

# Multimedia Case Delivery Application

## **Prepared by GROUP 1-**

- Divya Tyagi
- Kanchan Chowdhari
- Manish Talekar
- Samiksha Mhatre

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## Revision History

Name	Date	Reason for changes	Version
Kanchan Chowdhari	January 29 <sup>th</sup> 2021	Initial Version	1.0
Samiksha Mhatre, Divya Tyagi, Manish Talekar	February 1 <sup>st</sup> 2021	Updated the UI mockup screens	2.0
Whole Teamwork	5 <sup>th</sup> February 2021	Added aesthetics to the final report.	3.0

# **1. Introduction**

## **1.1.Purpose**

- This project aims to serve as a model for an application that mimics the experience of minimum viable product for a multimedia case delivery system in an online environment.
- The proposed application allows authoring and delivery of multimedia case studies by providing an adaptive experience to authors and interactive experience to students.

## **1.2.Intended Audience and Reading Suggestions**

- This document is intended for case study authors who have bare minimum technical expertise and students.
- This document contains the scope of the project, application requirements, UML and ER Diagrams, and design of the application.
- This document presents a detailed description of different user roles and authorization to allow different features, a user interface for authors and students, scenarios to be handled by the application, and technical design.

## **1.3.Product Scope**

- The application in design enables the delivery of multimedia case studies entirely in an online environment.
- It provides features to the author to incorporate adaptive behavior into the case in ways that an author does not necessarily need to have a technical background.
- The application promises an engaging experience to students while analyzing the case. While classroom paper cases only allowed texts and graphics, an online application will provide more interactivity to students in terms of viewing the case studies in form of text, video, images, audio, GIFs, etc.

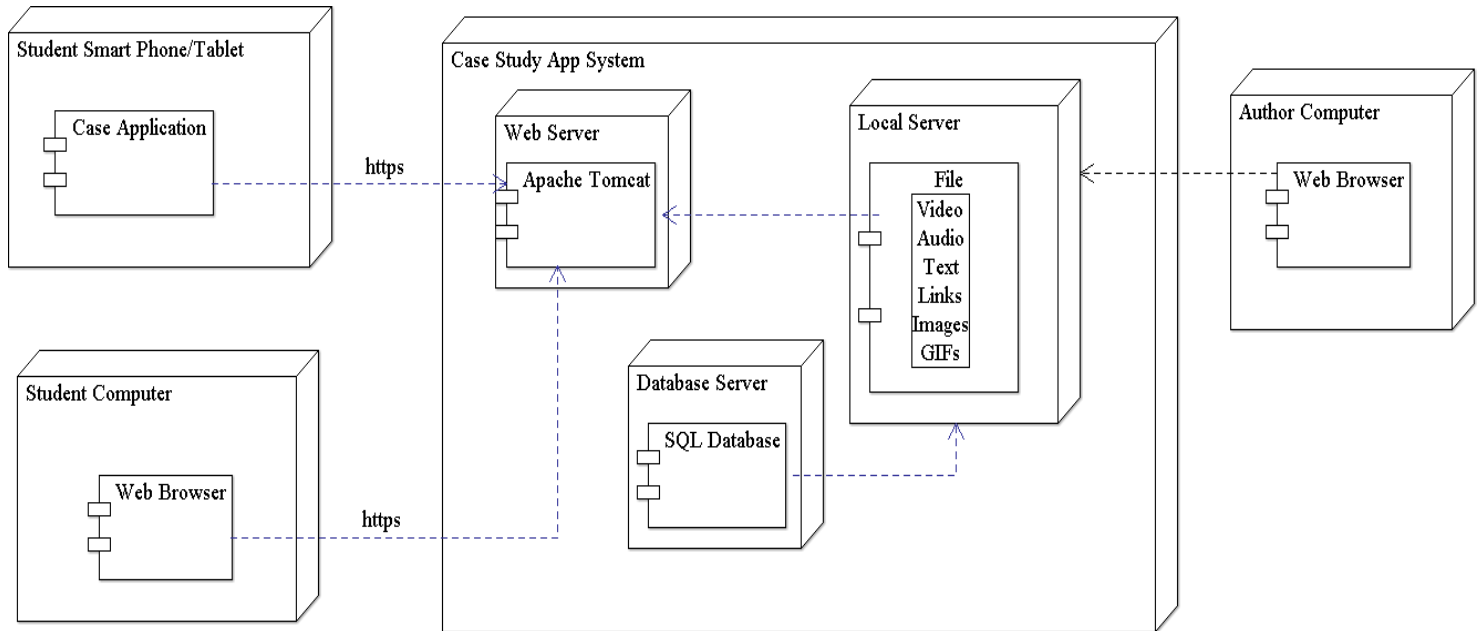
## 2. Requirement Summary

**The multimedia case delivery application should meet the following requirements-**

1. The application should be **compatible with any of the web browsers** (IE, Chrome, Mozilla Firefox, Safari, HTML5, etc.)
2. It should be **independent of the operating systems**.
3. It should be able to **run on desktops, laptops, mobile phones, and tablets**; It should also **support local databases**.
4. The application should provide an environment for the author with an **adaptive mechanism** pertaining to user actions.
5. The content delivery should take place **only in online mode**.
6. The application should be **user-friendly, interactive, and provide seamless navigation**.
7. **Login and signup feature** provision -
  - i) Login and sign up via email ID.
  - ii) Different signup options while providing similar user experiences to authors, facilitators, and students.
8. Besides **tracking the progress** of the course, it should also measure the time spent on each case study using the **timestamp** feature.
9. The application should provide options **to create, edit, modify and delete the content** based on the author's authorization.
10. Following are the content types to be provided by the application-
  - i) Text
  - ii) Audio
  - iii) Videos
  - iv) Images
  - v) Links (to access the referenced websites of the case study.)
  - vi) Webforms

### 3. Annotated Diagrams

#### 3.1. Deployment Diagram



From the developer's perspective (author), the tool is a web application that can be accessed through PC's, mobiles, or tablets and can be used to upload, delete and modify case studies in different formats (text, images, video, audio, GIFs, and links)

The case study content along with the list of user activities is stored in the local database server. (SQL Database). The application also allows the author to fill out web forms to induce adaptative behaviors according to user predefined rules.

In this case, below are the components of the deployment diagram-

- **Node**

**Description-** A hardware or software object, shown by a three-dimensional box.

**Implementation-** In our deployment diagram nodes are student, author, application server like web server, local server, and database server.

- **Artifacts**

**Description-** It is a piece of information that is used or produced in the software development process.

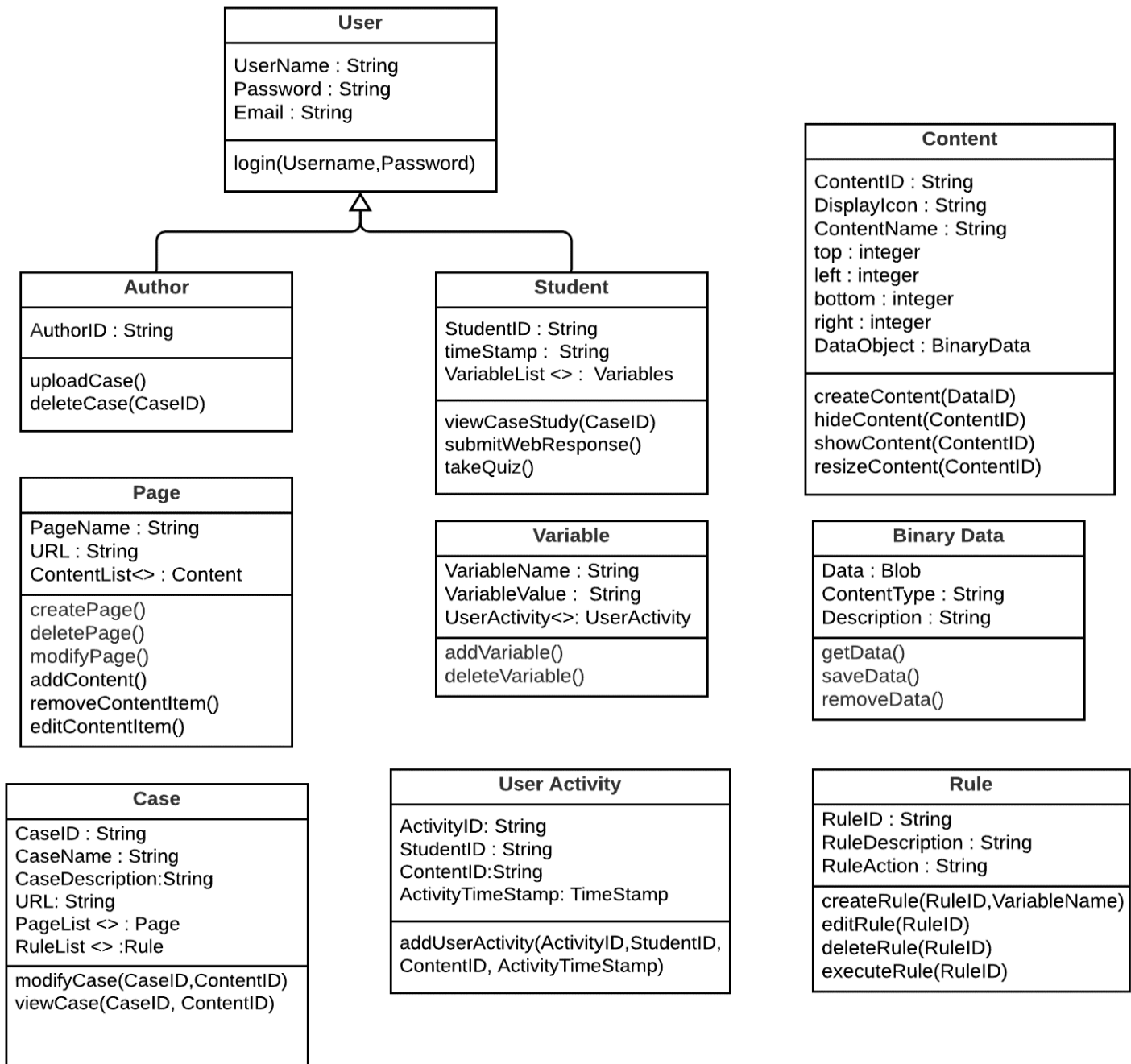
**Implementation-** In our deployment diagram, artifacts are files like **video, audio, text, links, images, gifs**. Another artifact would be the **SQL database**.

