Project #3: Build a Prototype

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CS 443: User Interface

Professor Hornof

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Contents

1. **Experimenter Instructions**

i. Give the user the Participant Instructions

ii. Start the prototype:

a. Open browser

b. Navigate to https://anthonyhornof.proto.io/player/index.cfm?id=2eb91135-3df4-43e6-9f1c-d2f54f47c99d

iii. Open the document that the user will be reading. This should be in PDF format or some other document format that allows for copying and pasting large blocks of text.

iv. Once the user has finished with their task, save their data by taking a screenshot

a. Click the "Export To PDF/PNG" button in the bottom right corner

b. Click the "Capture Screen" button for both screens

c. Click "Export" and choose the PDF format

2. **Participant Instructions**

i. Preparation and Training

1. Understanding SQ3R:
    a. SQ3R is a structured reading technique that involves these five steps:
        i. Survey: Skim the material to get an overview.
        ii. Question: Formulate questions based on the headings and sections.
        iii. Read: Actively read to find answers to your questions.
        iv. Recite: Recall the answers and summarize the material in your own words.
        v. Review: Go over the material to solidify understanding.

ii. Your Task

Goal: Use the prototype to practice the SQ3R method and test your retention using flashcards.

1. Survey:

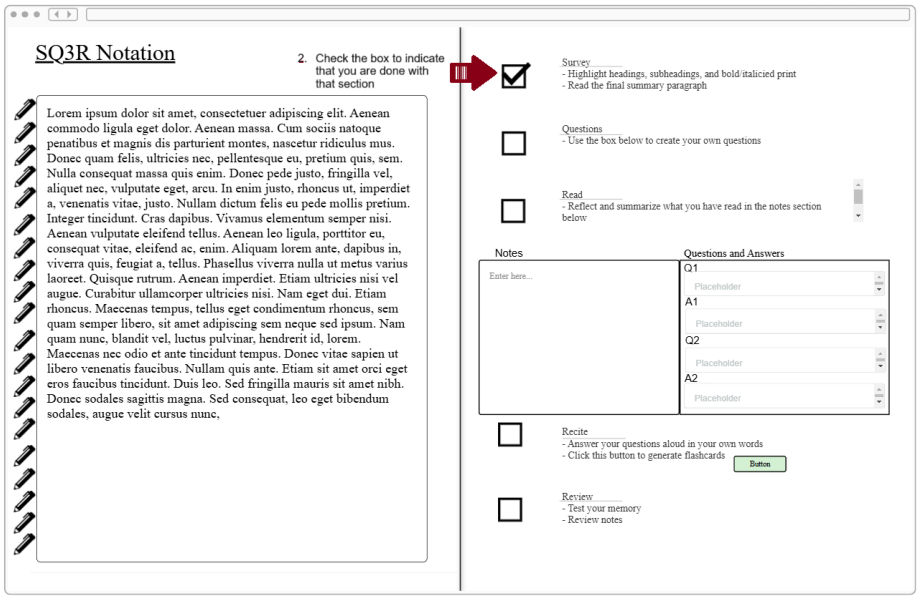
a. On the left side of the prototype, paste and review the reading material.
b. Use the highlighting tool to mark headings, important phrases, or anything that stands out.

