priority
Self-contained without too many dependables, so that client can host the web app on their website	Definite ˅
Detailed documentation	Definite ˅
Simple and easy-to-use design	Definite ˅
Performant UX (smooth animations, cross browser compatibility, adapts to screen sizes)	Definite ˅
Mobile interface	Perhaps ˅

Interfaces
- GUIs, Input/Output Mechanisms, Command Lines, Help Screens, Programming APIs, etc.

Requirement	Priority
Interactive web app on PC	Definite ˅
Interactive web app on Mobile	Perhaps ˅