- **Components**

**Description-**It is the modular part of the system whose manifestation is replaceable within its environment.

**Implementation-** In our deployment diagram, components are case application, web browser, web server, SQL database, files.

### 3.2.Class Diagram



**Page:** Defines a webpage that contains content. The page name is the name of the page on the server. It contains a list of contents.

- **createPage()** – Creates a new page on the website and in the database.
- **deletePage()** – Clears the page from the database.
- **modifyPage()**- It is used to change the name of page in the database.
- **addContent()**- This is used to add case content to the page.
- **removeContentItem()**- This is used for removing the content item from the page.
- **editContentItem()**- This is used for editing the content item of the page.

**User:** Provides the users with different login options.

- **login()** – lets the user login to the site with the help of a username and password.

**Students:** Provides students with different possible actions and features available to them on the website. The activities performed by the student will be stored in the list of Variables.

- **submitWebResponse()**- allows students to submit for web responses over the webforms.
- **viewCaseStudy()**- allows students to browse through the list of all the available cases.

**Author:** Provides authors with different possible actions and features available to them on the website.

- **uploadCase ()**- allows the author to add a case study in any format to the online portal.
- **deleteCase(CaseID)**- allows the author to remove the case study which he/she has previously uploaded on the portal.

**Content:** Provides users the facility to make changes to the media of the case study. It makes use of an object of Binary Data in order to store the content

- **hideContent()** -provides the facility to hide media content of the case study.
- **createContent()**- provides the facility to create the contents of the course.
- **resizeContent()**- provides the facility to resize the contents of the course.
- **showContent()** -allows users to view the contents of the course. The students can only view the content of the course if they are registered for the course.



**User Activity:** Provides the functionality to store the activities performed by the user (Students). A list of user activities is stored in the variable class.

For instance, the user variables like iconPositionLeft, iconPositionRight, iconPositionTop, iconPositionBottom will change and update when the student performs the activity of resizing the media window.

- **addUserActivity(ActivityID, StudentID, ContentID, ActivityTimeStamp)**- This function generates an activity log of every student on the basis of the content and activity performed. Besides this, it also captures the time at which this activity is performed.

**Binary Data:** An object that contains the data in bytes necessary for the coursework.

- **getData()**- allows the addition of media like text, audio, video, links, images, and GIFs.
- **saveData()**- allows saving the multimedia data into the local database.
- **removeData()**- allows removing the multimedia data from the local database.

**Variable:** Used as a variable repository in the form of key-value pair- VariableName and VariableValue. It maintains a list of user activities in the form of variables.

Following is the list of Variable names and their corresponding values.

Variable Name	Variable Value
userType	Student or Author
backgroundImage	JPEG/PNG file
iconPositionLeft	Pixel location of left side of the window
iconPositionRight	Pixel location of right side of the window
iconPositionBottom	Pixel location of bottom side of the window
iconPositionTop	Pixel location of top side of the window
referenceLink	Web URL
contentIcon	Web URL/Image file
timeInVideoQuestion	Time in mm:ss
startDate	Date in format mm/dd/yyyy
endDate	Date in format mm/dd/yyyy

- **addVariable()**- allows adding the variable name and value pair in the variable repository.
- **deleteVariable()**- allows deleting the variable name and value pair from the variable repository.

**Case:** provides the author the facility to define case studies. Every case has a set of pages and rules associated with it.

- **modifyCase()**- allows to modify the case details.
- **viewCase()**- allows to view the case study.

**Rule:** Provides author the facility to make rules to make adaptive changes to the case study.

- **createRule()** -allows the author the facility to create rules which can be used to make adaptive changes to the case study.
- **editRule()** - allows the author the facility to change the previously made rules.
- **deleteRule()** - allows the author the facility to remove the previously made rules.
- **executeRule()**- allows the author to execute the rules.

**Below are some examples of Rule class**

```
1) IF Module1.Viewed == TRUE
THEN
ACTION ShowContent.Visible(Module2)= TRUE
```

```
2) IF Module1.Viewed == TRUE
THEN
ACTION showQuiz.Visible(Module1) = TRUE
```

```
3) IF StudentGenre.Choice == "Non Technical"
THEN
ACTION NonTechnicalCaseContent.Visible= TRUE
```

```
4) IF StudentGenre.Choice == "Technical"
THEN
ACTION TechnicalCaseContent.Visible= TRUE
```

```
5) IF StudentGenre.Choice == "Both"
THEN
ACTION Default.caseContent.Visible= TRUE
```

**6) IF PageID.Left.Adjust == TRUE**  
**THEN**  
**ACTION PageID.IconPositionLeft.Resize = TRUE**

**7) IF PageID.Right.Adjust == TRUE**  
**THEN**  
**ACTION PageID.IconPositionRight.Resize = TRUE**

**8) IF PageID.Top.Adjust == TRUE**  
**THEN**  
**ACTION PageID.IconPositionTop.Resize = TRUE**

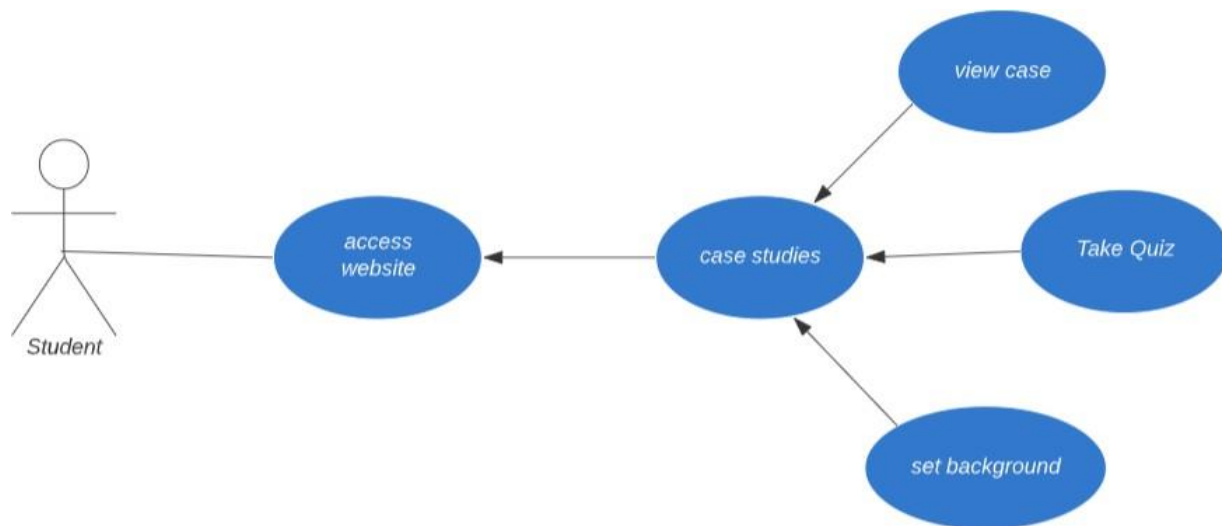
**9) IF PageID.Bottom.Adjust == TRUE**  
**THEN**  
**ACTION PageID.IconPositionBottom.Resize = TRUE**

### 3.3. Use case Diagram

The use case diagram of the proposed interactive multimedia case delivery system has two users.

- 1) **Author**- The author will create, edit, and remove the case studies to the system.
- 2) **Student**- The student who will access these case studies.

