

Florida International University
School of Computing and Information Sciences



Software Engineering Focus

Final Deliverable

Project Title:

eEVA Data Generation and User Results Analysis Version 1.0

Team Member:

Carlos Mestre and Stephanie Lunn

Product Owner(s):

Christine Lisetti

Mentor(s):

Mohsen Taheri

Instructor: Masoud Sadjadi

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Abstract

This document presents the information necessary to gain a good understanding of eEVA, an empathetic embodied virtual agent. Users interact with this health agent via the web, utilizing cameras and microphones to communicate with the avatar. eEVA can then process the responses to record the user's choices on the interventions. Although the system is presently programmed to give a health assessment for alcohol screening, the foundation of the system is more flexible, and allows different intervention content to be presented to users, and revised by an administrator. The focus of our work, was to provide eEVa with several functions necessary for the revision of content and her interactions, as well as to design her results pages for the alcohol assessments employed as part of the Drinker's Check-Up (DCU), as she delivers feedback and scores on the various parts of the intervention.

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INTRODUCTION

Alcoholism is a major problem in today's society, however many do not even realize they have a problem. Short bursts of brief motivational interventions (BMI) have been shown to be effective at helping those that have these issues to realize the situation is out of control (Miller, Wilbourne, & Hettema, 2003). The original text-based Drinker's Check-Up (DCU) is a web based system, that has been shown to reduce drinking by 50% (Hester, Squires, & Delaney, 2005). However, it lacks in descriptions of the results and the results are displayed as blocks of content. To further engage users, the Affective Social Computing Laboratory began using an interactive virtual character. After several iterations, the lab realized the need for a web-based avatar that could reach a larger population. Accordingly, they designed an empathic embodied virtual agent (eEVA). The eEVA system uses Natural Language Processing (NLP) and it delivers a series of assessments on drinking motivation, dependence, consequences, patterns, and risk factors. Using established drinking measures for the DCU, eEVA goes through Drinker's Inventory of Consequences (DrInC) (Miller and Tonigan, 1995), Severity of Alcohol Dependence Questionnaire (SADQ-C) (Stockwell et al., 1983), Alcohol Use Disorders Identification Test (AUDIT) (Babor et al., 2001), SOCRATES (Miller and Tonigan, 1996), and the Brief Drinker Profile (BDP) (Miller and Marlatt, 1984).

Current System

The Affective Social Computing Lab (ASCL) laboratory created several versions of virtual health counselors. The content for the intervention is based off of the original DCU developed by Dr. Reid Hester and his Research Division staff, which can be accessed online (<http://www.drinkerscheckup.com/>). However, in this version, content is displayed on the screen, and users can select from multiple choices by clicking. Using this model as the foundation, the ASCL's initial prototype used an Agent-based DCU, to read some of the content while users could continue to make their selections for the questions asked. However, for the interactive virtual counselor to load properly, it required that the Haptek Player was installed locally. Later versions in the lab attempted to add additional intelligence and functionality to the agent, however these iterations still had the same issues with limited user accessibility. To reach a broader base, the ASCL decided to switch to a web-based system, with the potential for increased generalization to other subjects as well.

Keeping in mind these goals, the lab created eEVA. The idea behind this new system was that an intervention engine could be increasingly moldable. The system implements a MEAN stack, which is a "full-stack JavaScript solution" that is ideal for building efficient and maintainable web applications with the use of MongoDB, Express, AngularJS, and Node.js (Haviv, 2014). Then, characters and environments are loaded into Unity which then get exported into WebGL.

eEVA's mainframe is like an engine that links modules together, and that serves as their manager, allowing module registration/unregistration. By allowing modules to be removed at

runtime, these modules can be programmatically loaded/unloaded as needed. In addition, the main structure of the current system is in data/primitive files for the following: State (InterventionEngineState class), State machine (InterventionEngine class), Transition (InterventionEngineTransition class), Event guard (EventGuard class), Condition guard (ConditionGuard class), and Internal memory (dictionary/hashmap type variable).

An overview of the system implementation can be seen in Figure 1. An administrator can edit the intervention content, and then this is placed into a state machine. The machine then acts upon an avatar which is exported in WebGL format and then the web page can be loaded so that the agent delivers the content entered.

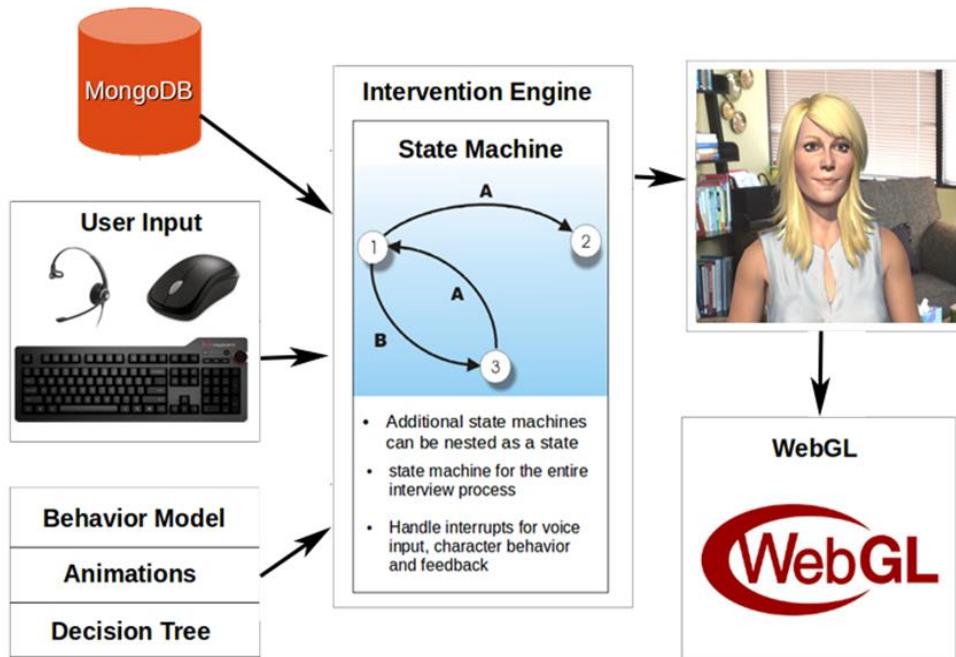


Figure 1. Intervention Engine Flow Chart for eEVA

Purpose of New System

eEVA is a web-based system, that implements both a survey editor and state machine to allow administrators to edit intervention content quickly and easily. Once the initial structure was in place, it became necessary to add the interventions of the DCU, preparing the system and database to handle user input. However, in order for users to receive feedback on the interventions completed, the system required the infrastructure to prepare to display and for the agent to convey the results.

eEVA will perform a number of behavioral assessments, and will then provide feedback to users based on their scores. The system's results are critical to user understanding of their own drinking patterns, and to encouraging them to change if needed. In order to maintain consistency with previous versions, the results content must include the same content and language as the original DCU. The complete list of functions for eEVA, and the system that must be implemented are described more thoroughly below.

