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CSC 415-01
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Assignment 4: Analysis and Design

Path in VM: /home/student1/Assignments/hyperfocus/code/

Account: student1

Github: <https://github.com/greenv2/Hyperfocus.git> or <https://github.com/greenv2/Hyperfocus>

Use Case Descriptions

Use Case: Create Study Guide form

Iteration: 1

Primary Actor: User

Goal in Context: go to new form for customizable study guide

Preconditions:

Trigger: Student clicks create new study guide on homepage or in navigation menu

Scenario:

- 1) Student would like to generate a fully formatted study guide
- 2) Goes to homepage
- 3) Clicks “create new study guide”

Or

- 1) Student would like to generate a fully formatted study guide
- 2) Clicks “+ study guide” in navigation
- 3) Takes them to create new study guide page where they can add the fields they need (see Add Fields use case)

Exceptions:

- 1) N/A

Priority: High

Frequency of Use: High

Channel to Actor: via PC-based browser and internet connection

Secondary Actors: N/A

Channel to Secondary Actors: N/A

Open Issues: N/A

Use Case: Add Fields

Iteration: 1

Primary Actor: User

Goal in Context: Add text fields by type (e.g. heading, bullet point, main point)

Preconditions: User is on the edit or create study guide page

Trigger: User clicks field type button

Scenario:

- 1) User has navigated to create new study guide

Or

- 1) User has successfully uploaded draft version of study guide
- 2) User clicks the field type they want
- 3) System generates corresponding field and displays it

Exceptions:

- 1) There is field type user needs but is not an option

Priority: High

Frequency of Use: High

Channel to Actor: via PC-based browser and internet connection

Secondary Actors: N/A

Channel to Secondary Actors: N/A

Open Issues: Dynamically creating different fields as well as the possibility the user would like to change the order of certain fields

Use Case: Remove Fields

Iteration: 1

Primary Actor: User

Goal in Context:

Preconditions:

Trigger:

Scenario:

- 1) User has navigated to create new study guide

Or

- 1) User has successfully uploaded draft version of study guide
- 2) User has added fields
- 3) User clicks 'edit'
- 4) Little trash icons appear next to removable fields
- 5) User clicks the ones they would like to remove
- 6) Ask user if they are sure they would like to permanently delete those fields
- 7) User confirms

8) Marked fields are removed

Exceptions:

2) User has not yet created any fields

Priority: high

Frequency of Use: high

Channel to Actor: via PC-based browser and internet connection

Secondary Actors: N/A

Channel to Secondary Actors: N/A

Open Issues: shifting fields that come after the removed ones

Use Case: Select SG style

Iteration: 1

Primary Actor: User

Goal in Context: Select style sheet for the study guide

Preconditions: User has created fields and entered text

Trigger: User clicked “Choose Style”

Scenario:

- 1) User has navigated to create new study guide
- 2) User clicked “Choose style” under Customize
- 3) System display the 3 options
- 4) User selects the desired style for their Study Guide

Exceptions:

- 1) If a draft of study guide already has a style assigned

Priority: medium

Frequency of Use: high

Channel to Actor: via PC-based browser and internet connection

Secondary Actors: N/A

Channel to Secondary Actors: N/A

Open Issues: How this applies to drafts; how to preview options

Use Case: Validate Input

Iteration: 1

Primary Actor: User

Goal in Context: check that each field created by the user has text

Preconditions: User has created fields and inputted notes

Trigger: user clicked “generate study guide”

Scenario:

- 1) User has navigated to create new study guide

Or

- 1) User has successfully uploaded draft version of study guide
- 2) User has added fields
- 3) System checks that all fields have input
- 4) If not all fields have text then prompt user to remove or add to those fields

Exceptions:

- 1) User has not added fields

Priority: high

Frequency of Use: high

Channel to Actor: via PC-based browser and internet connection

Secondary Actors: N/A

Channel to Secondary Actors: N/A

Open Issues: highlight or indicate the fields preventing successful validation

Use Case: Download SG Draft

Iteration: 1

Primary Actor: User

Goal in Context: Download an html file of the current study guide that can be uploaded and finished later

Preconditions: User has added fields

Trigger: User clicked “Finish Later”

Scenario:

- 1) User has navigated to create new study guide

Or

- 1) User has successfully uploaded draft version of study guide
- 2) User has added fields
- 3) User clicks “Finish Later”
- 4) System checks that there is a title and at least one custom field
- 5) System creates a html file based on the input
- 6) Display file link to allow user to download

Exceptions:

- 1) User has not added fields

Priority: medium

Frequency of Use: medium

Channel to Actor: via PC-based browser and internet connection

Secondary Actors: N/A

Channel to Secondary Actors: N/A

Open Issues:

Use Case: Download Complete SG as PDF

Iteration: 1

Primary Actor: User

Goal in Context: Download zip file containing pdf and html of finished study guide

Preconditions: User has added fields

Trigger: User clicked “Generate Study Guide”

Scenario:

- 1) User has successfully uploaded draft version of study guide

Or

- 2) User has added fields
- 3) User clicks “Finish Later”
- 4) System checks that there is a title and at least one custom field
- 5) System creates a html file based on the input
- 6) Display file link to allow user to download

Exceptions:

- 2) User has not added fields

Priority: high

Frequency of Use: high

Channel to Actor: via PC-based browser and internet connection

Secondary Actors: N/A

Channel to Secondary Actors: N/A

Open Issues: creating a zip file in ruby

Use Case: Select Draft SG for Upload

Iteration: 1

Primary Actor: User

Goal in Context: Select file to upload to continue working on study guide

Preconditions: User has started a study guide and downloaded the draft

Trigger: User clicked “edit study guide”

Scenario:

1. User has navigated to edit study guide
1. User has selected file to upload
2. File is checked to make sure it was created by the system

3. If validation is successful user can continue proceed to finalize upload
4. Else user is prompted to select a valid file

Exceptions:

- 1) File type is incorrect
- 2) File was not created by system

Priority: medium

Frequency of Use: medium

Channel to Actor: via PC-based browser and internet connection

Secondary Actors: N/A

Channel to Secondary Actors: N/A

Open Issues: security issues check if file made by system

Use Case: Upload SG draft (html file)

Iteration: 1

Primary Actor: User

Goal in Context: upload study guide draft to continue working on it

Preconditions: User has started a study guide and downloaded the draft

Trigger: User clicked “edit study guide”

