



PrairieLearn

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Design Content

- Auto Grader
- Interactive questions for CPR E 288 students
- Emulator to simulate CyBot in CPR E 288 lab



Complexity

- The design consists of many software engineering challenges and will transition into embedded systems problem solving.
- The questions will improve on the previous learning experience and the emulator will replace the existing faulty emulator.




Engineering Tools

- IEEE Standards
- Git/GitLab
- VirtualBox
- Ubuntu



Context

- No Public Health, Safety, or Welfare Concerns
 - Global, Cultural and Social - Improves learning and participation by creating a more interactive learning experiences
 - No Environmental Concerns
 - Economic - Teaches future engineers and allows current teachers to focus on other aspects of teaching.
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Prior Work/Solutions

- Similar Products
 - Renaissance
 - MasteryConnect
 - Gradescope
- Previous Work
 - Advantages: existing documentation
 - Shortcomings: little previous development

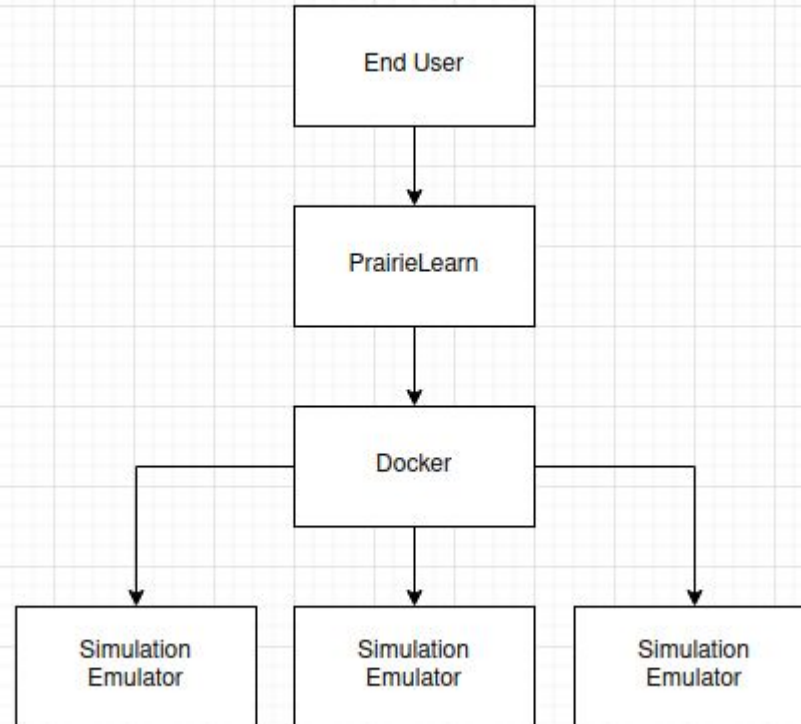


Decisions

- We are going to use PrairieLearn as the framework for distributing course content
- We will use Docker containers to compile and run code for the autograder
- We will use Git and GitLab to keep track of versioning
- We will use a campus server for the final production server



Proposed Design



Functionality

Task Name	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14
Homework 1	█													
Homework 2		█												
Homework 3			█											
Homework 4				█										
Homework 5					█									
Homework 6						█								
Exam 1 Review		█	█	█	█	█	█	█	█	█	█	█	█	█
Homework 7							█							
Homework 8								█						
Homework 9									█					
Homework 10										█				
Homework 11											█			
Exam 2 Review								█	█	█	█	█	█	█
Final Exam Review	█	█	█	█	█	█	█	█	█	█	█	█	█	█