USER STORIES

The following section provides the detailed user stories that were implemented in this iteration of the eEVA Data Generation and User Results Analysis Ver 1.0 project. These user stories served as the basis for the implementation of the project's features. This section also shows the user stories that are to be considered for future development.

Implemented User Stories

The user stories were written for the entire system and are thus split into their respective epic level (in bold) and user story level. The items below are those implemented during the work on eEVA Data Generation and User Results Analysis Ver 1.0:

User Story ID	Mingle #	Functional Requirements
<i>AdminTasks (Epic)</i>		
<i>AddElement_Next (User Story)</i>	133	As an administrator I would like to add a next button element so that I can easily select “next” when building my intervention and the user will be able to transition to the next page on the site
<i>Installation (User Story)</i>	125	As a Senior Project student I would like to install MongoDB, Web Storm, and NodeJS so that I can begin working on the code to make the necessary changes to eEVA.
<i>Training (User Story)</i>	126	As a Senior Project student I would like to learn about Jade and JavaScript Programming languages so that I can begin working on the code to make the necessary changes to eEVA.
<i>EnlargeToggledCounselor (User Story)</i>	233	As an administrator I would like to be able to enlarge the toggled counselor size so that it is displayed more prominently on the screen
<i>ModifyContentStyling (User Story)</i>	234	As an administrator I would like to be able to modify the html content so that it is

		consistent throughout the results and displays the data in organized divisions
<i>EditIntervention (Epic)</i>		
<i>EditDCU_FeedbackHome (User Story)</i>	117	As an administrator I would like to be able to edit the feedback choices so that the user can either take a guided tour or get feedback
<i>EditDCU_GetFeedback (User Story)</i>	124	As an administrator I would like to be able to edit the feedback choices so that the user can decide which section they would like to focus on (Risk Factors, Consequences, Dependence, or Motivation)
<i>EditDCU_BAC (User Story)</i>	166	As an administrator I would like to be able to edit the blood alcohol concentration content so that the user can complete the options related to those questions
<i>EditDCU_HowMuch (User Story)</i>	197	As an administrator I would like to be able to edit the “How Much I Drink” content of the drinking feedback section so that the user can learn what their scores are, and what they mean
<i>EditDCU_RiskFutureProblems (User Story)</i>	198	As an administrator I would like to be able to edit the “Risk for Future Alcohol-Related Problems” content of the drinking feedback section so that the user can learn what their scores are, and what they mean
<i>EditDCU_Consequences (User Story)</i>	199	As an administrator I would like to be able to edit the “Consequences” content of the drinking feedback section so that the user can learn what their scores are, and what they mean
<i>EditDCU_Dependence (User Story)</i>	200	As an administrator I would like to be able to edit the “Dependence” content of the drinking feedback section so that the user can

		learn what their scores are, and what they mean
<i>EditDCU_Motivation (User Story)</i>	201	As an administrator I would like to be able to edit the “Motivation” content of the drinking feedback section so that the user can learn what their scores are, and what they mean
<i>EditDCU_Congratulations (User Story)</i>	235	As an administrator I would like to be able to edit the congratulations content so that a user will know that they have completed the feedback section
<i>EditDCU_ConsiderYourOptions (User Story)</i>	236	As an administrator I would like to be able to edit the consider your options content so that a user can think about how their scores affect their patterns
<i>EditDCU_YourCurrentThinking (User Story)</i>	237	As an administrator I would like to be able to edit the “Your Current Thinking” content so that a user can determine if they will/won’t change their drinking pattern
<i>EditStateMachine (Epic)</i>		
<i>UserAccounts (Epic)</i>		

Pending User Stories

The following user stories were implemented by others in the lab and still require testing (the text in black), or they still need to be implemented (**highlighted in red**). Please note again the epic level stories are those in bold and the user story level tasks that relate to them are listed underneath each epic:

User Story ID	Mingle #	Functional Requirements
<i>AdminTasks (Epic)</i>		
<i>AddInterventionFolder (User Story)</i>	130	As an administrator I would like to add an intervention folder so that I can have the counselor conduct an assessment
<i>RenameIntervention (User Story)</i>	131	As an administrator I would like to rename an intervention folder so that I can track which assessment I'm revising
<i>RemoveIntervention (User Story)</i>	121	As an administrator I would like to remove an intervention folder so that I can remove assessments that aren't needed
<i>AddInterventionForm (User Story)</i>	122	As an administrator I would like to add an intervention form so that I can customize the intervention content
<i>RenameInterventionForm (User Story)</i>	123	As an administrator I would like to rename an intervention form so that I can change the form names as desired
<i>RemoveInterventionForm (User Story)</i>	132	As an administrator I would like to remove an intervention form so that I can remove files that aren't needed
<i>AddElement_QA (User Story)</i>	134	As an administrator I would like to add a Question/Answer button element so that I can easily select "Question/Answer" when building my intervention and can enter a question itself, as well as answers for users to select