Scenario:

- 1) User has navigated to edit study guide
- 2) User has selected file to upload
- 3) File is checked to make sure it was created by the system
- 4) If validation is successful user can continue proceed to finalize upload
- 5) Else user is prompted to select a valid file
- 6) Upload is finalized and user can continue study guide where they left off

Exceptions:

- 1) File type is incorrect
- 2) File was not created by system

Priority: Medium

Frequency of Use: Medium

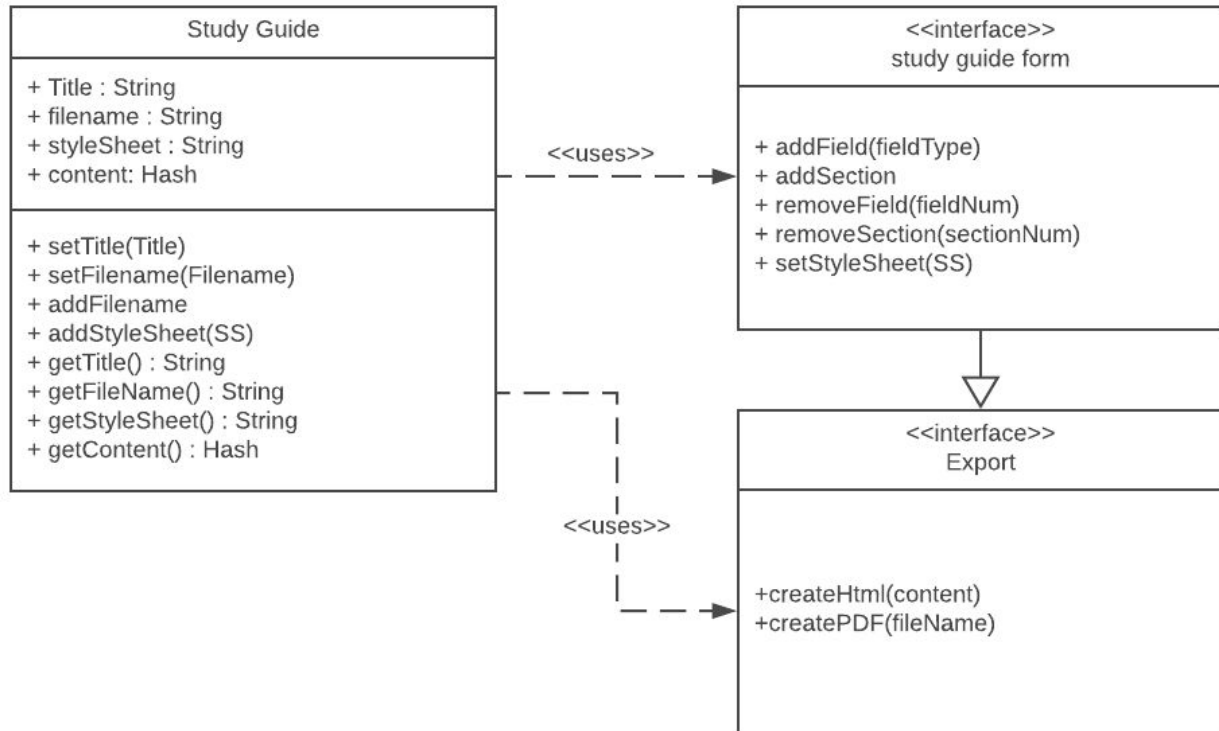
Channel to Actor: via PC-based browser and internet connection