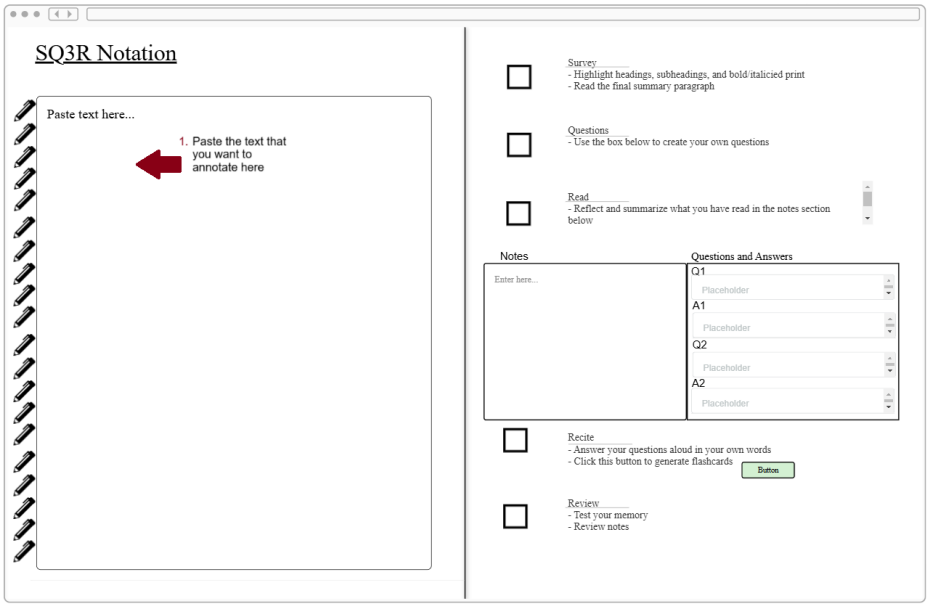
2. Question:
    a. Click the question boxes to create questions for the reading.
3. Read and Annotate:
    a. Actively read the material while using the note-taking box on the right-hand side to write important notes
    b. Use the answer box below each question to answer your questions
    c. Use the highlight tool as needed to emphasize key ideas.
4. Recite:
    a. Use the flashcard generator:
        i. Click the flashcard tab and review the questions you created earlier.
        ii. Flip each card to see if you recall the correct answer. If unsure, return to your notes or the reading material.
5. Review:
    a. Go through your notes and the flashcards again. Test your memory by repeating the flashcards until you feel confident.