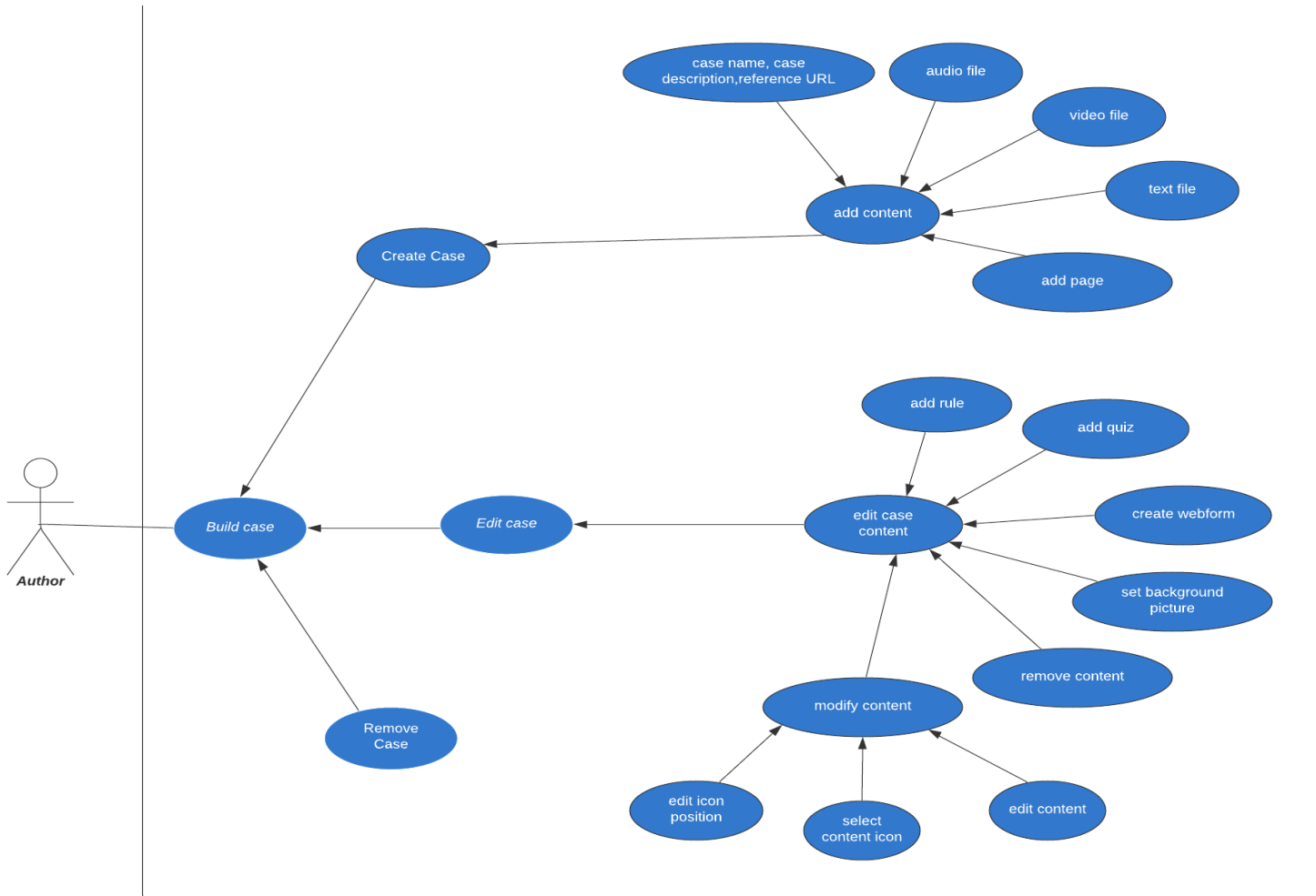
#### STUDENT USE CASE



User: Student

The student uses the system to view case study, take quiz and set background for the case study (if needed).

## AUTHOR USE CASE

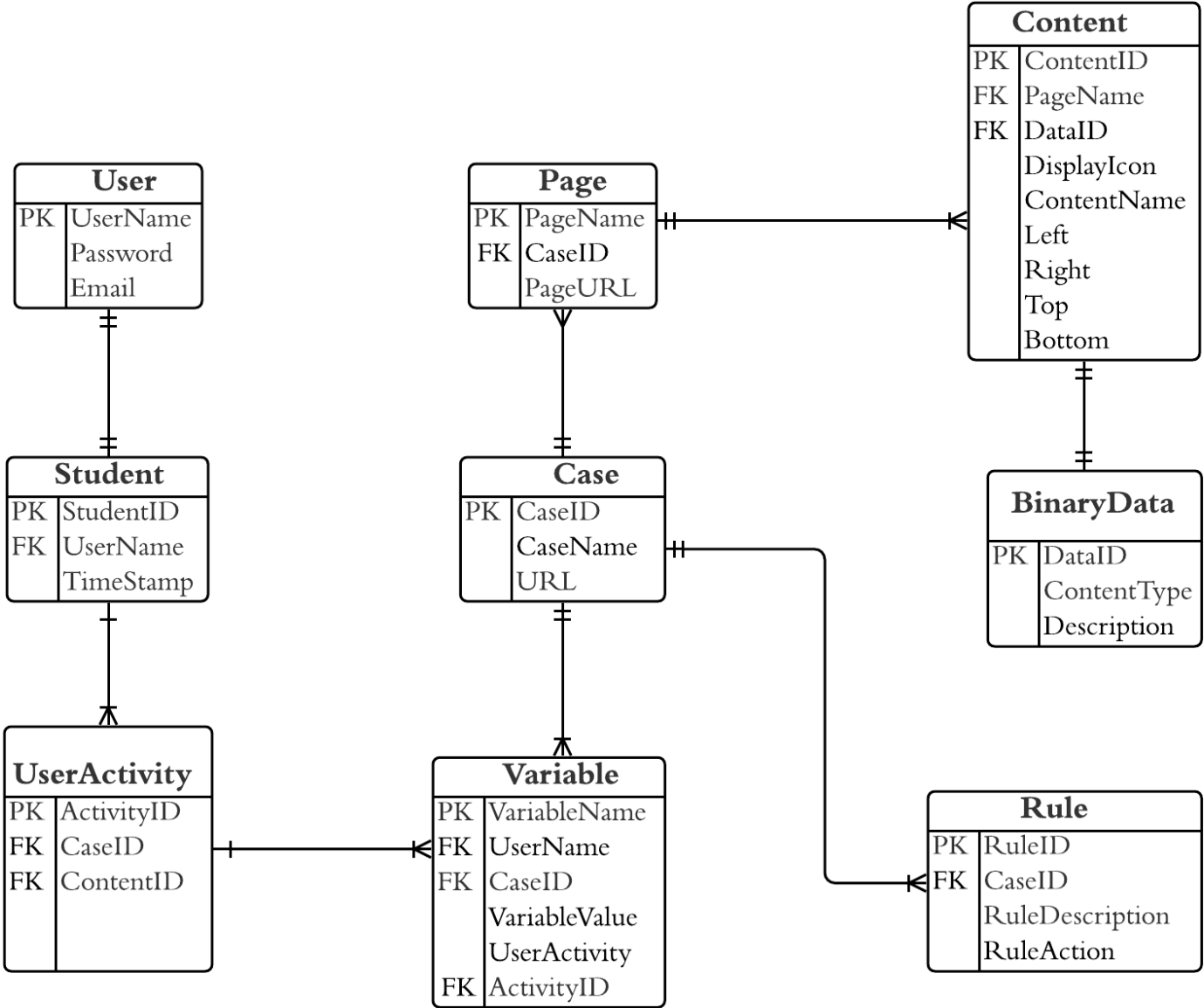


### User: Author

The author uses the system to **build** and **modify** the case study. This includes the below activities to facilitate the **author with user interactivity**.

- **Adding a case study** involves adding case name, description, reference URLs, different media type cases like text, video, audio, and adding pages.
- **Editing a case content** involves modifying case content, adding quizzes, creating web forms, setting background pictures, adding rules, and removing the content of the case.
  - Modify content** involves editing the **existing content**, **selecting and editing icon position**.
  - Remove content** will remove the selective contents of the case.
- **Removing a case** will remove the complete case from the local repository and the web application

3.4.Entity Relationship Diagram



## 4. Interface Mockup

### 4.1.Login Page

The below page showcases the login page for both user's student and the author. All users can log in via college credentials.



A mockup of a login page titled "Multimedia Case Study". The page features a central form with the following elements:

- Username:** A text input field containing the placeholder text "name@domain.com".
- Password:** A text input field containing the placeholder text "Password".
- Show Password:** A checkbox with the label "Show Password".
- Login:** A dark blue button with the text "Login" in white.

## 4.2. Author

### 4.2.1. Author Home Page

This is the home page for the author after logging in. It displays three options-

- i. **Create Case:** to create a case study.
- ii. **Edit Case:** to edit the case study.
- iii. **Remove Case:** to remove the case study from the website.






## 4.2.2. CREATE CASE

This page displays the case study creation step 1. If the Author selects the “**Create Case**” option from the navigation pane on the left, he/she will be directed to the below page. This screen will enable him to create a case study by mentioning the details like its **Name**, **reference URL** (of an already published case study), and **Description**. Besides this, an option for uploading contents to the case study in the supported file formats extensions **like txt, pdf, jpg, png, mp4, mp3, doc, ppt, xls, csv** is provided. Case ID will be a unique number that will be **auto generated** for each case study. The author can jump to step 2 by clicking the page link or by using the next button.