Secondary Actors: N/A

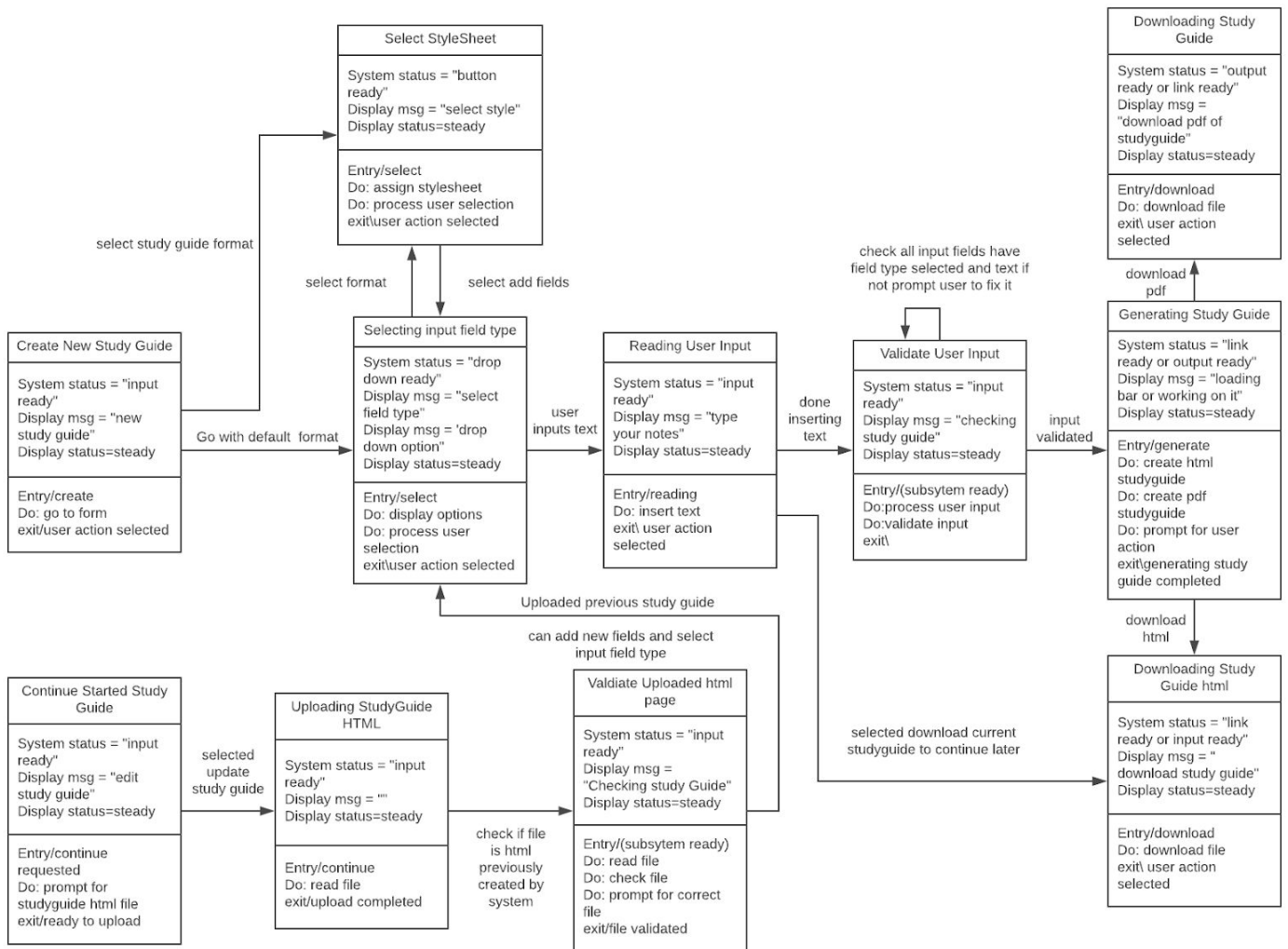
Channel to Secondary Actors: N/A

Open Issues: security issues check if file made by system

Detailed Design Class Diagram

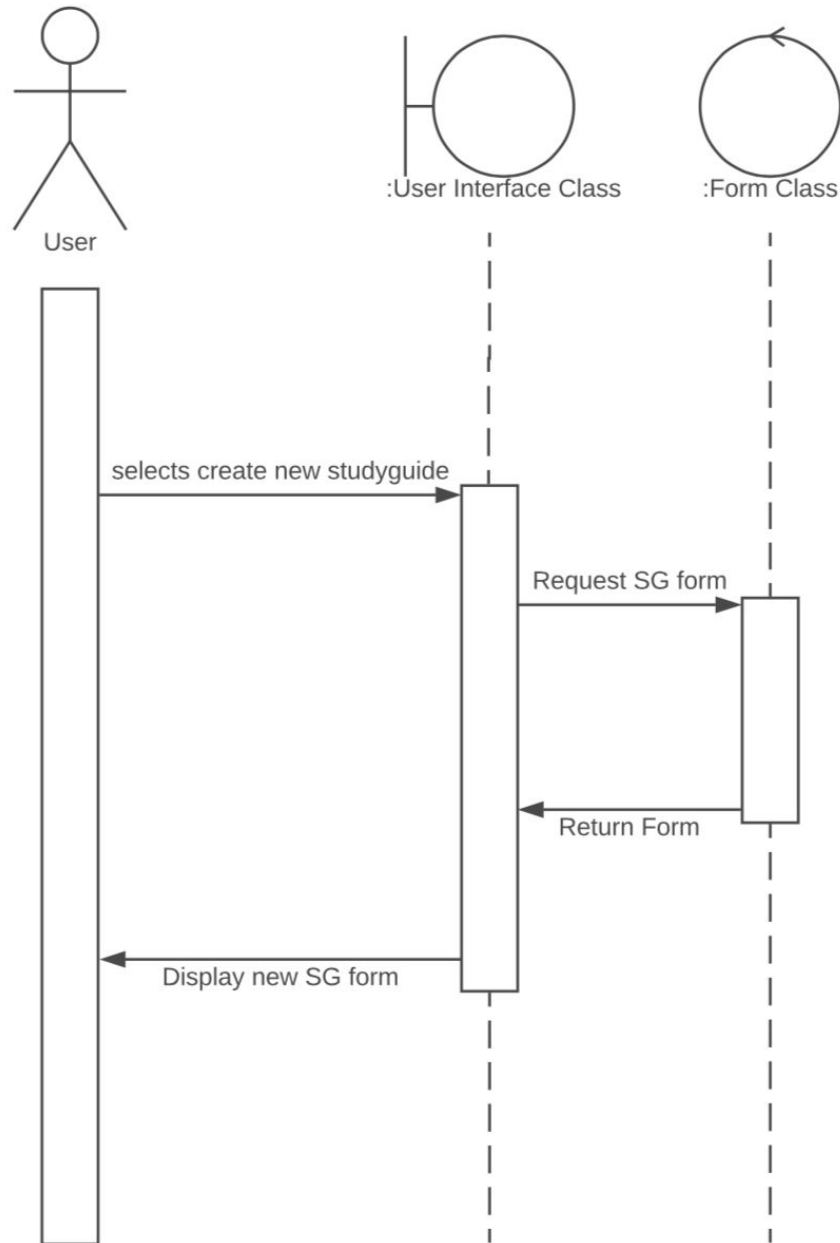


Statechart

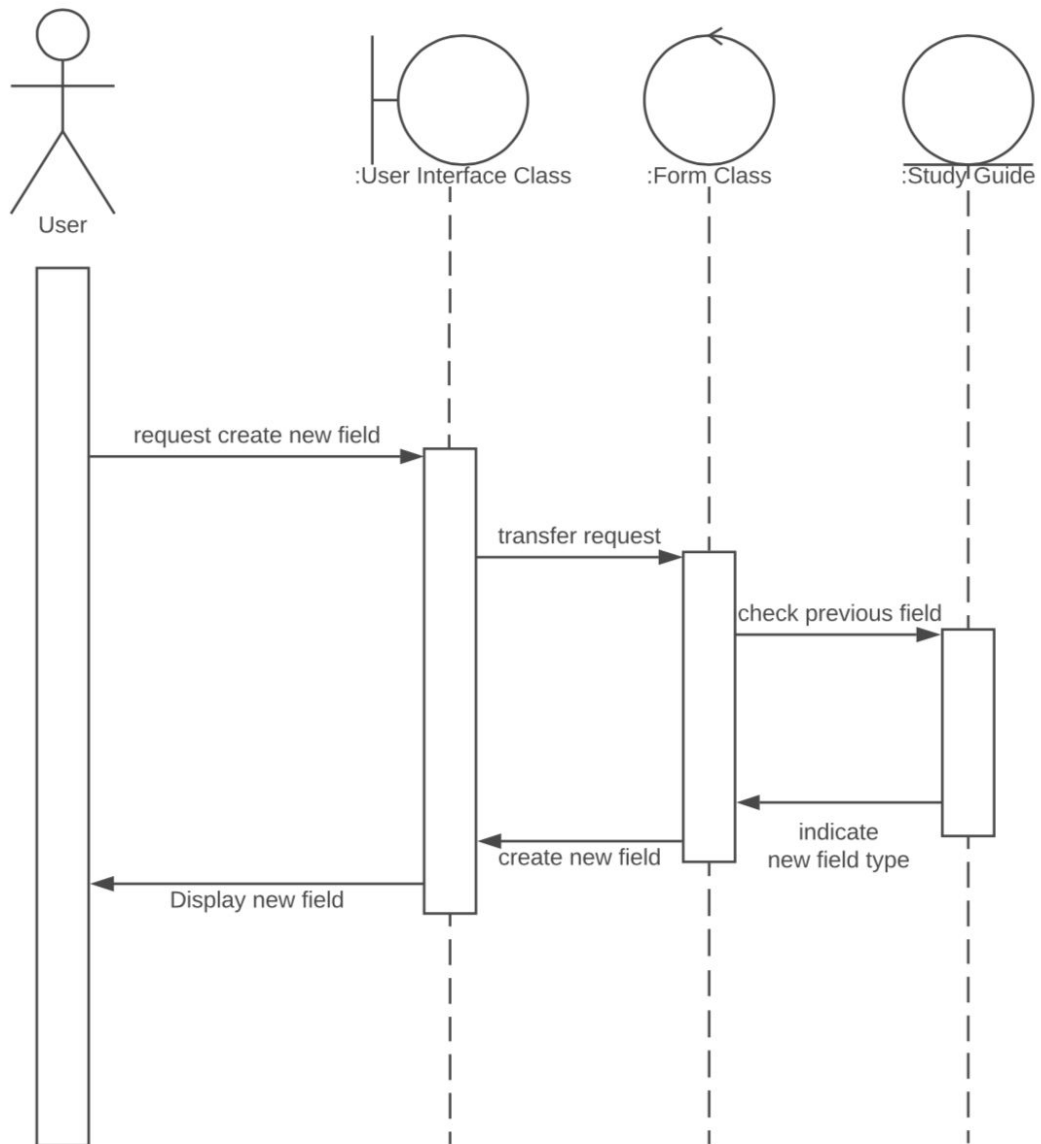


System Sequence Diagrams(s)