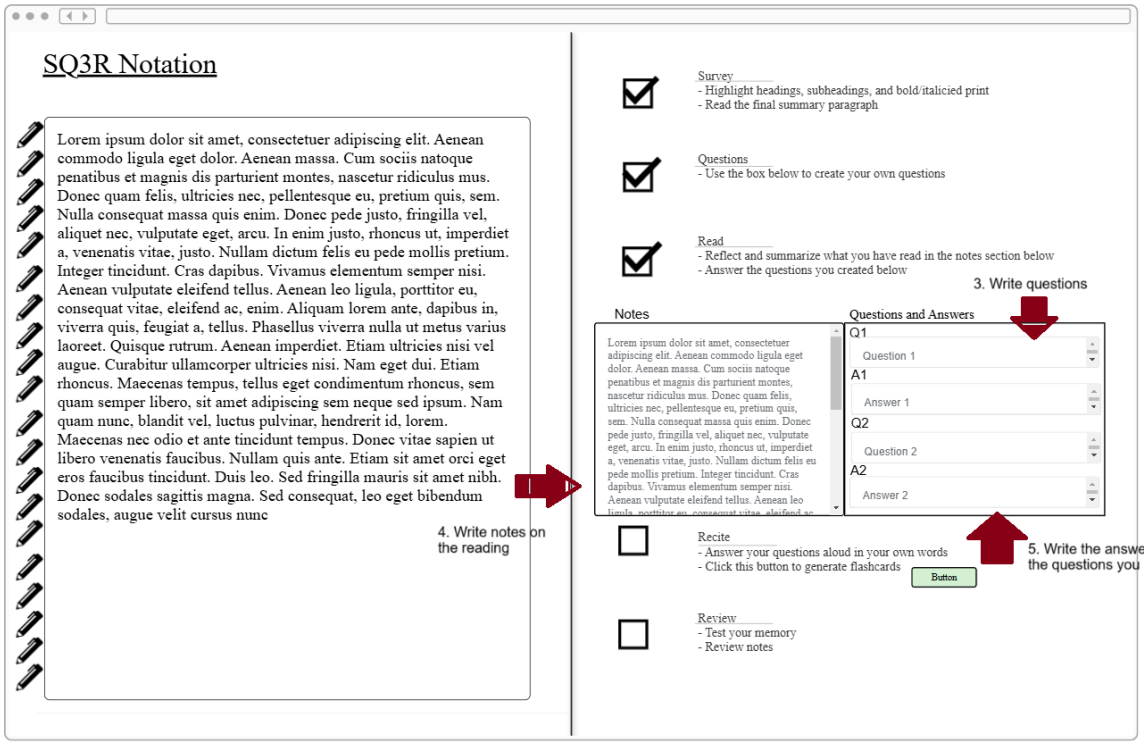
iii. Using the Prototype

1. Interface Overview:
    a. The left screen displays the reading material.
    b. The right screen shows SQ3R tasks and notes.
2. Tools available: Highlight and Flashcard generator.
3. Completing the Task:
    a. You are done when:
        i. You have read the material and answered all your questions.
        ii. You have successfully used the flashcards to review the content.
    b. What to Do When Finished:
        i. Inform the experimenter that you are done, ensuring the browser or prototype remains open.
        ii. Do not close the browser or refresh the page to avoid losing data.

3. Storyboard


SQ3R Notation
2. Check the box to indicate that you are done with that section
Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Aenean commodo ligula eget dolor. Aenean massa. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Donec quam felis, ultricies nec, pellentesque eu, pretium quis, sem. Nulla consequat massa quis enim. Donec pede justo, fringilla vel, aliquet nec, vulputate eget, arcu. In enim justo, rhoncus ut, imperdiet a, venenatis vitae, justo. Nullam dictum felis eu pede mollis pretium. Integer tincidunt. Cras dapibus. Vivamus elementum semper nisi. Aenean vulputate eleifend tellus. Aenean leo ligula, porttitor eu, consequat vitae, eleifend ac, enim. Aliquam lorem ante, dapibus in, viverra quis, feugiat a, tellus. Phasellus viverra nulla ut metus varius laoreet. Quisque rutrum. Aenean imperdiet. Etiam ultricies nisi vel augue. Curabitur ullamcorper ultricies nisi. Nam eget dui. Etiam rhoncus. Maecenas tempus, tellus eget condimentum rhoncus, sem quam semper libero, sit amet adipiscing sem neque sed ipsum. Nam quam nunc, blandit vel, luctus pulvinar, hendrerit id, lorem. Maecenas nec odio et ante tincidunt tempus. Donec vitae sapien ut libero venenatis faucibus. Nullam quis ante. Etiam sit amet orci eget eros faucibus tincidunt. Duis leo. Sed fringilla mauris sit amet nibh. Donec sodales sagittis magna. Sed consequat, leo eget bibendum sodales, augue velit cursus nunc,
Survey
- Highlight headings, subheadings, and bold/italicied print
- Read the final summary paragraph
Questions
- Use the box below to create your own questions
Read
- Reflect and summarize what you have read in the notes section below
Notes
Enter here...
Questions and Answers
Q1
Placeholder
A1
Placeholder
Q2
Placeholder
A2
Placeholder
Recite
- Answer your questions aloud in your own words
- Click this button to generate flashcards
Button
Review
- Test your memory
- Review notes


SQ3R Notation
Paste text here...
1. Paste the text that you want to annotate here
Survey
- Highlight headings, subheadings, and bold/italicied print
- Read the final summary paragraph
Questions
- Use the box below to create your own questions
Read
- Reflect and summarize what you have read in the notes section below
Notes
Enter here...
Questions and Answers
Q1
Placeholder
A1
Placeholder
Q2
Placeholder
A2
Placeholder
Recite
- Answer your questions aloud in your own words
- Click this button to generate flashcards
Button
Review
- Test your memory
- Review notes