### Case Creation Step 1

Multimedia Case Study

Author 

[Logout](#)

Step 1. Upload Case

Select

Create Case

Edit Case

Remove Case

Case ID \*

Case Name \*

Reference URL

Case Description

Upload File \*

Jump to Step: [1](#) [2](#)

Enter Case Name

Enter Case Name

Enter Case Description

Choose File

File Formats Supported :  
txt, pdf, jpg, png, mp4, mp3, doc,  
ppt, csv, xls

Next

## Create Case Step 2

On this page, the author can **create new pages** and **assign contents** on each page. The new page button on the left side of the window will help the author create a new page and the created page can be named using the input box provided. A list of all the uploaded documents will be shown on the right side from where the author can **drag and drop** the contents on the page.

The screenshot shows a web application window titled "MultiMedia Case Studies". In the top right corner, it says "Author" with a user icon and a "Logout" link. The main heading is "Step 2. Create Page".

On the left side, there is a "Select" dropdown menu with three options: "Create Case" (highlighted in dark blue), "Edit Case", and "Remove Case". Below this is a "+ New Page" button. Underneath, there are two input fields, each with a "Page name" label and a text box.

The central area is a large white box with the text "Drag and drop here.....".

On the right side, there is a list of uploaded documents: "SPECIALISTERNE.pdf", "SPECIALISTERNE.mp4", "SPECIALISTERNE.mp3", "SPECIALISTERNE.jpeg", "SPECIALISTERNE.docx", and "SPECIALISTERNE.xlsx". A plus icon is next to the first two items.


At the bottom, there is a "Jump to step: 1 2" link and a dark blue "Submit" button.

### 4.2.3. EDIT CASE

#### Search Case to Edit

If the Author selects the “**Edit Case**” option from the navigation pane to the left, he/she will be directed to the below page. This screen will enable him to edit a case study by choosing the case name. The “**Edit Case Content**” button remains disabled until the case name to be edited is selected. The Case ID and the Case description will auto-populate once the author enters the Case Name.

Multimedia Case Study

Author 

[Logout](#)

Select

Create Case

Edit Case

Remove Case

Case ID \*

Case Name \*

Enter Case Name

Case Description will appear here.

Edit Case Content

## Set background

This page displays the different features offered under edit case content. It shows options like the **addition of quizzes, creation of webform, setting background picture, removing content**, and **modifying content**.

Further, **setting the background picture is the default** option provided, where the author enables the user with options to set a background image. This is done by uploading an image of the author's choice and setting up the display either in light or dark mode.

The screenshot shows a web application window titled "Multimedia Case Study". In the top right corner, it says "Author" next to a user icon and a "Logout" link. On the left, there is a "Back" link and a "Select" dropdown menu with options: "Create Case", "Edit Case" (which is highlighted in dark blue), and "Remove Case". The main content area has a dashed border and contains the following elements:


- Four radio button options at the top: "Customize Background" (selected), "Modify Content", "Add Quiz", and "Remove Content".
- A "Display Setting" section with two radio buttons: "Light mode" (selected) and "Dark Mode".
- A "Background Image" section with a "Default" label, a toggle switch set to "No", and the word "OR" below it.
- A dark blue "Choose File" button.
- A dark blue "Save Changes" button at the bottom right.

## **Background Uploaded**

This is the scenario where the author has uploaded the background image successfully and has received a success message on the screen.

**Note-** The save changes button will remain disabled until the author chooses another file.

The screenshot displays the 'Multimedia Case Study' interface. At the top, there's a header with 'Author' and a user icon, and a 'Logout' link. Below the header, a navigation bar contains four radio buttons: 'Customize Background' (selected), 'Modify Content', 'Add Quiz', and 'Remove Content'. A 'Back' link is on the left. A sidebar menu titled 'Select' lists 'Create Case', 'Edit Case' (highlighted), and 'Remove Case'. The main content area is enclosed in a dashed box and contains 'Display Setting' with 'Light mode' (selected) and 'Dark Mode' radio buttons. Below this is 'Background Image' with a 'Default' label and a 'No' toggle switch. A 'Choose File' button is present, and a green success message reads 'Your background image has been set successfully !!!'. A 'Save Changes' button is at the bottom right.

**Multimedia Case Study** Author  [Logout](#)

[Back](#)

**Select**

- Create Case
- Edit Case**
- Remove Case

☒ Customize Background ☐ Modify Content ☐ Add Quiz ☐ Create Web Form ☐ Remove Content

Display Setting

☒ Light mode ☐ Dark Mode

Background Image Default ☐ No

[Choose File](#)


Your background image has been set successfully !!!

[Save Changes](#)

## Modify Content

This page displays the elements of the “**Modify Content**” option. It has the default dimensions in the author’s case for the content position corresponding to the screen fit dimensions. It also enables the author to add the content details like the **content icon, content name, content type, reference link, and content description**. The **Page name** option lets the author specify the page where the content is to be displayed. The **icon position** enables the author to decide the position of the icon on the student’s view case page.

Multimedia Case Study

Author 

Set Background

☒ Modify Content

Set Background

Create Web Form

Remove Content

Select

View Case

Edit Case

Remove Case

Content ID

Content Name \*

Select

Content Type

Page Name

Select

Reference Link

OR

Choose File

Content Icon

OR

Choose File

Icon Position

Left

100

Top

120

Right

300

Bottom

400

Content Description

Add Rule

Preview


Submit

## Add Rule

This page enables the author to add rules to incorporate adaptive behavior using quizzes and webforms. For example, the author can decide to show or hide the module contents based on the response given in the webform by the students.

Here we have provided the author to either use a predefined set of options or enter the entire Rule in the text box provided (this being an MVP, the technical implementation of this will be handled by the developers).

Multimedia Case Study

Author 

[Logout](#)

Select

Create Case

Edit Case

Remove Case

+

ADD RULE

CONTENT

CHOICE/VALUE

VIEWED/SELECTED

ACTION

RESPONSE VALUE

Select

Selected

Viewed

Select

Hide

Show

OR

IF Student Choice EQUALS "Non Technical" THEN SHOW MODULE 1

Add

⌵

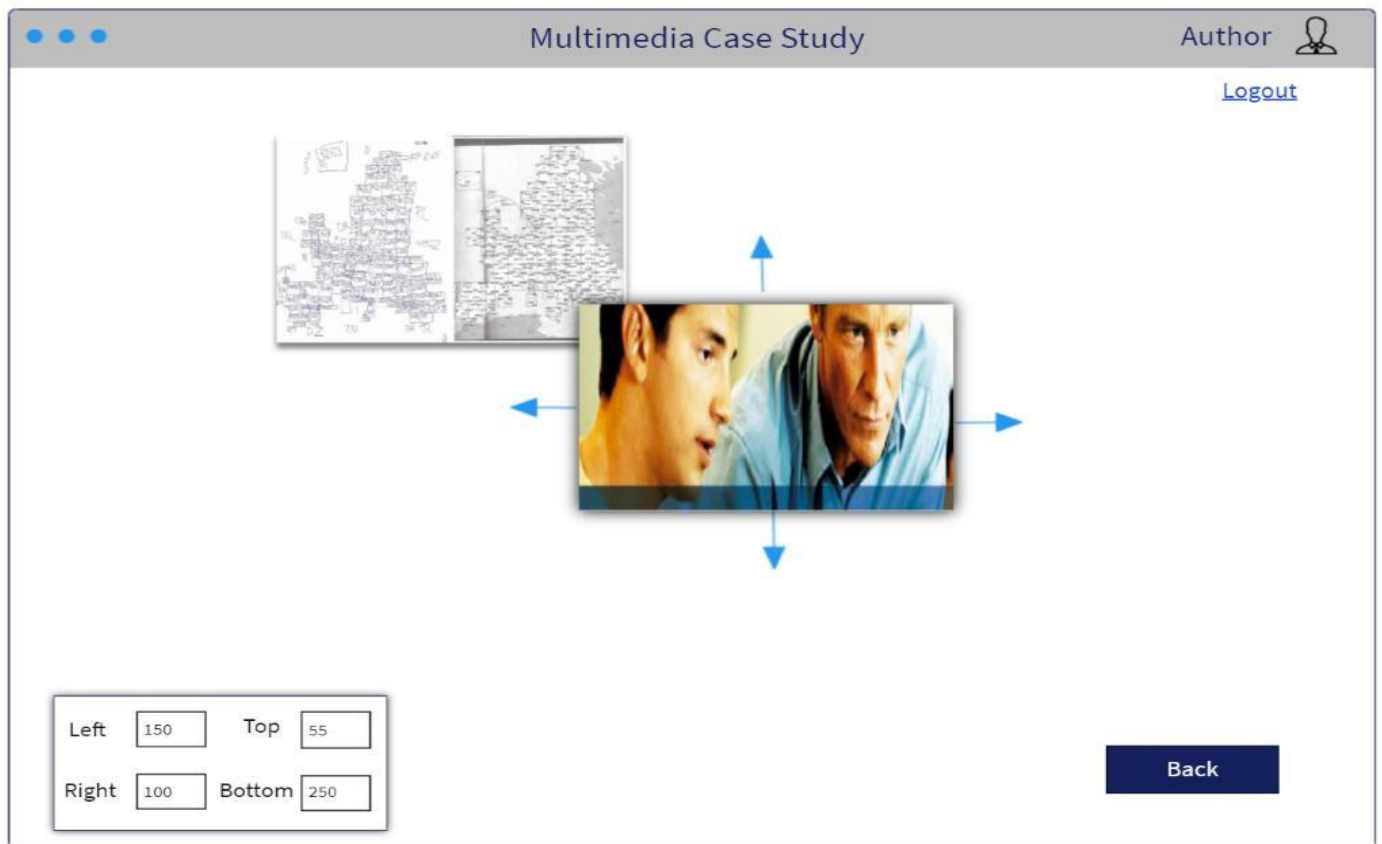
View Rule List

	Content		Choice/Value		Viewed/ Selected		ACTION	RESPONSE VALUE
<input type="checkbox"/>	Web Form	IF	Non Technical	is	Selected	THEN	hide	Module 3
<input checked="" type="checkbox"/>	Web Form	IF	Non Technical	is	Selected	THEN	hide	Module 5
<input checked="" type="checkbox"/>	Quiz	IF	Module 1	is	Viewed	THEN	show	Quiz 1

Apply

## Content Preview Screen

By clicking on the Preview button, the author can preview a version of the student's interface and customize the page as per his/her choice. This can be done by resizing the window where the content is displayed or by changing its location.