<i>AddElement_Checkbox (User Story)</i>	135	As an administrator I would like to add a checkbox button element so that I can easily select “Add Checkbox” when building my intervention and can enter a question itself, as well as answers for users to check
<i>AddElement_TextArea (User Story)</i>	136	As an administrator I would like to add a checkbox button element so that I can easily select “Add Text Area” when building my intervention and can enter a question
<i>AddElement_Feedback (User Story)</i>	137	As an administrator I would like to add a feedback button element so that I can easily select “Add Feedback” when building my intervention and can enter feedback content for the avatar to relay to the user
<i>AddElement_FeedbackList (User Story)</i>	138	As an administrator I would like to add a feedback list button element so that I can easily select “Add Feedback List ” when building my intervention and can enter multiple lines of feedback content for the avatar to relay to the user
<i>AddElement_Content (User Story)</i>	139	As an administrator I would like to add a content button element so that I can easily select “Add Content” when building my intervention and can enter html content that can be displayed
<i>EditElement_QA (User Story)</i>	141	As an administrator I would like to edit the content Question/Answer element so that I can change the language used for “question” and “answers” when building my intervention in case different interventions require specific wording
<i>EditElement_Checkbox (User Story)</i>	142	As an administrator I would like to edit the content checkbox element so that I can change the language used for “statement” and “checkbox answers” when building my

		intervention in case different interventions require specific wording
<i>EditElement_TextArea (User Story)</i>	143	As an administrator I would like to edit the content of a text area element so that I can change the language used when building my intervention in case different interventions require specific wording
<i>EditElement_Feedback (User Story)</i>	144	As an administrator I would like to edit a feedback element so that I can change the language used when building my intervention in case different interventions require specific wording
<i>EditElement_FeedbackList (User Story)</i>	145	As an administrator I would like to edit the feedback list element so that I can change the content used for several feedback items when building my intervention
<i>EditElement_Content (User Story)</i>	146	As an administrator I would like to edit a content element so that I can add html code to display designed pages when building my intervention
<i>DeleteElement_Next (User Story)</i>	147	As an administrator I would like to delete a next button element so that I can remove unnecessary items from the survey editor page
<i>DeleteElement_QA (User Story)</i>	148	As an administrator I would like to delete the question/answer element so that I can remove unnecessary items from the survey editor page
<i>DeleteElement_Checkbox (User Story)</i>	149	As an administrator I would like to delete the checkbox element so that I can remove unnecessary items from the survey editor page

<i>DeleteElement_TextArea (User Story)</i>	150	As an administrator I would like to delete the text area element so that I can remove unnecessary items from the survey editor page
<i>DeleteElement_Feedback (User Story)</i>	151	As an administrator I would like to delete the feedback element so that I can remove unnecessary items from the survey editor page
<i>DeleteElement_FeedbackList (User Story)</i>	152	As an administrator I would like to delete the feedback list element so that I can remove unnecessary items from the survey editor page
<i>DeleteElement_Content (User Story)</i>	153	As an administrator I would like to delete the content element so that I can remove unnecessary items from the survey editor page
<i>UpdatePage_Content (User Story)</i>	154	As an administrator I would like to be able to have an “update” button so that I can save all changes made to the intervention inside its survey editor page
<i>AddAccount (User Story)</i>	155	As an administrator I would like to be able to add accounts so that I can create accounts for users as needed
<i>RemoveAccount (User Story)</i>	156	As an administrator I would like to be able to remove accounts so that I can delete accounts for users as needed
<i>AccessUserVariables (User Story)</i>	162	As an administrator I would like to be able to access the variables for users’ score information from the database so that I can present users with information specific to their results on the various assessments
<i>EditIntervention (Epic)</i>		

<i>EditDCU_AUDIT (User Story)</i>	157	As an administrator I would like to be able to edit the AUDIT intervention so that I can enter the content from the original questionnaire
<i>EditDCU_DRINC (User Story)</i>	158	As an administrator I would like to be able to edit the DRINC intervention so that I can enter the content from the original questionnaire
<i>EditDCU_SADQC (User Story)</i>	159	As an administrator I would like to be able to edit the SADQ-C intervention so that I can enter the content from the original questionnaire
<i>EditDCU_SOCRATES (User Story)</i>	160	As an administrator I would like to be able to edit the SOCRATES intervention so that I can enter the content from the original questionnaire
<i>EditDCU_BDP (User Story)</i>	161	As an administrator I would like to be able to edit the BDP intervention so that I can enter the content from the original questionnaire
<i>EditDCU_Greetings (User Story)</i>	163	As an administrator I would like to be able to edit the greetings so that I can enter the content for my counselor to introduce himself/herself
<i>EditDCU_MATCH (User Story)</i>	164	As an administrator I would like to be able to edit the greetings so that I can enter the content for my counselor to introduce himself/herself
<i>EditDCU_Home (User Story)</i>	165	As an administrator I would like to be able to edit the user intervention choices so that there is a direct path to each major intervention
<i>EditDCU_RiskFactors (User Story)</i>	167	As an administrator I would like to be able to edit the risk factors content so that the user

		can complete the options related to that section
<i>EditDCU_ChangePlan (User Story)</i>	195	As an administrator I would like to be able to edit the change plan content so that the user can complete the options related to that section
<i>EditDCU_Pamphlet (User Story)</i>	196	As an administrator I would like to be able to display the drinking pattern pamphlet content so that the user can learn about alcohol and its effects
<i>EditStateMachine (Epic)</i>		
<i>NewPage (User Story)</i>	168	As an administrator I would like to be able to select “Create a new state” so that I add a new page for state information
<i>LoadPage (User Story)</i>	169	As an administrator I would like to be able to select “New/Load” so that I can view all the currently created pages of the state machine
<i>DeletePage (User Story)</i>	170	As an administrator I would like to be able to select “Delete” so that I can remove a created page of the state machine
<i>SavePage (User Story)</i>	171	As an administrator I would like to be able to select “Save” so that I can save the current state of a created page of the state machine
<i>MachineInventory_Add (User Story)</i>	172	As an administrator I would like to be able to select a created item in the machine inventory so that I can load the item on the page to place into the state machine
<i>MachineInventory_Remove (User Story)</i>	173	As an administrator I would like to be able to select a created item in the machine inventory and hit the erase button so that I can remove an item from the state machine page

<i>MachineInventory_EmptyState (User Story)</i>	174	As an administrator I would like to be able to select an empty state in the machine inventory so that I can create a state to place into the state machine
<i>MachineInventory_ExecMongoElement (User Story)</i>	175	As an administrator I would like to be able to select an “ExecMongoElement” in the machine inventory so that I can interact with the Mongo-database to pull user-specific content
<i>TreeView_OpenFolder (User Story)</i>	176	As an administrator I would like to be able to open a folder in the tree view so that I can obtain specific content created in the “Survey Editor”
<i>TreeView_CloseFolder (User Story)</i>	177	As an administrator I would like to be able to close a folder in the tree view so that I can minimize unnecessary folders
<i>TreeView_SelectElement (User Story)</i>	178	As an administrator I would like to be able to open an item in the tree view so that I can obtain specific content created in the “Survey Editor”
<i>TreeView_CopyElementInformation (User Story)</i>	179	As an administrator I would like to be able to copy the information from an element an item in the tree view so that I can load specific content created in the “Survey Editor” into a designated state
<i>AddTransition (User Story)</i>	180	As an administrator I would like to be able to add a transition in the state machine so that I can link states created in the “State Machine,” and create a progression of events
<i>RemoveTransition (User Story)</i>	181	As an administrator I would like to be able to remove a transition in the state machine so that I can deleted the link between states created in the “State Machine,” and remove the progression of events

