Software Requirements Specification

Developed for CSCI3428 Software Engineering

@ SMU

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Contents :

Introduction: Mi'kmaq are indigenous people who are among the original inhabitants in the Atlantic Provinces of Canada. However, the Mi'kmaq language is on the verge of extinction. Hence, to keep the language alive and to teach Mi'kmaq language to as many children as possible, this software has been developed. The language will be taught in an interactive way. There will be story told though choices of different levels which will ultimately sum up to the whole story at the end. In this way, users will be able to learn as many words as possible and be immersed in the proper enunciation of the language.

Section 1: Specific Requirements:

Software must be tailored to be an educational resource that promotes learning of Mi'kmaw language. Although elements of the English language are permitted, the focus should be learning Mi'kmaw language and promoting the culture. Final components of the software are to reside on SMU servers with access provided to the client.

Section 1.1: External Interface Requirements:

Section 1.1.1: User Interfaces:

Picture of menu page [Figure 1.]

Figure 1:

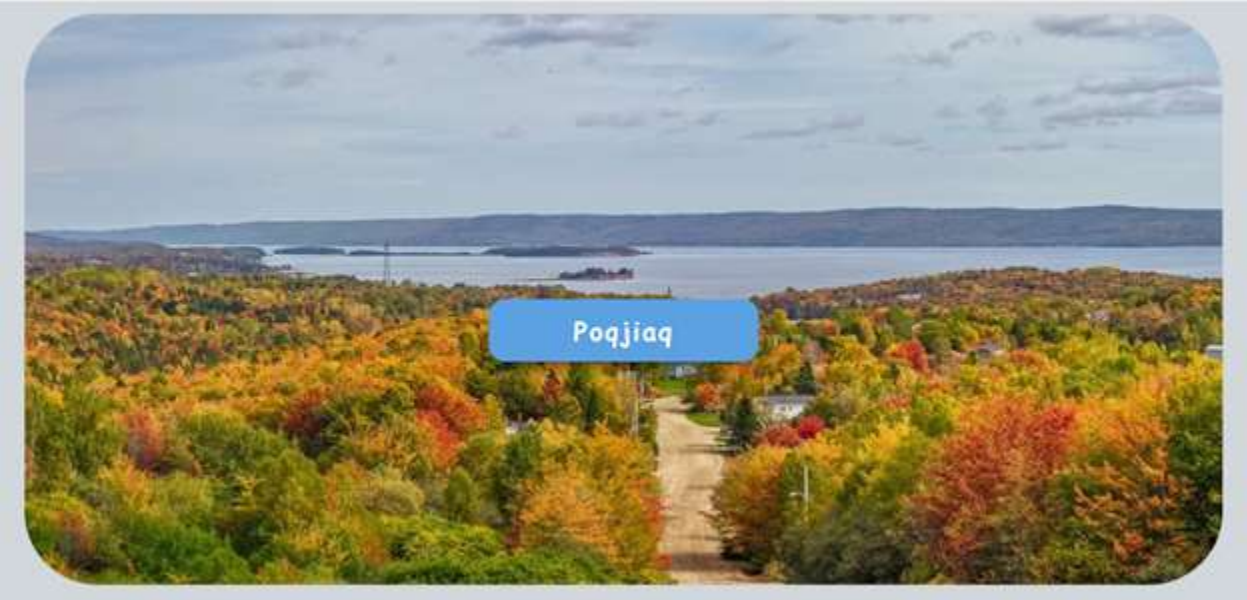
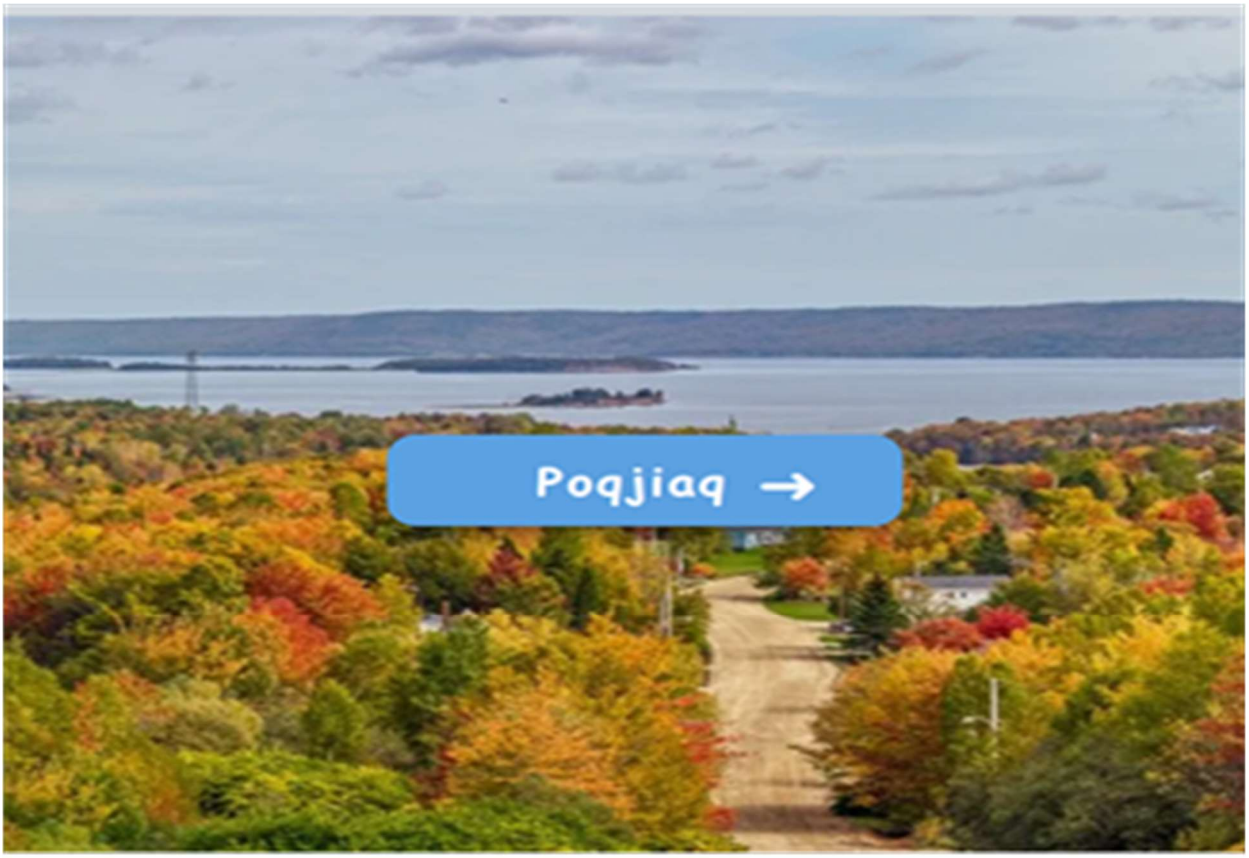


Figure 1.2:

Figure 1.3



Picture of story page 1 [Figure 2.1]