## Quiz Form

This page displays the set of options that can be used to build the quiz questions.

“**Create Quiz Form**” is the default option that lets the author **customize** a quiz form with the help of the components provided. The author can **drag and drop** different question types in the workspace provided.

The screenshot displays the 'MultiMedia Case Studies' application interface. At the top, the title 'MultiMedia Case Studies' is centered, and 'Author' with a user icon is on the right. A 'Logout' link is also present. Below the title bar, there are three main sections:

- Select:** A vertical menu on the left with options: 'Create Case', 'Edit Case' (highlighted in dark blue), and 'Remove Case'.
- Options:** A row of radio buttons for 'Set Background', 'Modify Content', and 'Add Quiz' (selected). Below 'Add Quiz' are 'Create Web Form' and 'Remove Content'. A dashed box contains 'Create Quiz Form' (selected) and 'In-Video Quiz'.
- Workspace:** A large central area with the text 'Drag and drop here.....'.

On the left side, below the 'Select' menu, there is a 'Toggle' switch and a list of components: 'Checkbox 1' (checked), 'Checkbox 2' (unchecked), 'Checkbox 3' (checked), 'Checkbox 4' (unchecked), 'Radio 1' (selected), 'Radio 2' (unchecked), 'Radio 3' (unchecked), and 'Radio 4' (unchecked). Below these is a 'Text area' with a text icon.

At the bottom, there are two buttons: 'Save' and 'Save and add another question'.

### In-Video quiz questions.

When the author clicks on the “**In-Video Quiz**” radio button, he/she is given the feature to **embed the quiz questions within the video** content by specifying the time at which he/she would want to pose questions to the students amidst the video content.

For this reason, features to specify the video content name, add multiple questions, and specify the time (in minutes and seconds) at which he/she wants the question to be visible in the video are provided.

The screenshot displays the 'Multimedia Case Study' interface. On the left is a sidebar with a 'Select' dropdown menu containing 'Create Case', 'Edit Case' (highlighted), and 'Remove Case'. The main area features a top navigation bar with radio buttons for 'Set Background', 'Modify Content', 'Add Quiz' (selected), 'Create Web Form', and 'Remove Content'. Below this, a dashed box highlights two options: 'Create Quiz Form' and 'In-Video Quiz' (selected). The 'In-Video Quiz' section includes a 'Content Name' text field, an 'Add Question' section with a text area for the question and two option fields ('Option 1' and 'Option 2'), and a 'Time for question prompt in the Video' section with minute and second input boxes. At the bottom right are 'Save' and 'Save and Add Question' buttons. The top right corner shows 'Author' with a user icon and a 'Logout' link.

## Web Form

This page facilitates the author to **customize a webform** by **dragging and dropping** different types of questions in the provided workspace. This gives the author the option to make the case study adaptive, the **author can create different rules based on the inputs** from the students.

The screenshot shows a web application titled "MultiMedia Case Studies" with a user profile icon and the name "Author" in the top right corner. A "Logout" link is also present. The interface is divided into several sections:

- Left Sidebar:**
  - Select:** A dropdown menu with options: "Create Case", "Edit Case" (highlighted in dark blue), and "Remove Case".
  - Widgets:** A panel containing:
    - A text font selector with "Tt" and a "Toggle" switch.
    - A list of four checkboxes: "Checkbox 1" (checked), "Checkbox 2", "Checkbox 3" (checked), and "Checkbox 4".
    - A list of four radio buttons: "Radio 1" (selected), "Radio 2", "Radio 3", and "Radio 4".
    - A "Text area" with a small icon at the bottom right.
- Top Action Bar:** A row of radio buttons for editing the form:
  - ☐ Set Background
  - ☐ Modify Content
  - ☐ Add Quiz
  - ☒ Create Web Form
  - ☐ Remove Content
- Main Workspace:** A large area for editing the case study content. It contains a question:

1. From whose perspective would you like to view the case study?


Below the question are three radio button options:
  - ☐ Non-Technical
  - ☐ Technical
  - ☐ Both

To the right of these options is a light gray text prompt: "Drag and drop here....."
- Bottom Buttons:** Two dark blue buttons at the bottom right:
  - "Save"
  - "Save and add another question"

## Remove content.

This page displays the feature to **remove the content** from the case. For this, the author needs to mention the case name, choose the content from the drop-down which he/she wishes to remove from the case.

Multimedia Case Study

Author 

☐ Set Background

☐ Modify Content

☐ Add Quiz

☐ Create Web Form

☒ Remove Content

Select

Create Case

Edit Case

Remove Case

— Remove Content

Case ID

Case Name\*

SPECIALISTERNE: Sense & Details

Content Name\*

Enter Content Name

SPECIALISTERNE.pdf

SPECIALISTERNE.mp4

SPECIALISTERNE.jpg

SPECIALISTERNE.mp3


Remove

26

#### 4.2.4. REMOVE CASE

**Remove Case** page will allow the author to delete a case. A **confirmation box** will appear as soon as author selects a case to be removed.

The screenshot displays the 'Multimedia Case Study' application interface. At the top, the title bar shows 'Multimedia Case Study' and the user 'Author' with a profile icon and a 'Logout' link. On the left, a 'Select' menu is open, showing options: 'Create Case', 'Edit Case', and 'Remove Case' (which is highlighted). In the center, there are input fields for 'Case ID \*' (empty) and 'Case Name \*' (containing 'SPECIALISTERNE'). A red-bordered confirmation dialog box is centered on the screen, asking 'Are you sure you want to delete SPECIALISTERNE?' with a 'Confirm' button. A 'Remove' button is located at the bottom right of the main interface.

Multimedia Case Study		Author 
		<a href="#">Logout</a>
<b>Select</b>	Case ID *	<input type="text"/>
	Case Name *	<input type="text" value="SPECIALISTERNE"/>
	<div><b>Confirmation</b> <span>✕</span></div> <div>Are you sure you want to delete SPECIALISTERNE?</div> <div><span>Confirm</span></div>	
		<span>Remove</span>

## 4.3. Student

### 4.3.1. Search Case

This page facilitates the student to **search for the case study** name to view it. The student can pick a case from the recommendations presented while searching it or type the entire case name himself.

The screenshot shows a web application window titled "Multimedia Case Study". In the top right corner, it displays "Student" next to a user icon, with a "Logout" link below it. The main heading is "Search Case name". Below this, there is a label "Case Name" followed by a search input field containing the letter "S". A dropdown menu is open, showing the suggestion "SPECIALISTERNE". Below the input field is a dark blue "Search" button. In the bottom right corner, there is a dark blue "Back" button.