SQ3R Notation
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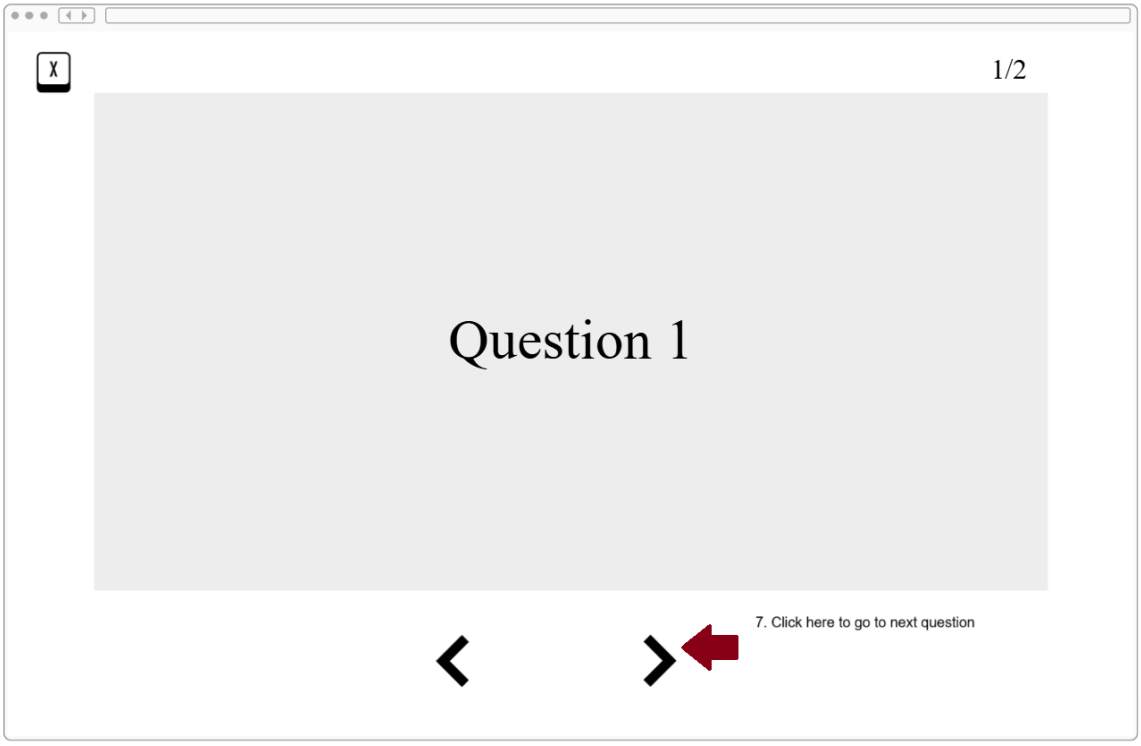
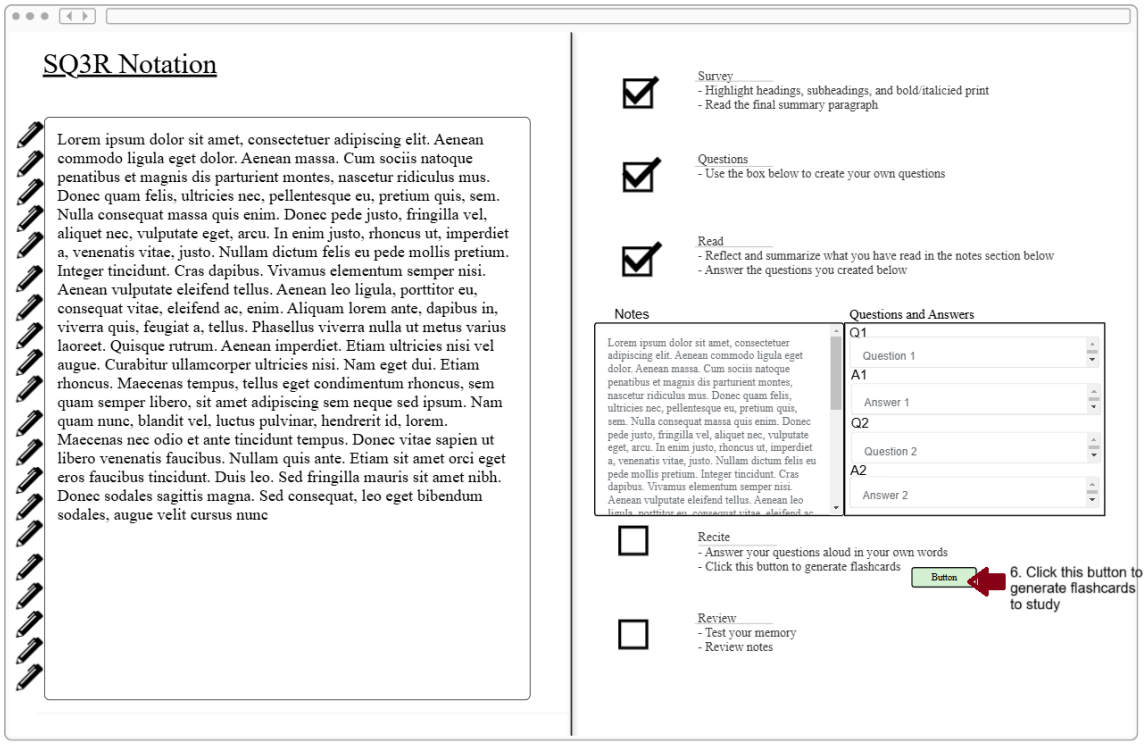
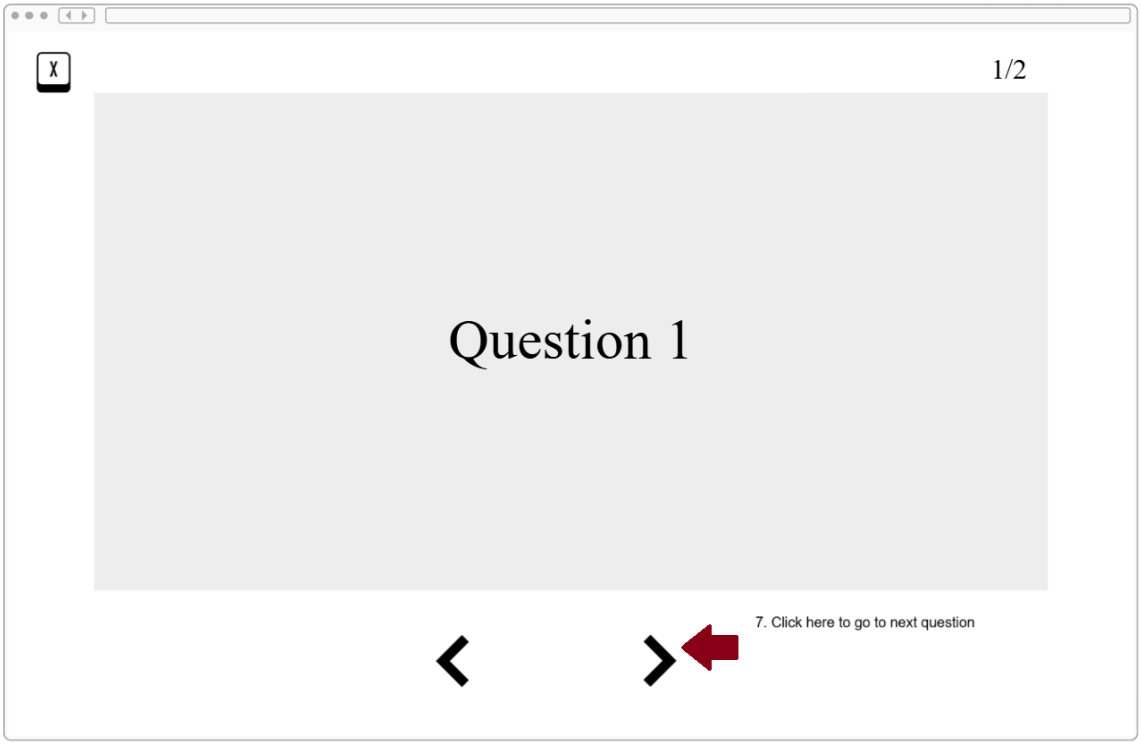
4. Write notes on the reading
Survey
- Highlight headings, subheadings, and bold/italicied print
- Read the final summary paragraph
Questions
- Use the box below to create your own questions
Read
- Reflect and summarize what you have read in the notes section below
- Answer the questions you created below
3. Write questions
Notes
Questions and Answers
Q1
Question 1
A1
Answer 1
Q2
Question 2
A2
Answer 2
Recite
- Answer your questions aloud in your own words
- Click this button to generate flashcards
Button
5. Write the answers to the questions you made
Review
- Test your memory
- Review notes