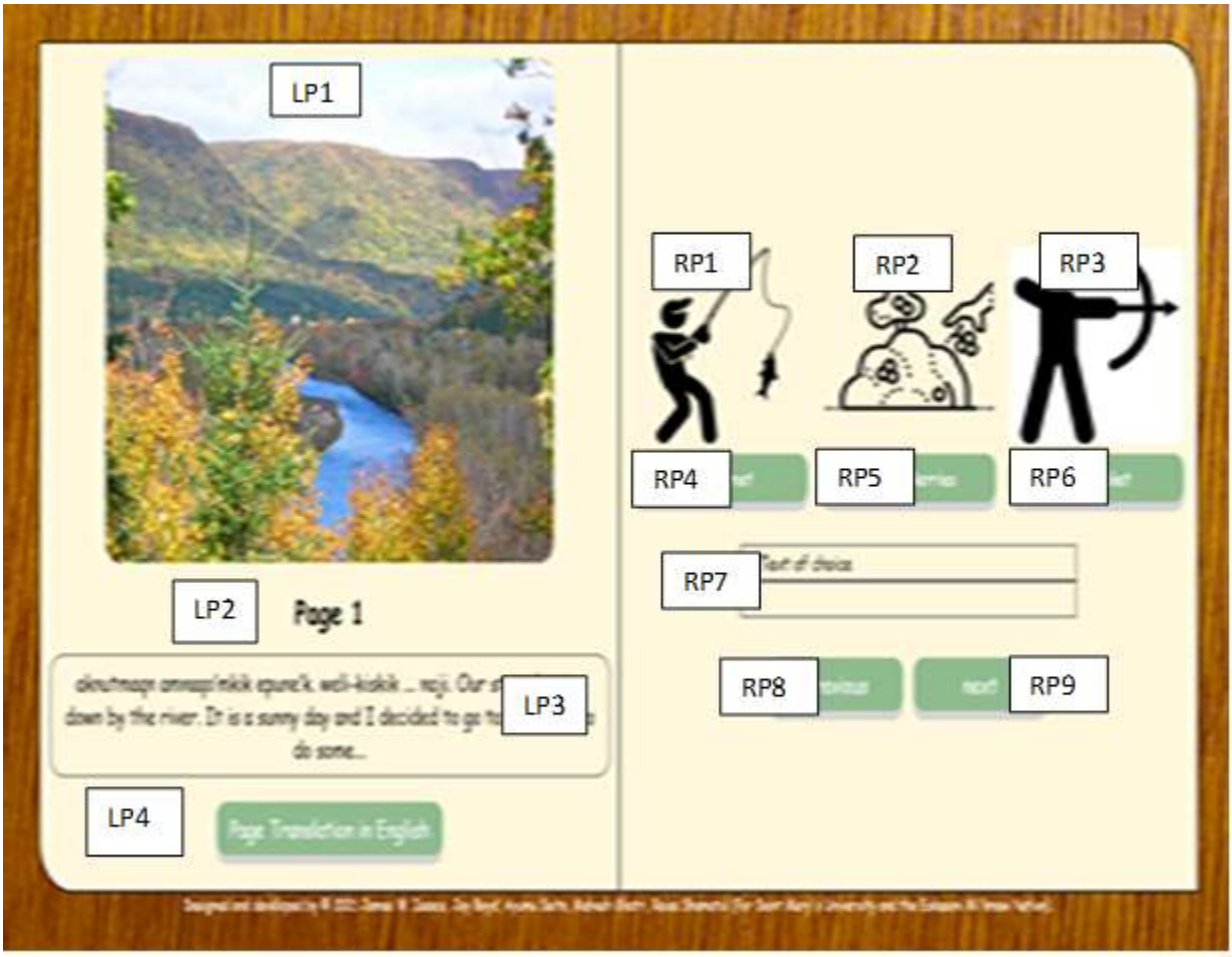


Figure2.2

Figure2.3

Figure 2.4.1

Figure2.4.2

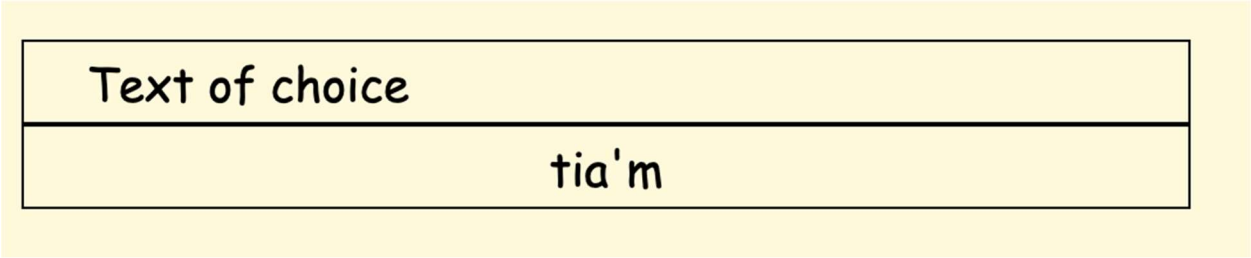