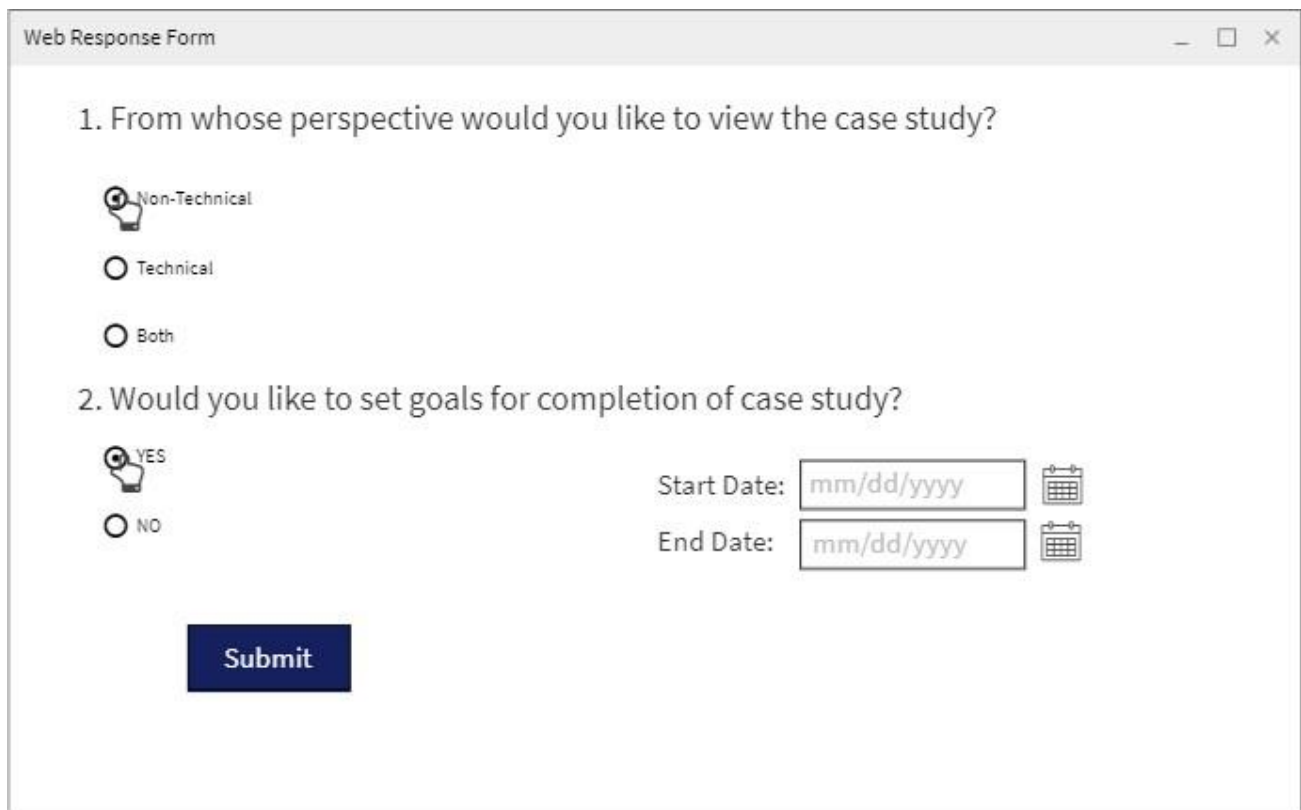
### 4.3.2. Web Response Form

This is the webform provided by the author for the student response. Based on the student's response in the web form the contents of the case study will adapt. This is an example of one of the rules that the author can make to the case study.

Here, the student gets to choose whether he/she wants to perceive a case in a technical or non-technical manner. He/She can also choose to view both technical and non-technical modules. These choices are made while filling the web response form. When the student views the Case Overview page, he/she would be shown the modules according to the choice he/she made. This feature leads to **adaptability** and **interactivity** with the application.

Accordingly, the modules of the chosen domain would be viewed in the case study. This feature leads to **student interactivity** with the application.



Additionally, the student is also given an option to set a goal for the case study completion. If he/she clicks on the “**yes**” radio button, he/she shall be asked to enter the timelines in the form of Start date and End date



The screenshot shows a web browser window titled "Web Response Form". The form contains two questions:

1. From whose perspective would you like to view the case study?
  - ☒ Non-Technical
  - ☐ Technical
  - ☐ Both
2. Would you like to set goals for completion of case study?
  - ☒ YES
  - ☐ NO

If the user selects "YES", there are two date input fields:

- Start Date:  
- End Date:  

At the bottom of the form is a blue "Submit" button.

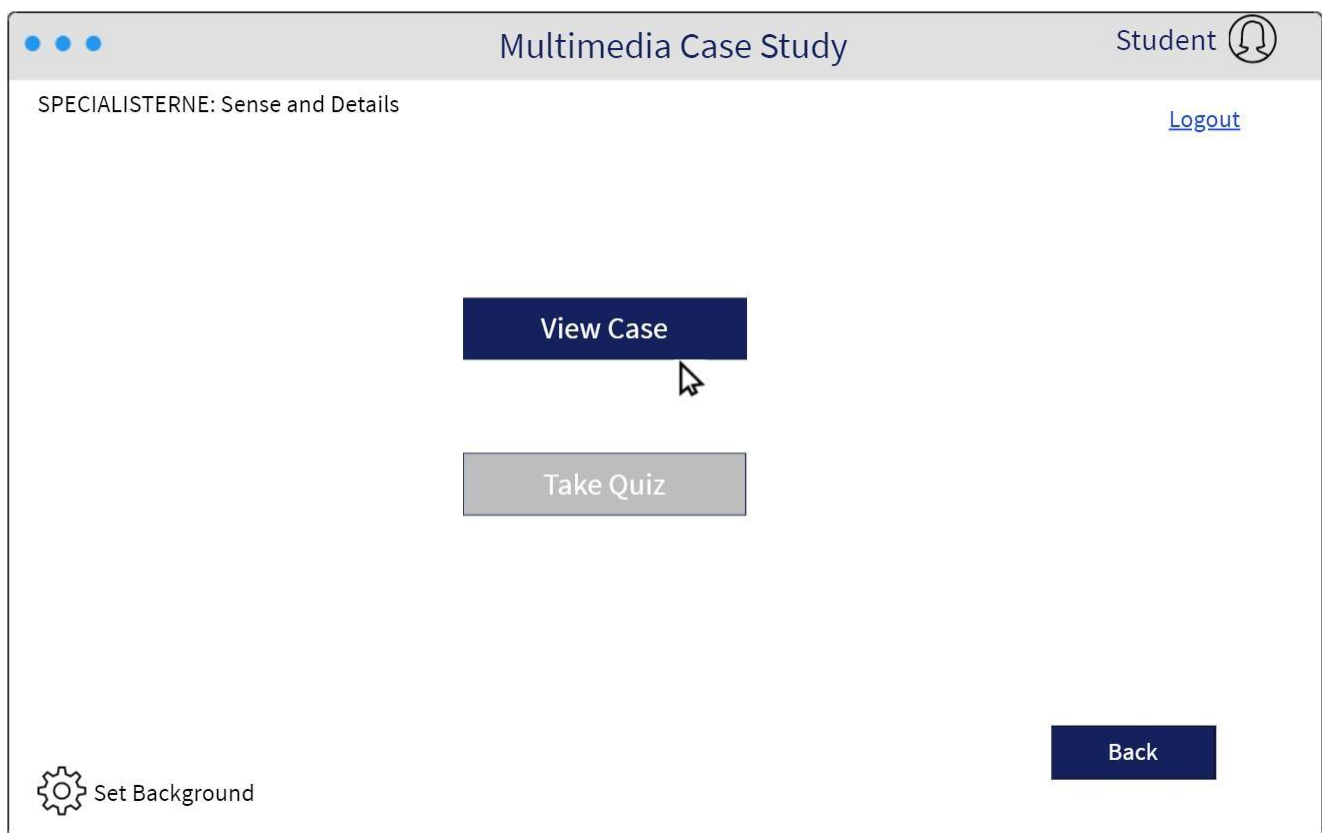
### 4.3.3. Student Action Choices

This is the page that comes up after having searched for a case. It showcases 2 options –

- i. **View Case** to view a case study.
- ii. **Take Quiz** to take tests for different case study modules.

**Note-** Take Quiz option will only be enabled once the student has viewed the case.

It also displays a set background option on the bottom left corner, where the student can customize his background according to the options provided by the authors.






#### 4.3.4. View Case

##### Modules and Quizzes overview

Once the student clicks on the View case option on the above screen, he/she is re-directed to the below page. This page showcases a list of **modules and quizzes** covered under the case study to brief the students about the case. Only those modules and quizzes which fall under the chosen genre (technical or non-technical or both genre) would be **unlocked** and **accessible** for students. In case the student wishes to choose one of the disabled genres, he/she will have to go back to the web-form to re-select the genre preference.

Multimedia Case Study

Student 

SPECIALISTERNE: Sense and Details > Non Technical View [Logout](#)

Select

View Case

Take Quiz

Set Background

**SPECIALISTERNE: Sense and Details**

Three-quarters of Specialisterne's expert software testing staff are diagnosed with some form of Autistic Spectrum Disorder (ASD). Usually a handicap, ASD conveys talents especially suited to software testing and other highly repetitive tasks that require very high accuracy. This case describes a growing company struggling with unique challenges as it implements a "social enterprise" business model.

*You have chosen Non Technical view!*

**Module 1: Sonne's Dilemma**  
**Quiz 1**

**Module 2: Autism Spectrum Disorder**  
**Quiz 2**


**Module 4: Challenges of growing unique enterprise**  
**Quiz 4**

Non Technical View

Technical View


Default

Back

View Content 

This page displays the list of modules and quizzes when the student chooses the Default option of the genre.

Multimedia Case Study

Student 

SPECIALISTERNE: Sense and Details > Default View [Logout](#)

Select

View Case

Take Quiz

Set Background

**SPECIALISTERNE: Sense and Details**

Three-quarters of Specialisterne's expert software testing staff are diagnosed with some form of Autistic Spectrum Disorder (ASD). Usually a handicap, ASD conveys talents especially suited to software testing and other highly repetitive tasks that require very high accuracy. This case describes a growing company struggling with unique challenges as it implements a "social enterprise" business model.

*You have chosen Default view!*

**Module 1: Sonne's Dilemma**  
Quiz 1

**Module 2: Autism Spectrum Disorder**  
Quiz 2

**Module 3: Software Testing**  
Quiz 3

**Module 4: Challenges of growing unique enterprise**  
Quiz 4

**Module 5: Roadmap for future**  
Quiz 5

Back

View Content

Non Technical View

Technical View


Default

## View Case Content

Once the student clicks on the “**View Case Content**” option from the above screen, it redirects to the below page where an enlisting of all the available multimedia versions like videos, audios, pdf, images, etc. of the case study would be provided to him/her to choose from.