1/2
Question 1
7. Click here to go to next question

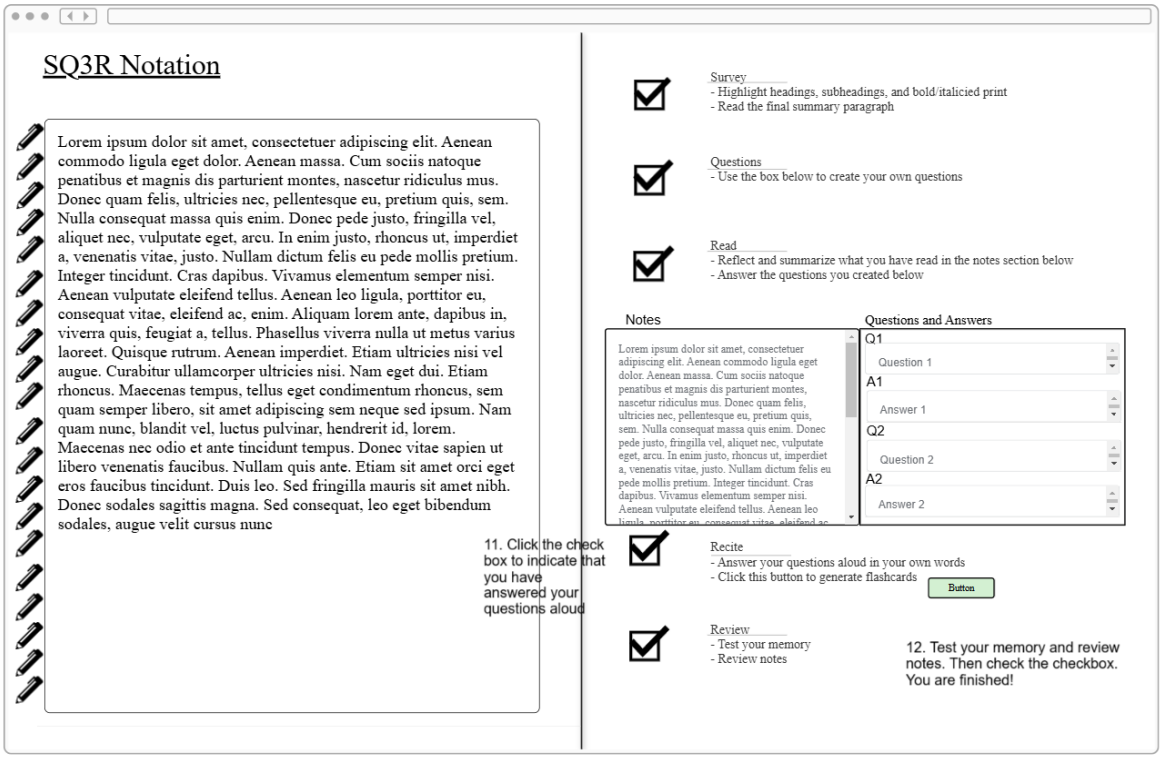

SQ3R Notation
Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Aenean commodo ligula eget dolor. Aenean massa. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Donec quam felis, ultricies nec, pellentesque eu, pretium quis, sem. Nulla consequat massa quis enim. Donec pede justo, fringilla vel, aliquet nec, vulputate eget, arcu. In enim justo, rhoncus ut, imperdiet a, venenatis vitae, justo. Nullam dictum felis eu pede mollis pretium. Integer tincidunt. Cras dapibus. Vivamus elementum semper nisi. Aenean vulputate eleifend tellus. Aenean leo ligula, porttitor eu, consequat vitae, eleifend ac, enim. Aliquam lorem ante, dapibus in, viverra quis, feugiat a, tellus. Phasellus viverra nulla ut metus varius laoreet. Quisque rutrum. Aenean imperdiet. Etiam ultricies nisi vel augue. Curabitur ullamcorper ultricies nisi. Nam eget dui. Etiam rhoncus. Maecenas tempus, tellus eget condimentum rhoncus, sem quam semper libero, sit amet adipiscing sem neque sed ipsum. Nam quam nunc, blandit vel, luctus pulvinar, hendrerit id, lorem. Maecenas nec odio et ante tincidunt tempus. Donec vitae sapien ut libero venenatis faucibus. Nullam quis ante. Etiam sit amet orci eget eros faucibus tincidunt. Duis leo. Sed fringilla mauris sit amet nibh. Donec sodales sagittis magna. Sed consequat, leo eget bibendum sodales, augue velit cursus nunc
Survey
- Highlight headings, subheadings, and bold/italicied print
- Read the final summary paragraph
Questions
- Use the box below to create your own questions
Read
- Reflect and summarize what you have read in the notes section below
- Answer the questions you created below
Notes
Questions and Answers
Q1
Question 1
A1
Answer 1
Q2
Question 2
A2
Answer 2
Recite
- Answer your questions aloud in your own words
- Click this button to generate flashcards
Button
6. Click this button to generate flashcards to study
Review
- Test your memory
- Review notes


1/2
Question 1
7. Click here to go to next question


2/2
Question 2
8. Click here to go to previous question


1/2
9. Click any where on screen to flip to see the answer to the question
Question 1


10. Click here to go back to the start page
1/2
Answer 1


SQ3R Notation
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11. Click the check box to indicate that you have answered your questions aloud
Survey
- Highlight headings, subheadings, and bold/italicied print
- Read the final summary paragraph
Questions
- Use the box below to create your own questions
Read