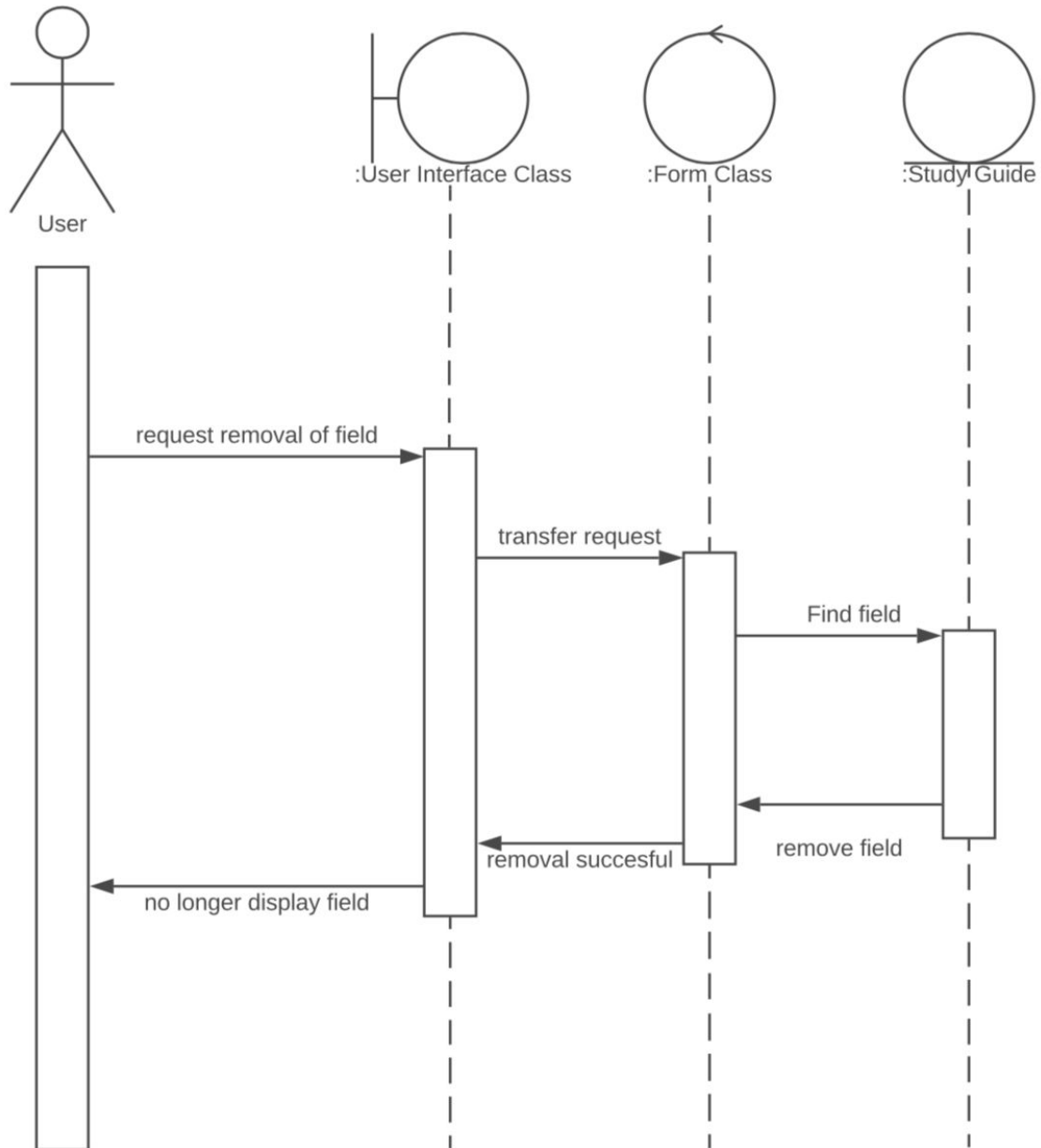
Create Study Guide Form



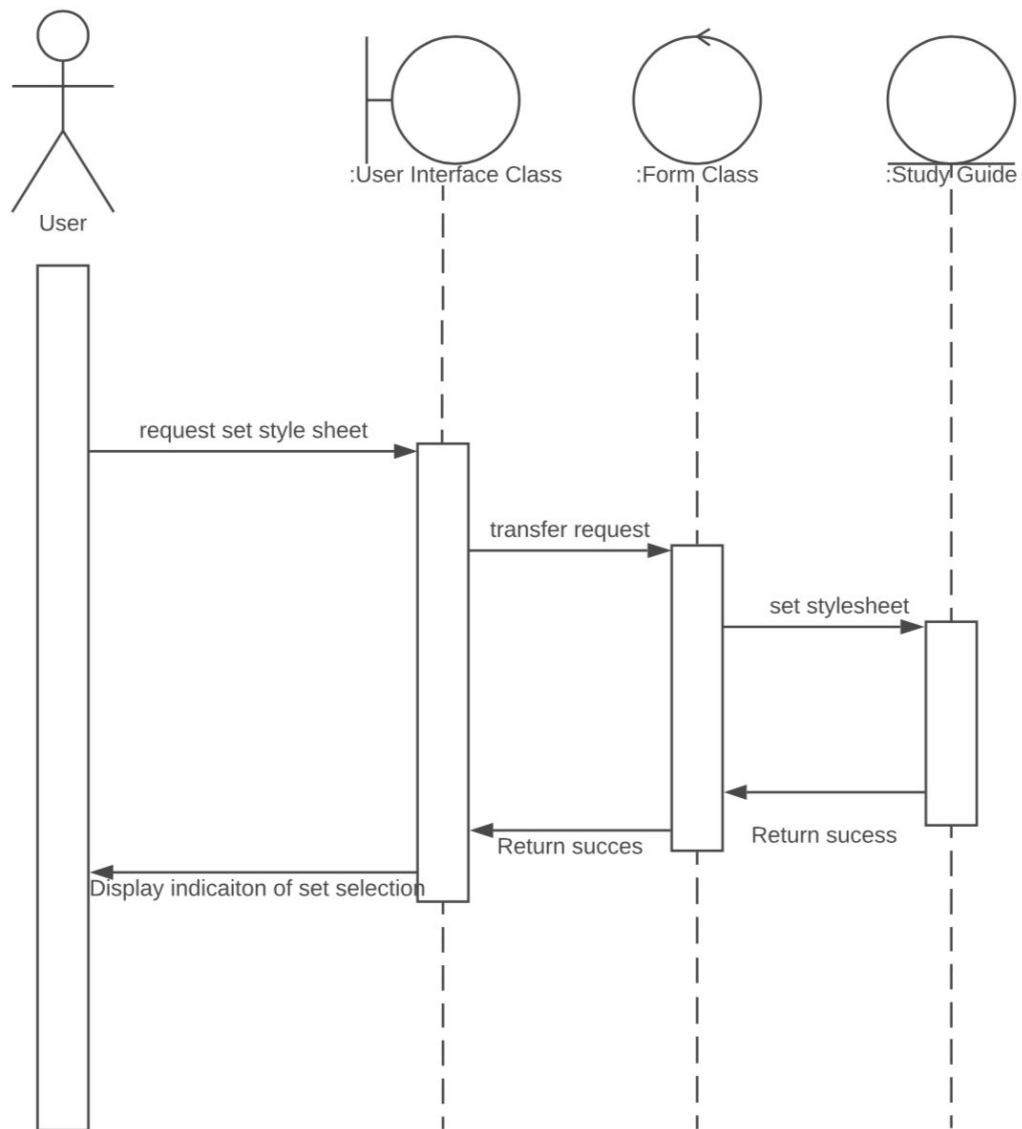