The layout (position of content) of this page has been customized by the author to make the student’s experience more interactive.

Multimedia Case Study

Student 

[Logout](#)

SPECIALISTERNE: Sense and Details

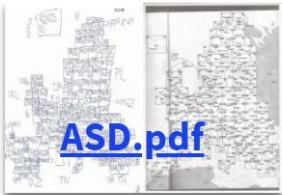
Select


View Case


Take Quiz

Set Background


Documents

  
[ASD.pdf](#)

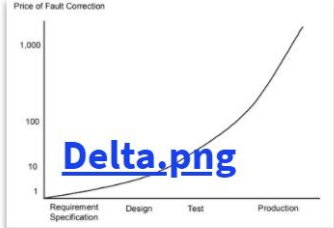
  
[Sonne's Dilemma.pdf](#)


  
[Promotion.pdf](#)

Videos

  
[ASD.mp4](#)

Images

  
[Delta.png](#)

  
[Financial.png](#)

<https://services.hbsp.harvard.edu/lti/links/Specialisterne/content-launch>

Back

## View Case Content (Text File)

If the user chooses to go for the “**Documents**” media type option, a pdf file for the selected case’s module will be shown on the below page. The student also gets to resize and move the document panel at his convenience. Additionally, he/she is provided with the below features- **Highlight content**- This feature allows the student to highlight the required content as per his/her choice.

**Bookmark**- This feature bookmarks the page at which the student wishes to pause the reading. This will help him/her to resume from the point he/she had left the reading last time.

**Take notes**- This feature lets the student take notes in the form of jotting the points down in the text box provided.

The screenshot displays a web application titled "Multimedia Case Study" for a student. The breadcrumb trail indicates the path: "SPECIALISTERNE: Sense & Details > View Case > Module 1 > SPECIALISTERNE: Sense & Details .pdf".

**Left Sidebar:**

- Select:** A menu with options "View Case", "Take Quiz", and "Set Background".
- Case Files:** A list of files including "SPECIALISTERNE.jpg", "ASD.mp4", "SPECIALISTERNE.pdf" (highlighted by a mouse cursor), "Exhibit 1 . Autism Spectrum D", and "A Promotional Description of".

**Main Content Area:**

The central panel displays a PDF document titled "SPECIALISTERNE: Sense & Details" from Harvard Business School. The document includes a quote from Robert D. Austin, Jonathan W. Hareham, and Javier Rodriguez, and a detailed description of the company's focus on software testing and the challenges faced by employees with Autism Spectrum Disorder (ASD).

**Right Sidebar:**

- Note Taking:** A section containing icons and labels for "Highlighter", "Bookmark", and "Take Notes". Below these is a text input field labeled "Enter your Notes" and a "Save" button.

## View Multiple media types

This page showcases the feature of resizing the window of one media type especially at the time of accessing multiple media types at once. There is also a navigation pane to the left that includes a list of contents and lets one access other media type files.

Multimedia Case Study

Student

Home

Logout

SPECIALISTERNE: Sense & Details > View Case > Module 1 > Multi Media

Select

View Case

Take Quiz

Set Background

Case Files

SPECIALISTERNE.jpg

ASD.mp4

SPECIALISTERNE.pdf

Exhibit 1 . Autism Spectrum D

A Promotional Description of

SPECIALISTERNE: Sense & Details

HARVARD | BUSINESS | SCHOOL

9-608-109

FEBRUARY 14, 2004

ROBERT D. AUSTIN

JONATHAN WAREHAM

JAVIER BUSQUETS

SPECIALISTERNE: Sense & Details

*I have an ability to see when something deviates, it kind of leaps to the eye. It's a seem to have, but to me it's natural. I consider myself fairly normal, but I have a keen 90% of my teacher's education and I could manage the theoretical part, but I wasn't and making contact with them. I like working here. I don't have to try to be any times I can become obsessed with my work and that's fine. In another company I small talk and be flexible. Here I can just concentrate on my work without being com*

— Torben Sørensen, SPEC in Danish Newspaper URB.

Thorkil Sonne, founder of SPECIALISTERNE, replaced the telephone in look out the office window. His demeanor, composed as ever, hid his true feel of his best clients had contained very bad news for his young company a badly shaken. The large, high visibility company, a long-time customer, had contract with SPECIALISTERNE.

Sense's company specialized in software testing and other difficult, mon that required great accuracy. His employees had skills uniquely suited to sus had been diagnosed with some form of Autistic Spectrum Disorder (A condition characterized by impairments in social interaction and communica and repetitive behavior. ASD is often evident before a child is three years old developmental obstacles.) The disorder also conveys particular talents, howe focus, impressive thoroughness, and strong memory. According to Scien hypothesized, based on facts known about their lives, that many of history's great achievers—Albert Einstein, Socrates, Charles Darwin, and Sir Isaac Newton, to name but a few—might have been afflicted by a mild form of ASD called Asperger's Syndrome.

Note Taking Options

Highlighter

Bookmark

ASD.mp4

This page displays the resized version of the multiple media when viewed together. The variable values (dimensions-right, left, top, bottom) associated with the resizing feature is unique to every user. Hence different entries are made in the database table.

Multimedia Case Study

Student

SPECIALISTERNE: Sense & Details > View Case > Module 1 > Multi Media

[Home](#)
[Logout](#)

Select

View Case

Take Quiz

Set Background

Case Files

SPECIALISTERNE.jpg

ASD.mp4

SPECIALISTERNE.pdf

Exhibit 1 . Autism Spectrum D

A Promotional Description of

ASD.mp4

SPECIALISTERNE: Sense & Details

HARVARD BUSINESS SCHOOL

9-600-100

EMERSON COLLEGE

SPECIALISTERNE: Sense & Details

There are things we see when something happens, a kind of things in the eye. It's an ability many people don't seem to have, but to me it's a natural. I consider myself fairly normal, but I have a few of the senses. I consider myself fairly normal, but I have a few of the senses. I consider myself fairly normal, but I have a few of the senses.

— John Doe, SPECIALISTERNE: Sense & Details

in David S. Brown, SPECIALISTERNE: Sense & Details, October 10, 2015

There are things we see when something happens, a kind of things in the eye. It's an ability many people don't seem to have, but to me it's a natural. I consider myself fairly normal, but I have a few of the senses. I consider myself fairly normal, but I have a few of the senses. I consider myself fairly normal, but I have a few of the senses.

— John Doe, SPECIALISTERNE: Sense & Details

in David S. Brown, SPECIALISTERNE: Sense & Details, October 10, 2015

Note Taking Options

Highlighter

Bookmark

## In-Video Quiz Questions

This screen is an instance where the **embedded quiz questions** will pop up in between the video, which was drafted by the author at the time of case editing. The student can optionally choose to solve it or skip it, but irrespectively, the status of the student **activity will be tracked and reported to maintain the road map of student actions (future scope)**.

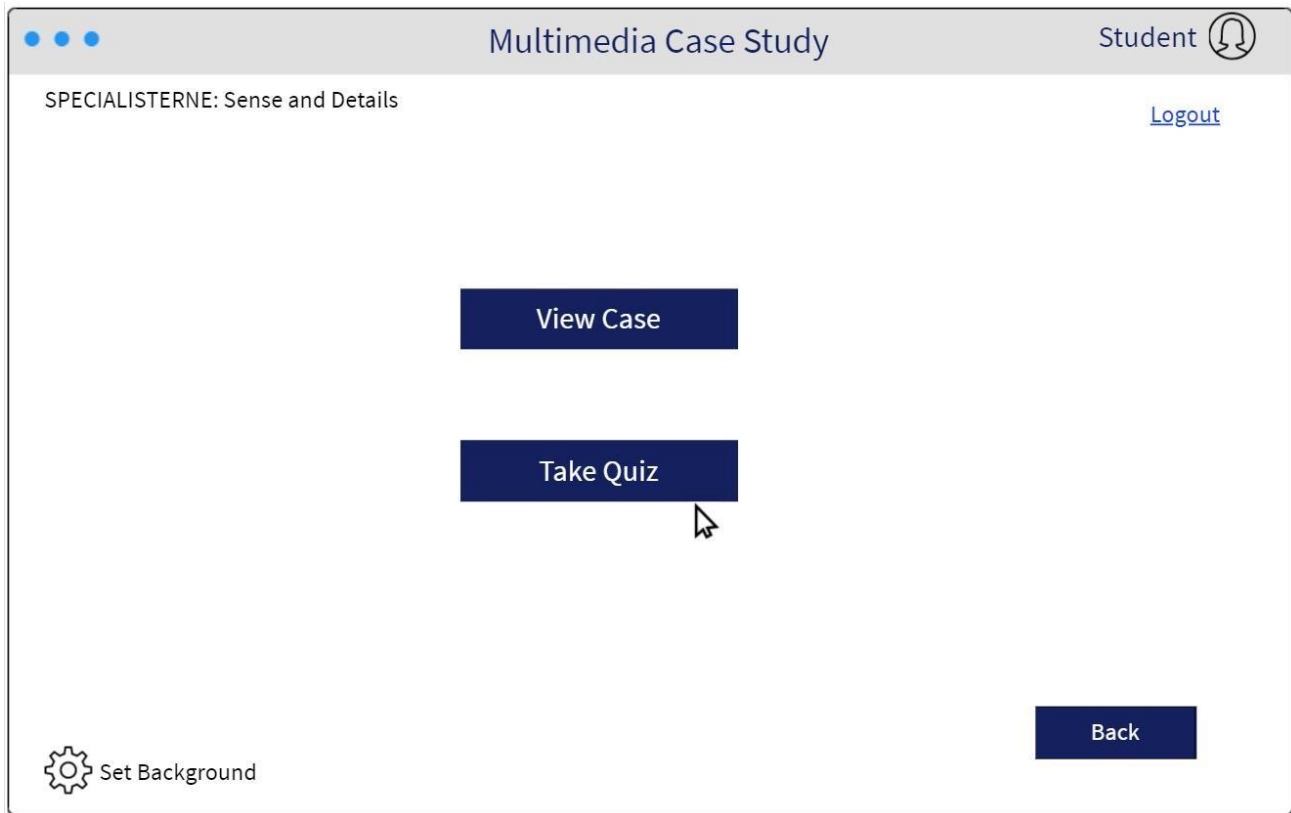
The screenshot displays the 'Multimedia Case Study' interface. At the top, the title 'Multimedia Case Study' is centered, with 'Student' and a user icon on the right. Below the title, a breadcrumb trail reads: 'SPECIALISTERNE: Sense & Details > View Case > Module 1 > Sonne-History and Background .mp4'. On the left side, there are two panels. The first panel, titled 'Select', has a 'View' button and two buttons: 'Take Quiz' and 'Set Background'. The second panel, titled 'Case Files', lists several files: 'SPECIALISTERNE.jpg', 'ASD.mp4', 'SPECIALISTERNE.pdf', 'Exhibit 1 . Autism Spectrum D', and 'A Promotional Description of'. The main area features a video player. A quiz question is overlaid on the video: 'What does ASD stand for?'. The options are: 