- Reflect and summarize what you have read in the notes section below
- Answer the questions you created below
Notes
Questions and Answers
Q1
Question 1
A1
Answer 1
Q2
Question 2
A2
Answer 2
Recite
- Answer your questions aloud in your own words
- Click this button to generate flashcards
Button
Review
- Test your memory
- Review notes
12. Test your memory and review notes. Then check the checkbox. You are finished!

Figures 1-9: The storyboard below illustrates what the user needs to do and how their actions cause transitions. Created by A.Bates 11/20/2024.

4. Reflection

Project 3 built upon Project 2 by formalizing the design and creating a working prototype. For the storyboard in this project shows a screen-based design of how the system works, rather than the stick figure-based design in Project 2. However, while I did use the design I created for my paper-based prototype in project 2, there were some changes made due to constraints of using the Proto.io system. One of the main difficulties I encountered when prototyping using Proto.io compared to prototyping using the paper-based methods was the lack of text manipulation support. Proto.io does not support highlighting, underlining, or bold only certain blocks of text. Thus, when prototyping I had to completely remove the underlining and bolding feature as they were not as essential to the SQ3R (survey, question, read, recite, review) method as the ability to highlight. Considering the importance of highlighting, I had to change the way the feature is used. Instead of the user being able to use a highlighting button like the one used in Word, the user can highlight a line of text at a time by clicking the button to the right of the textbox. If I were to create a working model of this project, I would use HTML and JavaScript to enable the user to use their curser to select the specific text they want to highlight and then click the highlight button to highlight that text. Another difficulty that I encountered was allowing the user to create an indefinite number of questions and answers that could then be generated into flashcards. Due to constraints in not being allowed to let the user add new container states, I limited the number of questions to two. This is another thing that could be changed in the future with code. Overall, I preferred to use paper-based prototyping as it allows greater freedom for

the designer, however, I understand that if the designer has limited coding ability or knowledge then using Proto.io would be beneficial to understand possible constraints that the programmer would have.