Figure2.4.3

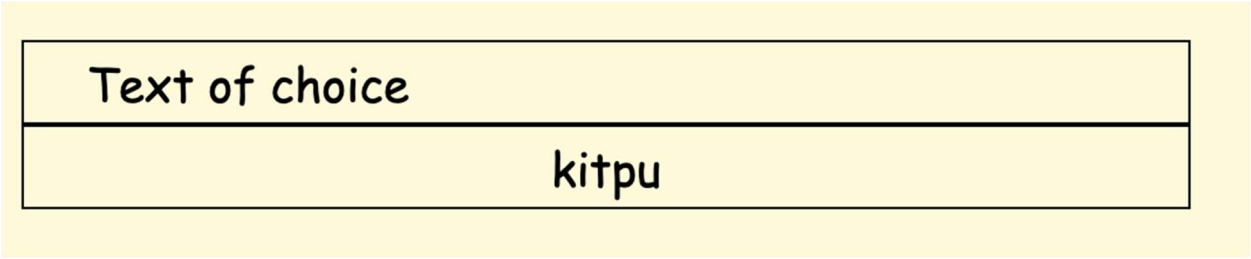
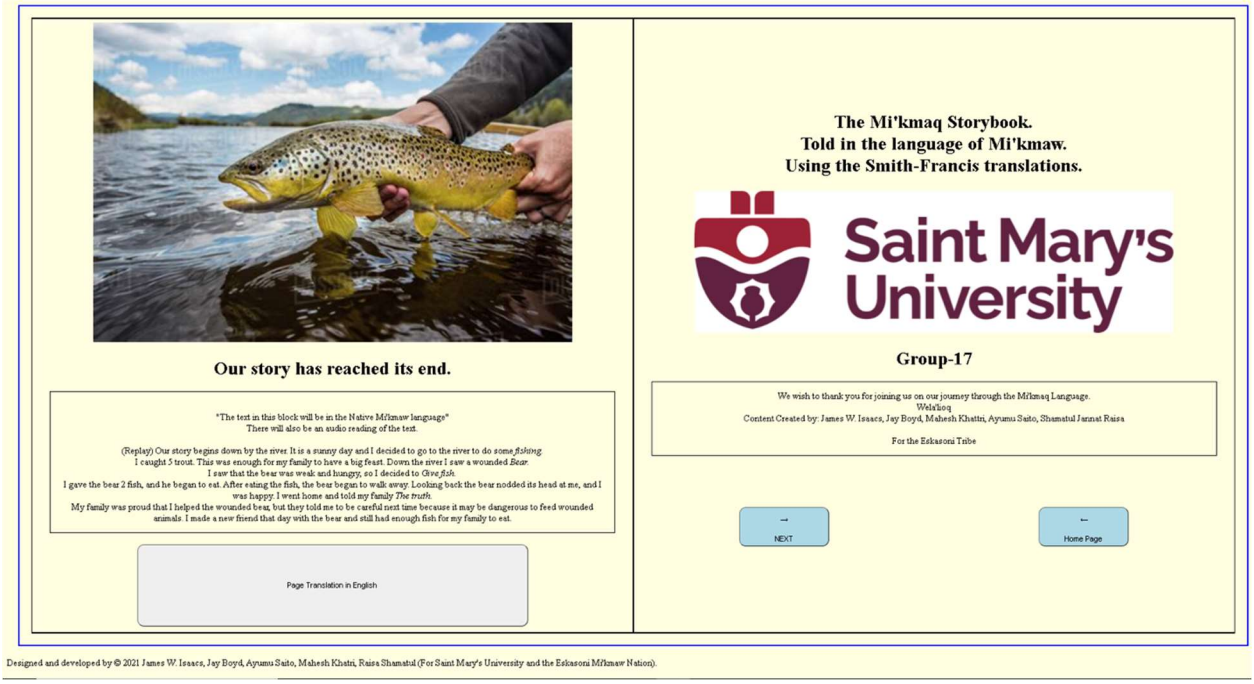