<i>EditElement_Name (User Story)</i>	182	As an administrator I would like to be able to edit element names in the “State Machine,” so that I can easily locate the states I’ve created
<i>EditElement_elemIDref (User Story)</i>	183	As an administrator I would like to be able to add a “elemIDref” in the state machine so that I can link states created in the “State Machine” with the content created in the “State Editor”
<i>EditElement_canGoBack (User Story)</i>	184	As an administrator I would like to be able to enter information about whether or not an element “canGoBack” in the state machine so that I can control the return permissions of a state
<i>UserAccounts (Epic)</i>		
<i>Login (User Story)</i>	185	As an user I would like to login so that I can access my account, complete interventions, and view my results
<i>Logout (User Story)</i>	186	As an user I would like to logout so that my account is not always open
<i>ToggleCameraOn (User Story)</i>	187	As an user I would like to toggle the camera on easily so that I can see my own expressions as the counselor views them
<i>ToggleCameraOff (User Story)</i>	188	As an user I would like to toggle the camera off easily so that I don’t need to view a window with my own video feed on the screen
<i>TabulateBACScore (User Story)</i>	189	As an user I would like the system to tabulate my BAC score so that I know what my score is on the assessment

<i>TabulateAUDITScore (User Story)</i>	190	As an user I would like the system to tabulate my AUDIT score so that I know what my score is on the assessment
<i>TabulateDRINCScore (User Story)</i>	191	As an user I would like the system to tabulate my DRINC score so that I know what my score is on the assessment
<i>TabulateSADQScore (User Story)</i>	192	As an user I would like the system to tabulate my SADQ score so that I know what my score is on the assessment
<i>TabulateSOCRATESScore (User Story)</i>	193	As an user I would like the system to tabulate my SOCRATES score so that I know what my score is on the assessment
<i>TabulateBDPScore (User Story)</i>	194	As an user I would like the system to tabulate my BDP score so that I know what my score is on the assessment

PROJECT PLAN

We are using an Agile Software Development approach to build and design eEVA Data Generation and User Results Analysis Ver 1.0. An overview of the development process is depicted in Figure 2:

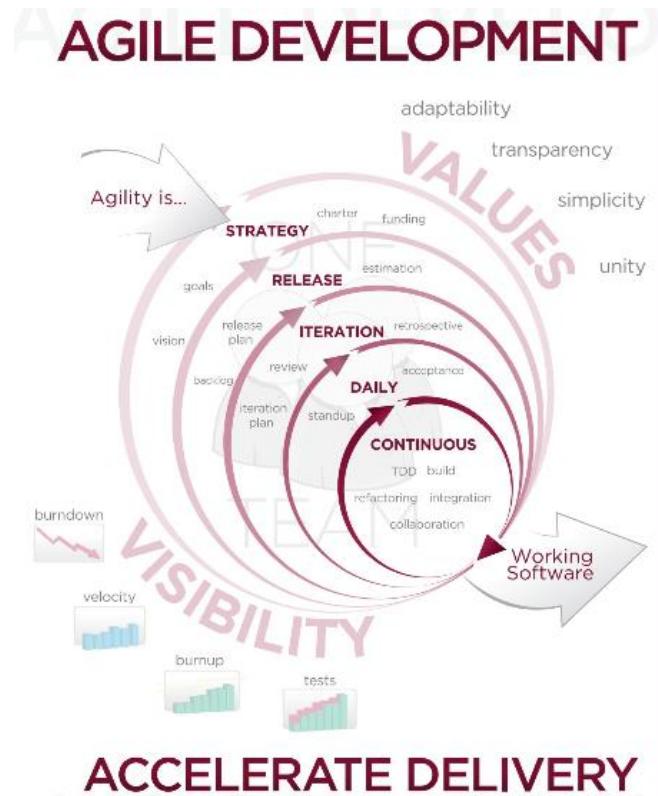


Figure 2: Agile Software Development (taken from King, T., 2016)

Agile is well suited to our project since we are dealing with poorly defined requirements for our newly proposed system to find the best method for displaying the results. Also, the iterative nature will enable us to work in short sprints to achieve progress in the software development. In addition to the overall Agile approach, we use Mingle management for individual team members to pull work from the product backlog. To provide an overview of the system in a clear fashion, we use UML diagrams. More specifically, to represent the overall system, we utilize use case diagrams for the implemented features, class diagrams, and object interaction via sequence diagrams.

Hardware and Software Resources

The following is a list of all hardware and software resources that were used in eEVA Data Generation and User Results Analysis Ver 1.0:

Hardware	Software
<ul style="list-style-type: none">• Custom Built: Intel Core i7-4790K , CPU 4.00GHz, 16.0GB RAM, Windows 7 Professional• HP ProBook 450 laptop: Intel Processor, 8GB RAM, Windows 7 Operating System	<ul style="list-style-type: none">• Node.js v6.9.1 (includes npm 3.10.8)• Webstorm Version: 2016.3.1• Unity 5.4.0f3 pro• Selenium IDE version 2.9.1 with File Logging version 3.0.1-signed, Builder version 3.0.9, Page Coverage version 1.15.1-signed.1-signed, and Test Results 2.0.1-signed.1-signed for Firefox• Firebug version 2.0.17 for Firefox Browser• jsPlumb 2.2.6

The following are needed for the user to access the system:

Hardware	Software
<ul style="list-style-type: none">• Internet Connection (>1 Mbps)	<ul style="list-style-type: none">• Web Browser (Cookies Enabled): Google Chrome or Mozilla Firefox

Sprints Plan

Sprint 1	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<08/28/2016 2:30PM>
End time:	<08/28/2016 2:45PM>
The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.	
<ul style="list-style-type: none"> • N/A 	
The team members indicated their willingness to work on the following user stories.	
<ul style="list-style-type: none"> • For Sprint 1 the team has decided to install the software needed to run the eEVA web application, and begin learning the functionality of the system. We are also going to review Senior Project documentation requirements. 	