Add Fields



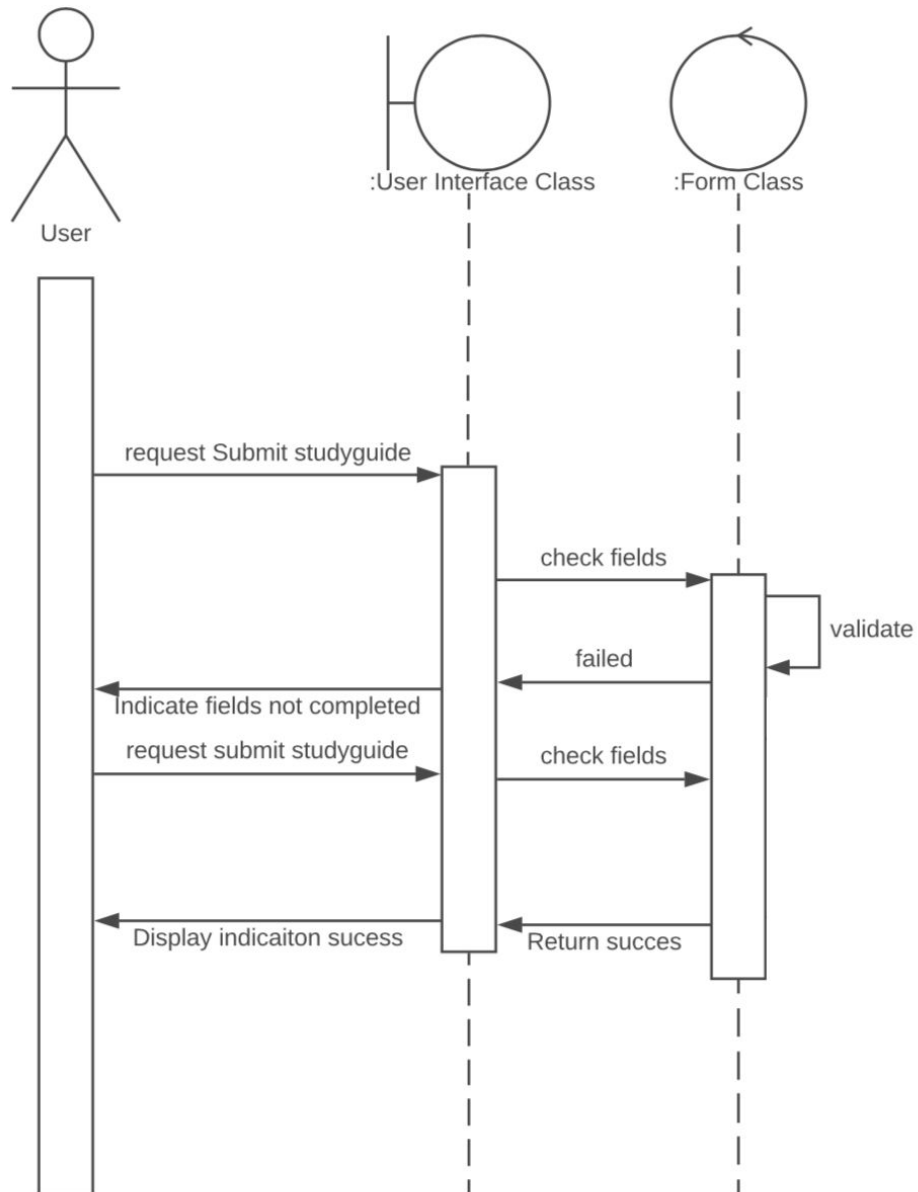
Remove Fields



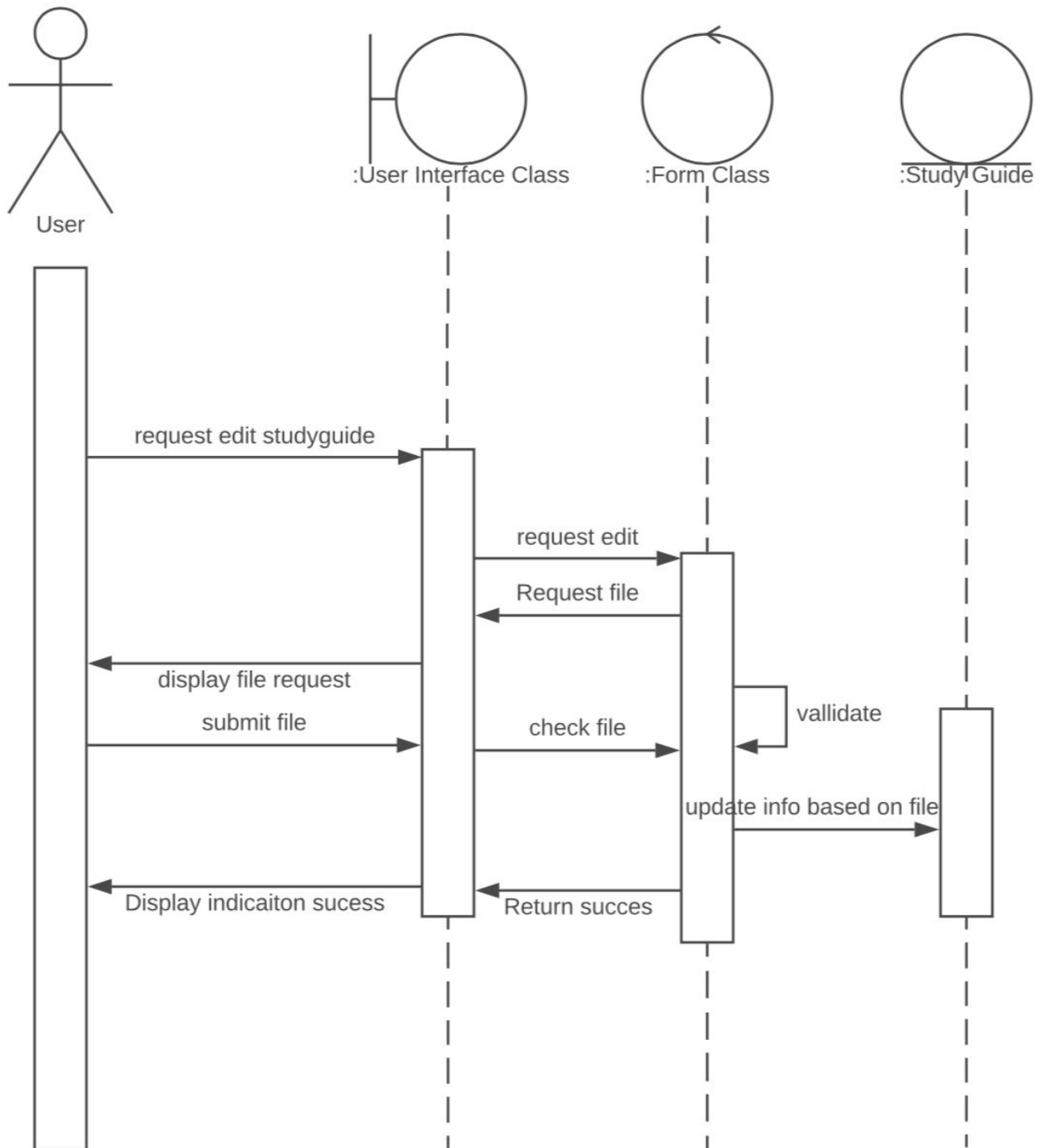