Figure2.5

Picture of story end-page [Figure 2.5]



Picture of form page [Figure 3.]

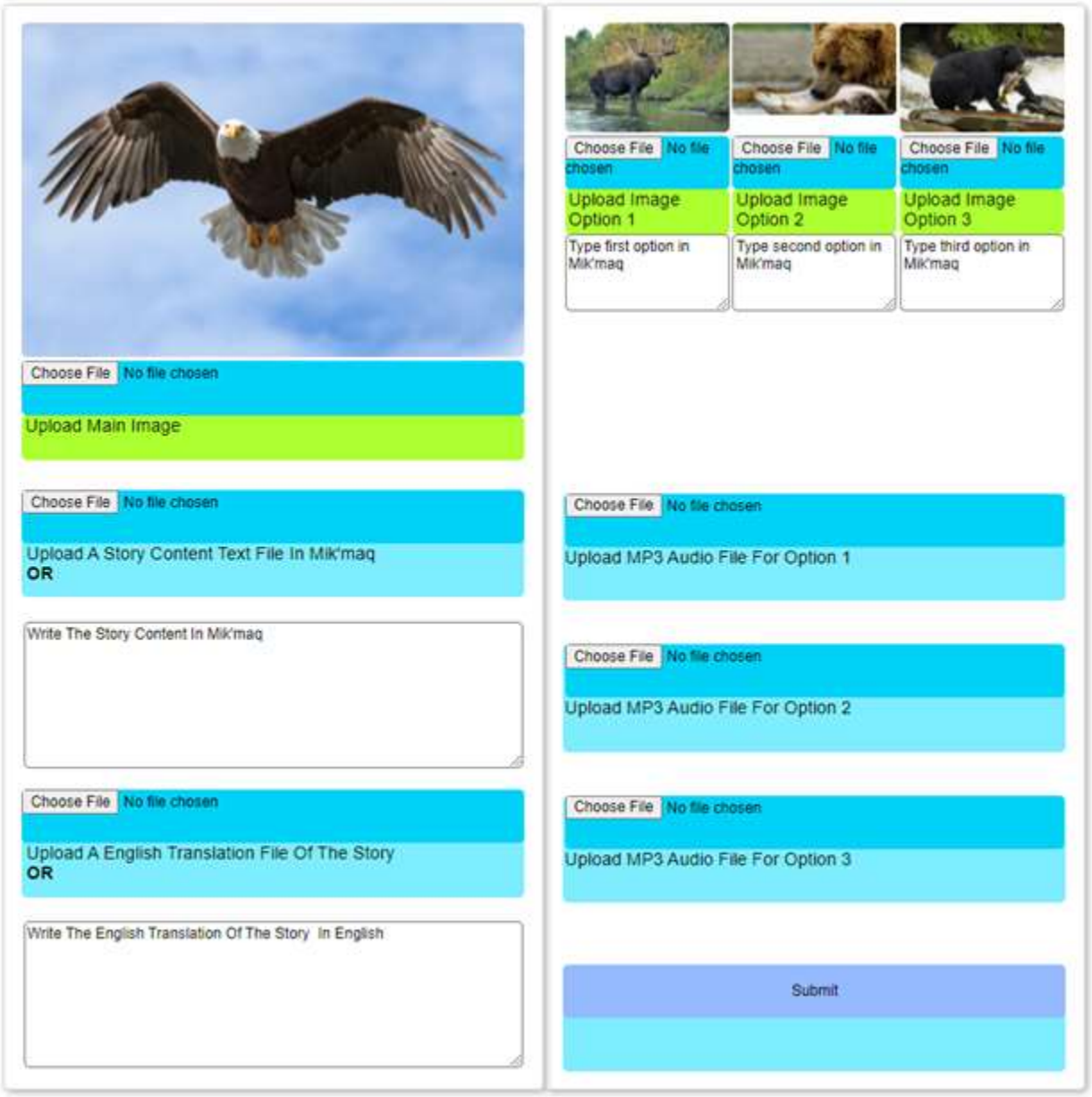


Figure 3.1: Left pane of the form layout

User interface consists of three main parts: Graphical User Interface (GUI), Menu Driven Interface (MDI) and Form Based Interface (FBI)

GUI: This is the main look and feel of the software developed. We wanted to create an environment that felt like you were reading a book. Ref [Figure 2.1] Mi'kmaw text is displayed with audio additions to fully immerse students in the story and culture as much as possible. Options of English hints are provided but should be used sparingly.

MDI: Ref [Figure 1], Options for navigating the story are provided by next and previous page buttons. This allows users to return to prior pages while going through the story. Choice of three options Ref [Figure 2.1] will modify the story and should be apparent on the end page of the story, shown in both picture and text on the left side Ref [Figure 2.5].

FBI: Outside of the software developed, we wanted a way for the client to interact with the software to upload stories of their own. In this regard, we've created a form Ref [Figure 3.] to link with a database on SMU servers to upload their own stories.

Section 1.1.2: Software Interfaces:

The software was designed to run on a tablet in chrome / safari. Software backend connects to Nodejs server and MongoDB. Current iteration has JSON linked pairs. MongoDB is currently in development, but keys would revolve around single story pages. As an example, a line would hold the story #, story name, story image, page number, page image, page audio, (three choice images), (three choice audio), (three choice text). There will be multiple lines in the DB for a single story.