Sprint 2	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<09/09/2016 12:09PM>
End time:	<09/09/2016 12:36PM>
The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.	
<ul style="list-style-type: none"> • User Story 001_GetFeedback_E • User Story 002_BloodAlcohol_E • User Story 003_BloodAlcohol_US • User Story 004_BloodAlcohol_US • User Story 005_BloodAlcohol_US 	
The team members indicated their willingness to work on the following user stories.	
<ul style="list-style-type: none"> • <Stephanie Lunn, Carlos Mestre> <ul style="list-style-type: none"> ◦ User Story 001_GetFeedback_E ◦ User Story 002_BloodAlcohol_E ◦ User Story 003_BloodAlcohol_US ◦ User Story 004_BloodAlcohol_US ◦ User Story 005_BloodAlcohol_US 	

Sprint 3	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<09/23/2016 2:05PM>
End time:	<09/23/2016 2:15PM>
<p>The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.</p> <ul style="list-style-type: none"> • NOTE: numbers and names will be revised to reflect new epics and user stories • Students should work on styling the features for the User Story pertaining to Blood Alcohol Concentration and fix the areas begun but with problems (already began, but presently has issues such as reset for BAC3, Print for BAC3, Text display for BAC2B) • Documentation for BAC testing • Documentation for Register (number to be assigned when epics and user stories reorganized) 	
<p>The team members indicated their willingness to work on the following user stories.</p> <ul style="list-style-type: none"> • <Carlos Mestre, Stephanie Lunn> <ul style="list-style-type: none"> ◦ Work together on all items for this sprint, then will divide amongst member 	

Sprint 4	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<10/10/2016 5:30PM>
End time:	<10/10/2016 6:30PM>
<p>The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.</p> <ul style="list-style-type: none"> • User Story #197 EditDCU_HowMuch • User Story #198 EditDCU_RiskFactors 	
<p>The team members indicated their willingness to work on the following user stories.</p> <ul style="list-style-type: none"> • <Carlos Mestre> <ul style="list-style-type: none"> ◦ User Story #198 EditDCU_RiskFactors • <Stephanie Lunn> <ul style="list-style-type: none"> ◦ User Story #197 EditDCU_HowMuch(DRINC) 	

Sprint 5	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<10/21/2016 11:53AM>
End time:	<10/21/2016 12:01PM>
<p>The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.</p> <ul style="list-style-type: none"> • User Story #199 EditDCU_Consequences • User Story #200 EditDCU_Dependence • User Story #201 EditDCU_Motivation 	
<p>The team members indicated their willingness to work on the following user stories.</p> <ul style="list-style-type: none"> • <Carlos Mestre> <ul style="list-style-type: none"> ◦ User Story #199 EditDCU_Consequences • <Stephanie Lunn> <ul style="list-style-type: none"> ◦ User Story #200 EditDCU_Dependence ◦ User Story #201 EditDCU_Motivation 	

Sprint 6	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<11/04/2016 2:05PM>
End time:	<11/04/2016 2:30PM>
<p>The product owner has requested the following changes:</p> <ul style="list-style-type: none"> • Styling revisions to all previously accepted items as a separate story • Application of a new gauge graphic 	
<p>The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.</p> <ul style="list-style-type: none"> • User Story #234 EditDCU_ModifyContentStyling • User Story #235 EditDCU_Congratulations • User Story #236 EditDCU_ConsiderYourOptions • User Story #237 EditDCU_YourCurrentThinking 	
<p>The team members indicated their willingness to work on the following user stories.</p> <ul style="list-style-type: none"> • <Carlos Mestre> <ul style="list-style-type: none"> ◦ User Story #234 EditDCU_ModifyContentStyling • <Stephanie Lunn> <ul style="list-style-type: none"> ◦ User Story #235 EditDCU_Congratulations ◦ User Story #236 EditDCU_ConsiderYourOptions 	

- User Story #237 EditDCU_YourCurrentThinking

Sprint 7

Attendees: <Christine Lisetti, Carlos Mestre, Stephanie Lunn>

Start time: <11/18/2016 12:00PM>

End time: <11/18/2016 12:05PM>

The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.

- None, work on documentation

The team members indicated their willingness to work on the following user stories.

- Work on documentation

SYSTEM DESIGN

This section contains information on the design decisions that went into this project. The architecture patterns are outlined and explained. The entire system is shown in a package diagram and the subsystems are explained. Finally, the design patterns used in the project are discussed.

Architectural Patterns

The primary architectural pattern applied is Model-View-Controller (MVC), which is best for eEVA since it emphasizes scalability and modularity, enabling us to separate the application logic, data and user interface. Also, the MVC model will be the best choice since we are utilizing a MEAN stack. To structure eEVA, MongoDB is used for the database, while Express is used as the framework for the web server. Additionally, AngularJS is used for the framework of the web client, and finally, Node.js is the platform used for the server. It is an open stack application that enabled us to create our application, which consists of both a client-side and a server-side. The advantages include that a single language is used throughout our application, and that all components can support and typically enforce the MVC architecture as well. An overview of our system architecture can be seen in Figure 3.