Select Style Sheet



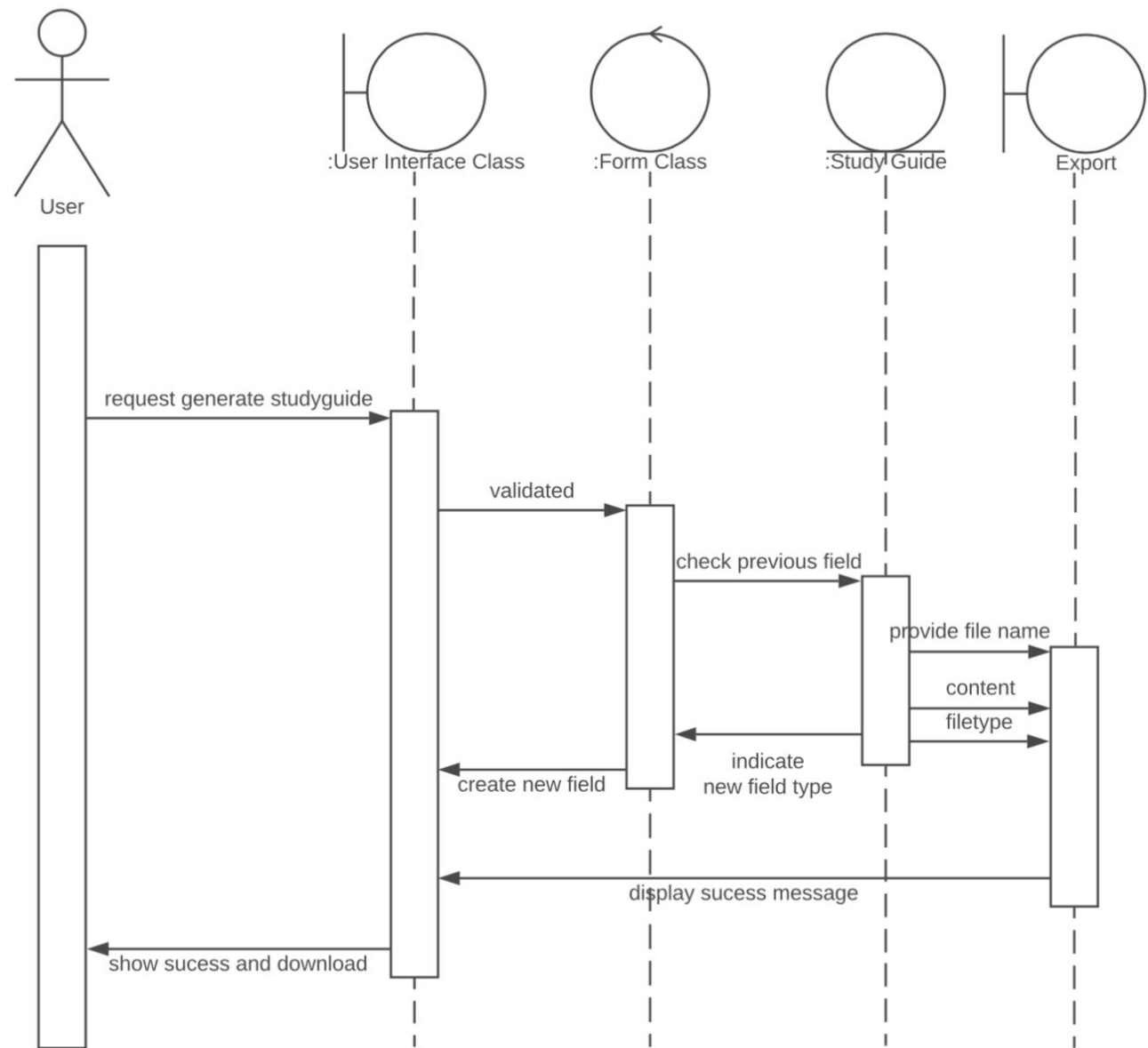
Validate Input