Optimized hardware:

Tablet I-Pad (6th Gen.)

9.7 Inch Screen display

Internet required; high speed recommended.

Optimized software:

Chrome version: current

Safari version: current

NodeJS: specifics

MongoDB specifics

HTML specifics

CSS specifics

JS specifics

Section 1.2: Functional Requirements:

[F1] All font displayed on project will be set to font family Comic Sans as primary and Comic Sans MS secondary.

[F2A] All project button background-color set to #8FBC8F.

[F2B] All project buttons displayed after figure1.2: set border radius to 15px.

[F3A] All Pictures after [Figure 1.2] have rounded corner radius of 10 pixels

[F5A] Upon loading the form page, the form layout must appear as in [Figure 3] with a page sliding animation in y-axis by 500px.

[F5A2] Form set to 95% viewport width.

[F5A3] Form margin set to 15px.

[F5A4] All form bordered elements should have a border-radius of 5 px.

[F5A5] The form has two panes set in a grid system. The grid for each pane is set to 400px, 1fr.

[F5B] All Form Panes must have a padding of 1 rem as in [figure 3].

[F5C] Both Panes are divided into Grids of 5 rows set to 3fr, 1fr, 1fr, 1fr, 0.5fr as in [Figure 3].

[F5D] All Choose File Buttons in [Figure 3] sits on a box with background color set to #00d2f7.

[F10A] Enter URL. HTML page will look like [Figure 1]. Page consists of Background and centered button.

[F11A] Background color will be grey #d1d7db.

[F11B] Background image in [Figure 1] has rounded borders.

[F11C] Background image in [Figure 1] has border radius by 90 pixels.

[F12A] Button in [Figure 1.2] have background color #5ca1e1.

[F12B] Buttons for [Figure 1.3] projects an arrow upon placing the curser on it.

[F12C] Upon removing the pointer, the button in the center will go as [Figure 1.2].