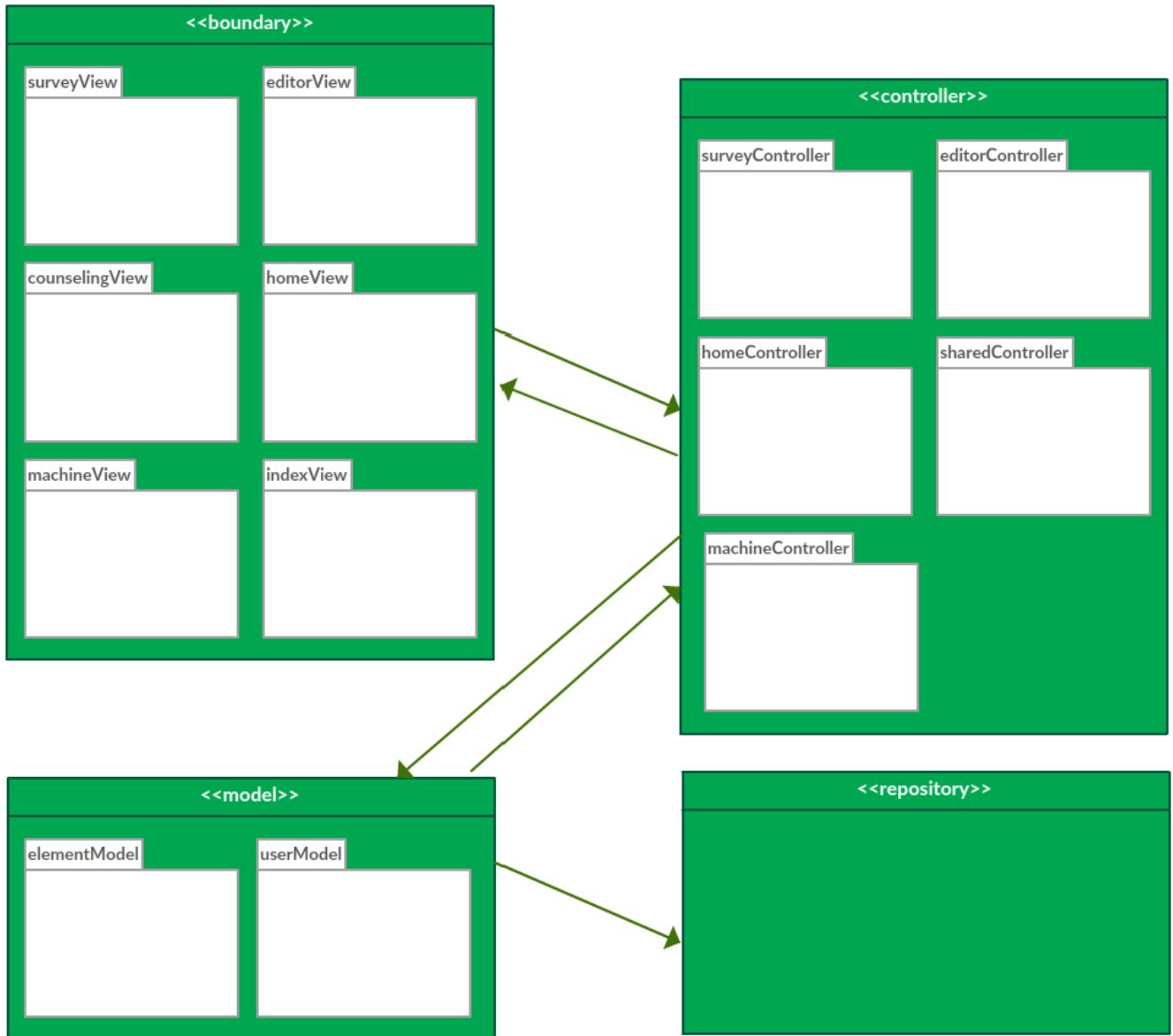


Figure 3. Class Diagram-Min-View

System and Subsystem Decomposition

The 3 subsystems which comprise the eEVA counselor are broken down further below:

UserInterface

The user interface subsystem is the boundary between the user and the underlying functionality of the system. Anything that the user wants to do is first specified through the user interface and then passed down to the appropriate subsystem. Anything that the administrator wants to do such as editing the state machine or survey editor, or that the end user wants to do, such as logging in, logging out, taking an intervention, etc., is all done through the user interface.

State Machine

The State Machine subsystem gives functionality to the user to be able to create a set of states based on the content created in the Survey Editor. The administrator is able to build states, and based on a set of conditions, allow a sequence of movement between said states. The sequence will always have a beginning and end state. The flow of the web application depends on what features are created inside of the Survey Editor's forms, and their

Survey Editor

The Survey Editor subsystem is the bases for the creation of content in the eEVA Counseling system. It is set up resembling a system of folders, each containing forms which allow the editing of content. There are 6 basic types of objects which define the makeup of the system: Add Question/Answer, Add Checkbox, Add TextArea, Add Feedback, Add FeedbackList, and Add Content. Each one has an individual purpose which you can find throughout the eEVA counselor. For example, all html content used in the system is generated through an IDE and inserted into a Content object.

Webstorm Project

All of the eEVA system's content that is created in both the State Machine and Survey Editor are injected into the Webstorm project using the client/server connection. The project is the controlling factor of all the features producing the final product. It contains all of the models, views, controllers, and serves as the connection to the database.