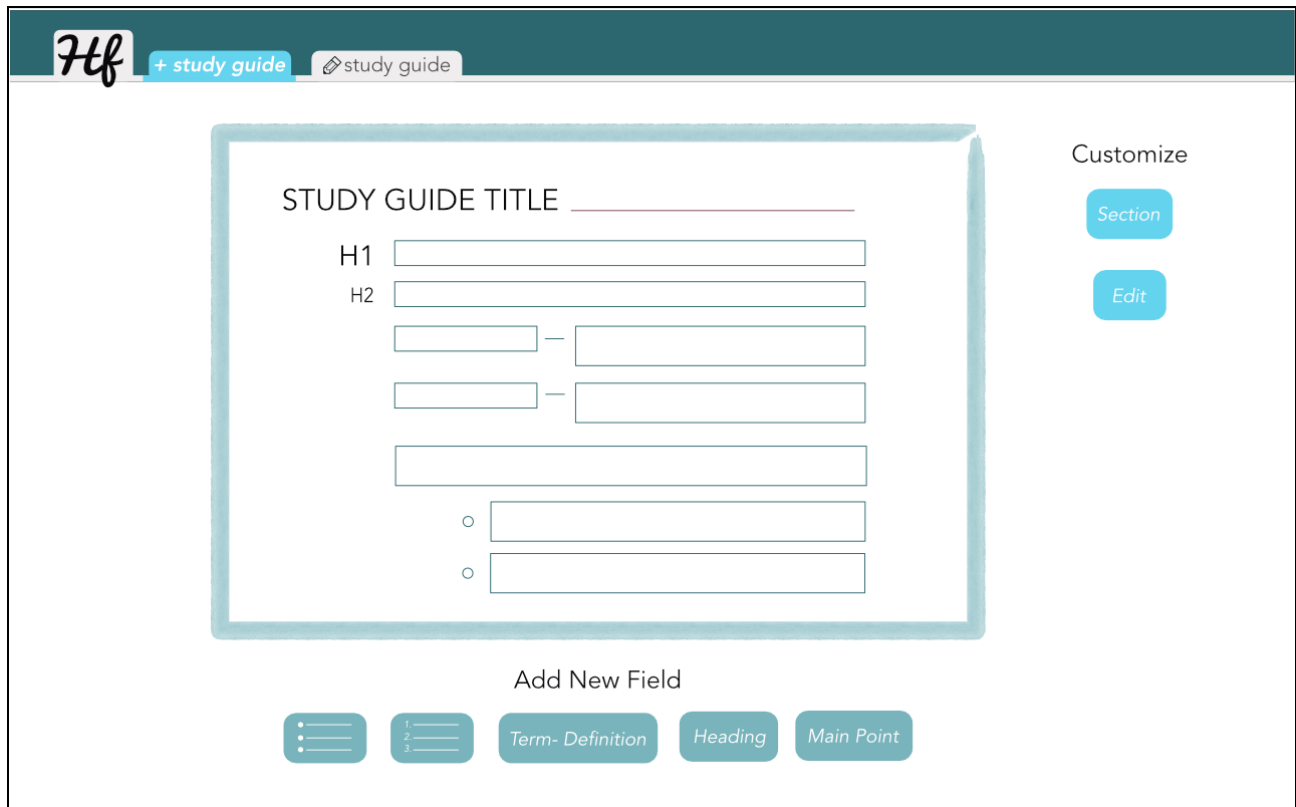
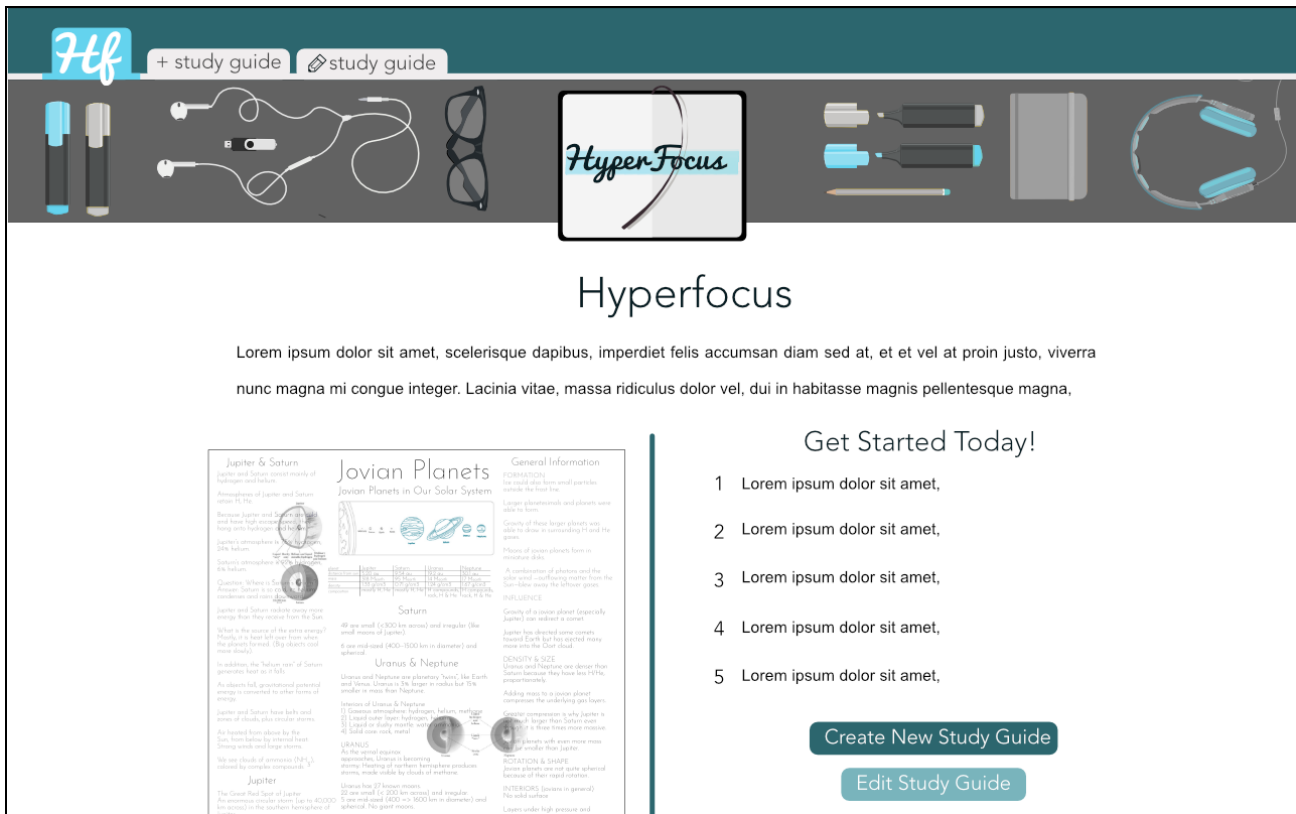
Upload Study Guide Draft