[F12D] Font size for center button is 1rem.

[F13A] Background image for the page is Eskasoni-Mountain-Road-Pano.

[F20A] Button will be displayed as per LP4. “Page Translation in English”.

[F30A] All Pictures for the choice as in [Figure 2.3] have 20 pixels of space between them.

[F30B] All Pictures in the choice in [Figure 2.3] have the ratio of 4:3.

[F30C] Three pictures for the choice in [Figure 2.3] are horizontally centred in the right page.

[F31A] The width of the buttons in [Figure 2.3] must be the same as the width of the pictures in [Figure 2.3].

[F32A] The top of the text-of-choice box in [Figure 2.4.1] is 52 pixels below the three buttons in choice section in [Figure 2.3].

[F34A] Two buttons in Figure [2.5] are centred in the right page and have 15 pixels between them

[F35A] Upon selecting next button in [Figure 2.5] from the previous page, the screen appears [as figure 2.2].

[F41A] End page will consist of a main pane with a footer displayed below. Main pane will be displayed as a table and contain a left pane and right pane as table columns. Footer will display below left and right pane as per [figure 2.5] (alpha functional requirements below should reference [figure 2.5]).

[F41B] Background color of end page, including main pane, left and right pane as well as footer will be set to Light-Yellow

[F41C] End page main pane will have 20px padding and margins

[F41D] End page main pane will display as a table

[F41E] End page main pane will align text to display centered

[F42A] End page left pane will consist of the following elements displayed from top to bottom: picture element, h1 element, compilation of choices in text element and page translation in English button as per [figure 2.5] (alpha functional requirements below should reference [figure 2.5]).

[F42B] End page picture object of left pane shall be relative to the left pane

[F42C] End page picture object of left pane will have a width of 80%

[F42D] End page picture object of left pane will have 5px of padding

[F50A] Insert image as in [Figure 3.1] width 100%, height set to auto.

[F51A] Insert [F50A] button as in [Figure 3.1] below [F51A].

[F52A] Insert input button with a respective text message “Upload a main image” as in [Figure 3.1].

[F52B] Set [F52A] background to greenyellow (#adff2f).

Section 1.3: Performance Requirements:

[P20A] When page loads as in [Figure 2.1], it displays [LP1] as an image for all P20 items Ref: [Figure 2.1].

[P20B] When the story-page loads as in [Figure2.1], it displays page number [LP2].

[P20C] When page loads as in [Figure 2.1], displays story text [LP3] in Mi'kmaw.

[P21A] Button active color set to #00d2f7.

[P21B] on Button press: [LP3] as an alert, English text.

[P22A] Button right of [LP4] Play audio track for figure [LS1].

[P30A] Display [RP1] image in [Figure 2.1].

[P31A] Three pictures for the choice in [Figure 2.3] should scale as the size of the page width increases.

[P32A] The width of the buttons in [Figure 2.3] should scale as the page width increases

[P33A] The label of Button1 as in [Figure 2.3] shall be placed in the text of choice box as in [Figure 2.4.1] when button1 is clicked.

[P33B] The label of Button2 as in [Figure 2.3] shall be placed in the text of choice box as in [Figure 2.4.2] when button1 is clicked.

[P33C] The label of Button2 as in [Figure 2.3] shall be placed in the text of choice box as in [Figure 2.4.2] when button1 is clicked.

Section 1.4: Design Constraints:

Designed to run optimized on tablet with Chrome/Safari as laid out in [1.1.2 Software Interfaces]. Mi'kmaw language audio and text to be authentic and verified as proper by verification of client.

Section 1.5: Process Constraints:

Waterfall software lifecycle process with phased development included.

Required html/css/js up and running prior to NodeJS server integration

Required form html prior to MongoDB implementation

Required MongoDB implementation prior to final phase of NodeJS accessing MongoDB to pull any story uploaded by client.

As per [1.4. Design Constraints] require client consultation / input for authentic translation purposes.