- ☒ Autism Spectrum Disorder
- ☐ All Season Dressing
- ☐ Absent Shifted Dead
- ☐ Additional Security Deposit

 Below the options are 'Skip' and 'Submit' buttons. The video player controls at the bottom include a progress bar, play/pause buttons, and settings icons.

### 4.3.5. Take Quiz.


Once the student clicks on the Take quiz button, he/she is navigated to the Quiz Overview Page.





The below page enlists all the quizzes for the selected case. **Quizzes will be unlocked based on the student's completion status of the modules.**

Multimedia Case Study

Student 

SPECIALISTERNE: Sense and Details > Take Quiz

[Logout](#)

Select

View Case

Take Quiz

Set Background

Module 1

Quiz 1

Module 2

Quiz 2

Module 4

Quiz 4

Non Technical View

Technical View

Default

Back

## Quiz Screen

This page provides a set of questions in form of a quiz to learn about the understanding of the student. It measures the progress using a progress bar and helps students track the quiz with the help of the following conventions:


### **Conventions**

**Green-** Answered


**Red-** Marked for Review

**White-** Yet to answer

Multimedia Case Study

Student 

SPECIALISTERNE: Sense & Details > Take Quiz > Module 3 > Quiz

 00:10:44 [Logout](#)

Question:

1

2

3

4

5

3. Which of the following can be classified as white box tests?

☒ Unit Test


☐ Smoke Test

☒ Mutation Test

☐ Regression Test

4. What advice would you give Sonne to bring back his client?

Enter your answer



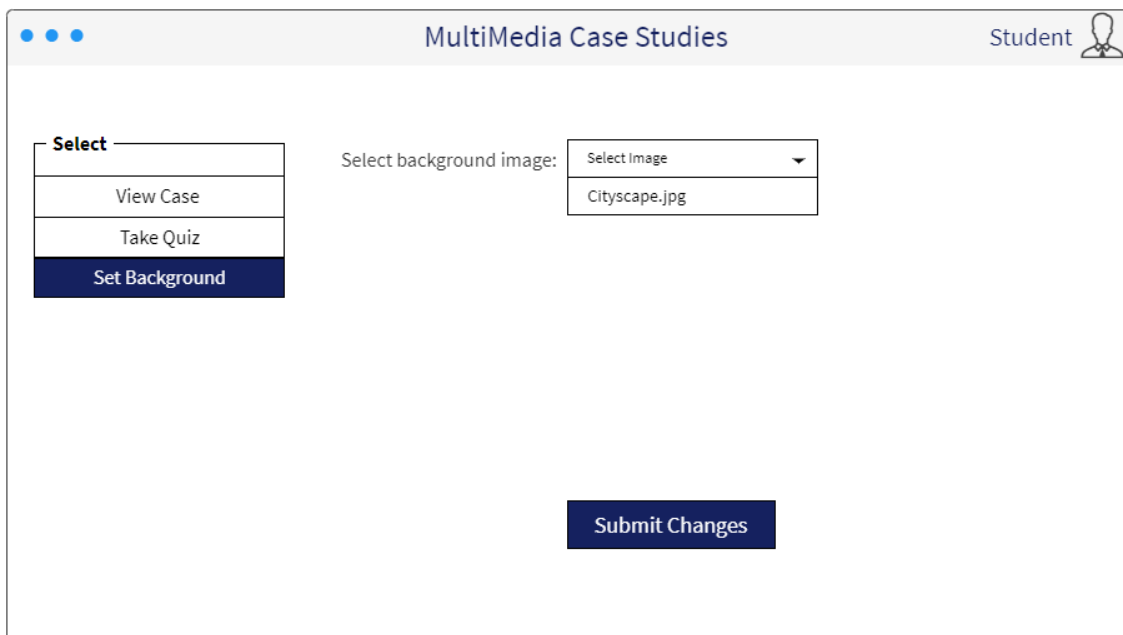
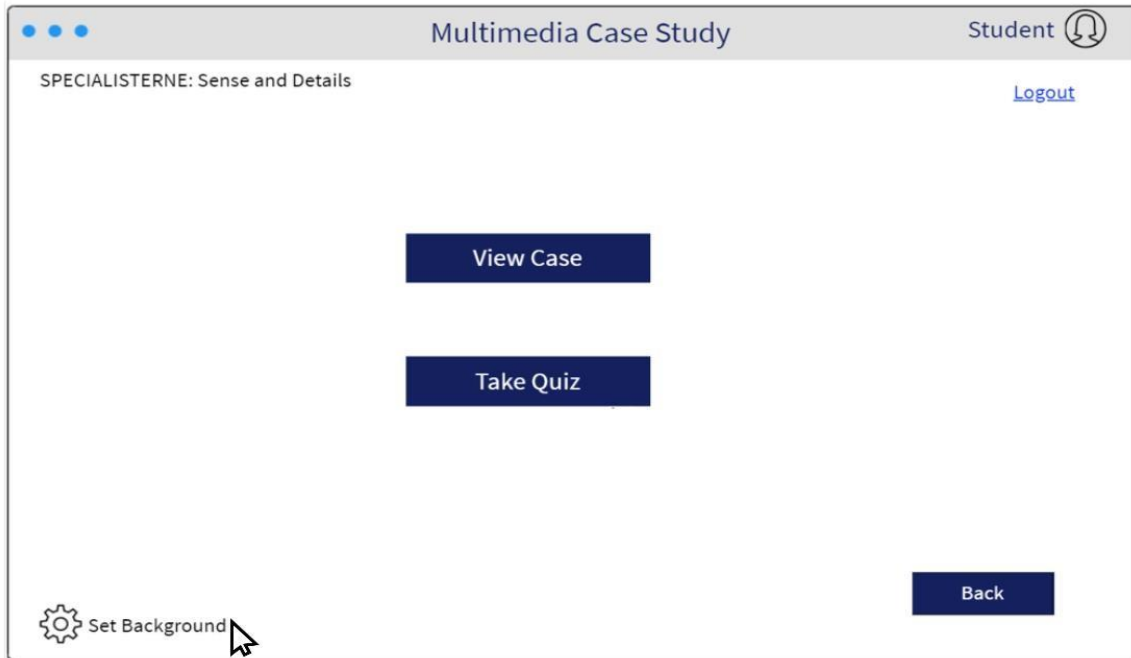
80% Complete

Submit Response

#### 4.3.6. Set Background for cases

This page displays the features that enable the student to set the background for the case study that he/she is viewing. The student can choose the pre-existing images from the system and upload them.

Additionally, he/she can customize the appearance settings- Dark mode or default mode.



## 5. **Future Scope**

1. Once the number of users increases, the system would support local databases along with **cloud storage**.
2. Options to receive **notifications** and **reminders** via **emails** or **text messages** would be provided to the users.
3. The application website would be secured with **TPM security and SSL certification**.
4. Content types like **animations** and **interactive** games could be introduced.  
(given that there is an increase in the project's budget.)
5. From the **feedback** standpoint, it should offer the below features
  - **Forum** for course discussion to promote user interaction.
  - Course content feedback.
  - **Notifying** the author about the user feedback