Download Study
Guide Draft/Final



User Interface page Mockups



Main Point

User Interface Explanation

- 8 Golden Rules
 - Strive for Consistency
 - Navigation bar is consistent with a blue highlight indicating which page the user is currently on
 - Dark Gray or black for text and teal or blue for buttons and drawing attention
 - Enable Frequent Users to use shortcuts
 - Users should be able to copy and paste text into the study guide form
 - Frequent users can go immediately into editing or creating a study guide by using the navigation bar while new users may use the create new studyguide on the homepage
 - Offer informative Feedback
 - When checking an uploaded file it will give the user an error message if file is wrong
 - When checking study guide input will give the user an error message if there are empty fields
 - Design Dialogs to Yield Closure
 - User will receive a confirmation message of successful upload
 - User will receive a confirmation message of successful input of notes and now their study guide is being created
 - Offer Simple Error Handling
 - User can change their input up until they click generate study guide
 - User has to confirm when they would like to remove fields/sections
 - Permit Easy Reversal of Actions
 - User can edit study guide until they click the button to submit it
 - User can upload completed study guide to add more to it
 - User has to confirm when they would like to remove fields/sections
 - Support Internal Locus of Control
 - Users can save current study guide to finish it later
 - User can add fields or remove fields based on what they need for their custom study guide
 - Reduce Short-Term Memory Load
 - User can download draft of study guide so they can continue it later

Test Case Design

Functionality Tested	Inputs	Expected Output	Actual Output
Go to new study guide form	Select generate new study guide	Page is now the form requesting input for the study guide	
Select field type (eg. heading, numbering, bullet points)	Text in input field selection from drop down	Field type is selected	
Submit Input	All input fields have text	New page or notification saying input was successfully submitted now generating study guide	
Check input fields	User has tried to submit form but some fields are empty	Error message saying remove extra fields or add text	
Remove input field	field	Selected field removed	
Generate Study Guide	Selected field types and text in the text area boxes	Preview of study guide	
Preview	Study guide has been generated user now selects download study guide	Studyguide is downloaded as a pdf	
Upload Draft	Edit study guide option has been selected	Prompt for select file from local machine	
Edit draft	File to upload	Form to create study guide with fields filled based on the file uploaded	
Download guide	Preview was approved	Download as pdf	
Go back to home page	Click the logo	Return to homepage	

Requirements

Functionality:

- The analysis and design shown in this document were created with the functionality of creating a customizable study guide as well as being able to download a draft to continue at a later date.

Modularity and encapsulation of data to facilitate information hiding and reusability

- Descriptive variable, methods, and class names
- Export functions for drafts and final study guides will be the same

Algorithm

- User can create study guide by filling out form when user clicks “generate study guide” system will confirm each field has text and proceed to turn the form into an html file and link a css file to it based on the user's style choice. After the html file is created it will then be converted into a pdf that the user can download using a ruby gem.

Appropriateness of the data structures used for the problem

- From Assignment 2:

Data Structure:

A hashmap will be used to store the studyguide input. The information provided will be in the form of term and corresponding definition. The other possibility is that it will be a statement and the associated points. Because of this, the application can utilize the key value pair properly output the information.