Deployment Diagram

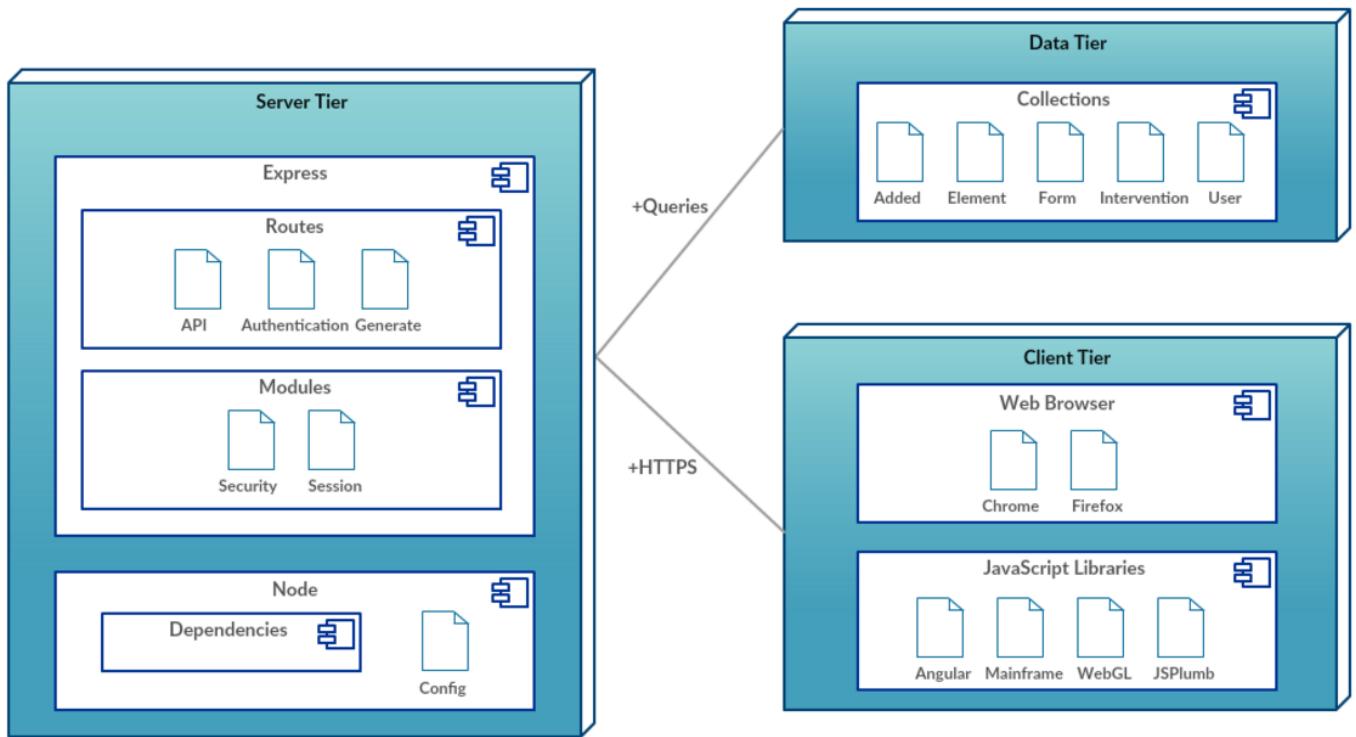


Figure 4. eEVA Deployment Diagram

Design Patterns

eEVA utilizes multiple design patterns, although since we were building on an existing lab system, these were not all personally implemented. However, some of the patterns that were used include façade, adapter, and the singleton pattern.

The **façade pattern** was used for the survey editor so that the façade controller could simplify the complexity of the many models in the server and its intricacies, as well as to simplify testing. Options that were created for the survey editor, such as being able to add an intervention or element, required an involved process that was simplified as a result of this implementation.

The **singleton pattern** was employed to provide a global point of access to objects. Thus, multiple instances could be added later on without having the singleton class' clients affected. We had a singleton to handle the session login of all three components of the site, namely the state machine, the survey editor, and the counselor WebGL view.

The **adapter design pattern** was important to matching older components of one system with the new system. We are using the free version of JSPlumb for the graphical interface of the state machine and because of compatibility issues with Angular, we needed to create an adapter class that used primitive JavaScript functions to interact with the API. This was essentially Angular's way of communicating with JSPlumb.

SYSTEM VALIDATION

In this chapter, the testing process will be explained in more detail. An overview of the testing process is displayed in Figure 5, which is a modified version of the Figure 6.1 in A.P. Mathur's Foundations of Software Testing (2008). Using the requirements designated in the eEVA's user stories, we constructed a non-empty test set before testing began, and then executing the program and the establishing test cases using Mocha and Selenium

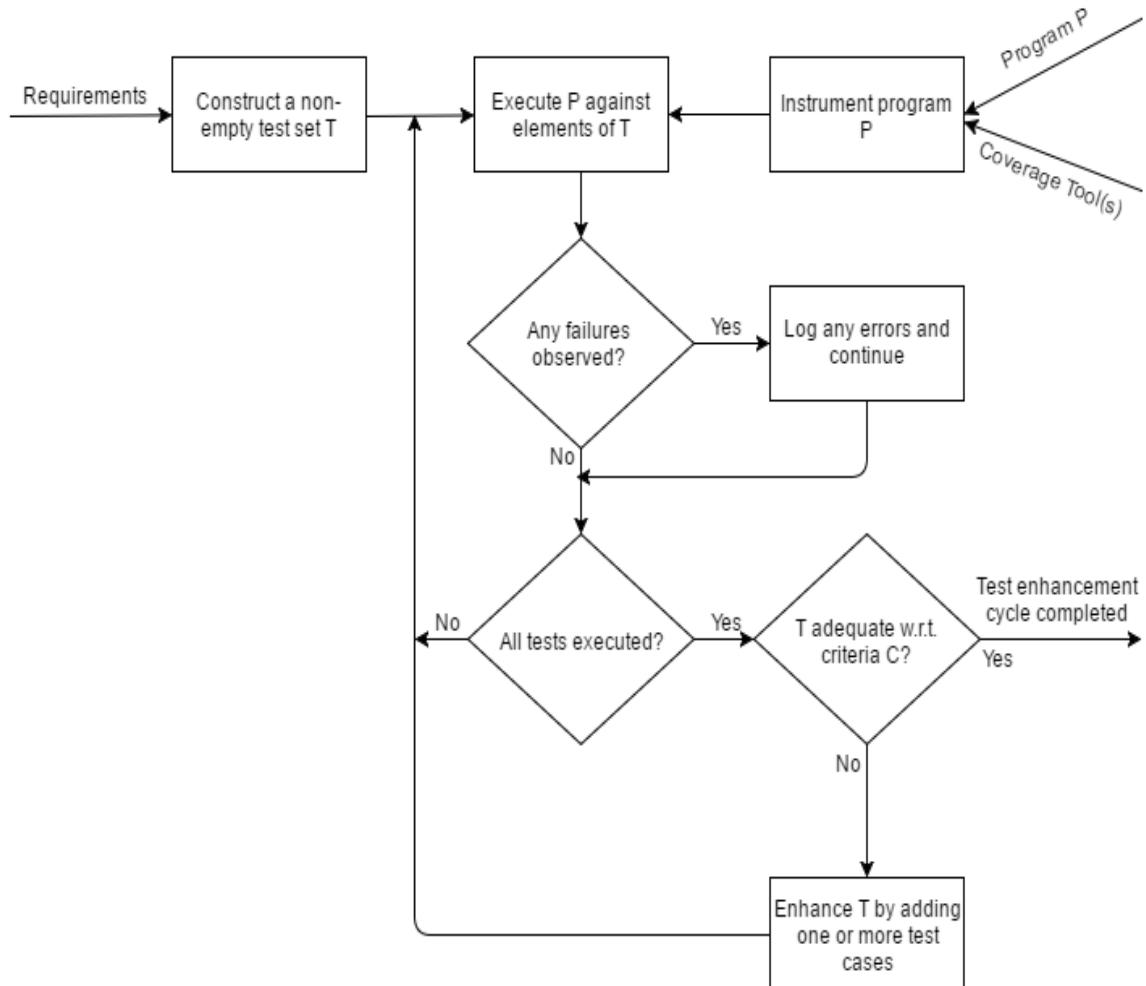


Figure 5: Flowchart depicting the Testing Approach, Modified from Foundations of Software Testing 2/e (Mathur, 2008)

The test cases are organized by system (eEVA), testing level (UT for Unit Testing and IT for Integration Testing), the user story title, the test case number, and then if it is a sunny day or rainy day test:

User Story #117: EditDCU_FeedbackHome

Test Case ID: User Story #117	eEVA_UT_EditDCU_FeedbackHome_01 (Sunny Day)
Purpose	Tests that admin can edit a question/answer element in the survey editor and insert appropriate answer text which will load the text “ Guided Tour ” when the user loads the “Feedback Module home” page
Precondition	Administrator creates question/answer element in the “Feedback Module home” form with answer text to display “Guided Tour” text, and then updates and places into the state machine. User is on the “Feedback Module home” page.
Expected Result	Feedback Module home page loads displaying text for “ Guided Tour ”
Actual Result	Feedback Module home page loads displaying text for “ Guided Tour ”
Status	PASSED

Test Case ID: User Story #117	eEVA_UT_EditDCU_BAC_02 (Rainy Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate answer text which will NOT load the text “ Guided Tour ” when the user loads the “Feedback Module home” page
Precondition	Administrator creates content element in the “Feedback Module home” form with answer text to display “Guided Tour” text, and then updates and places into the state machine. User is on the “Feedback Module home” page.
Expected Result	Feedback Module home page loads but does NOT display text for “Guided Tour”
Actual Result	Feedback Module home page loads but does NOT display text for “Guided Tour”
Status	PASSED

Test Case ID: User Story #117	eEVA_IT_EditDCU_BAC_01 (Sunny Day)
Purpose	Tests that when the user loads the Feedback module home page, and selects the Get Feedback button, the system will load the Get Feedback Page
Precondition	User is on the Feedback Module Home page, and the counselor has finished speaking. User selects the “Get Feedback” from choices
Expected Result	Get Feedback page loads
Actual Result	Get Feedback page loads
Status	PASSED

Test Case ID: User Story #117	eEVA_IT_EditDCU_BAC_02 (Rainy Day)
Purpose	Tests that when the user loads the Feedback Module Home page, and selects the button to view the “My Progress”, the system will NOT load the Get Feedback page
Precondition	User is on the Feedback Module Home page, and the counselor has finished speaking. User selects the button for the “My Progress”
Expected Result	Get Feedback page does NOT load, and instead only progress clipboard pops up
Actual Result	Get Feedback page does NOT load, and instead only progress clipboard pops up
Status	PASSED

User Story #124: EditDCU_GetFeedback

Test Case ID: User Story #124	eEVA_UT_EditDCU_GetFeedback_01 (Sunny Day)
Purpose	Tests that admin can edit a question/answer element in the survey editor and insert appropriate text which will load the text " You can get your feedback in a specific section by clicking or speaking one of the links below. " when the user loads the Get Feedback page
Precondition	Administrator creates question/answer element in the "Get Feedback" form with required text, and then updates and places into the state machine. User is on the "Get Feedback" page.
Expected Result	Get Feedback page loads displaying text for "You can get your feedback in a specific section by clicking or speaking one of the links below."
Actual Result	Get Feedback page loads displaying text for "You can get your feedback in a specific section by clicking or speaking one of the links below."
Status	PASSED

Test Case ID: User Story #124	eEVA_UT_EditDCU_GetFeedback_02 (Rainy Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate text but NOT html code. As a result, the system will not load the text " You can get your feedback in a specific section by clicking or speaking one of the links below. " when the user loads the "Get Feedback" page
Precondition	Administrator creates content element element in the "Get Feedback" form with required text, and then updates and places into the state machine. User is on the "Get Feedback" page.
Expected Result	Get Feedback page loads and does not display text that states "You can get your feedback in a specific section by clicking or speaking one of the links below"
Actual Result	Get Feedback page loads and does not display text that states "You can get your feedback in a specific section by clicking or speaking one of the links below"
Status	PASSED

Test Case ID: User Story #124	eEVA_IT_EditDCU_GetFeedback_01 (Sunny Day)
Purpose	Tests that when the user loads the Get Feedback page, and selects the Consequences button, the system will load the Consequences Page
Precondition	User is on the Get Feedback page, and the counselor has finished speaking. User selects the “Consequences”
Expected Result	Consequences page loads
Actual Result	Nothing happens
Status	FAILED

Test Case ID: User Story #124	eEVA_IT_EditDCU_GetFeedback_02 (Rainy Day)
Purpose	Tests that when the user loads the Get Feedback page, and selects the button to view the “My Progress”, the system will NOT load the Consequences Page
Precondition	User is on the Get Feedback page, and the counselor has finished speaking. User selects the button for the “My Progress”
Expected Result	Consequences page does NOT load, and instead only progress clipboard pops up
Actual Result	Consequences page does NOT load, and instead only progress clipboard pops up
Status	PASSED

User Story #133: AddElement_Next

Test Case ID: User Story #133	eEVA_UT_AddElement_Next_01 (Sunny Day)
Purpose	Tests that admin can create a single answer in the question and answer element of the survey editor with the word “Next” that will appear to user as a button displaying the word “Next”
Precondition	Administrator creates a single answer in the question and answer element of the survey editor with the word “Next” and then this element is added into the state machine
Expected Result	When loaded section appears on user interface, a “Next” button loads
Actual Result	When loaded section appears on user interface, a “Next” button loads
Status	PASSED

Test Case ID: User Story #133	eEVA_UT_AddElement_Next_02 (Rainy Day)
Purpose	Tests that admin can create add more than one answer in the question and answer element of the survey editor. Admin will instead add two answer options, the word “Next” and “Next.” This will illustrate that the change that will not appear to user as a button displaying the word “Next” but rather as a multi-choice answer for users
Precondition	Administrator creates more than one answer in the question and answer element in the survey editor with the word “Next.” Admin will instead add two answer options, the word “Next” and “Next” as two separate “answer” lines, and then this element is added into the state machine
Expected Result	When loaded section appears on user interface, a multi-choice option loads with two options available displaying the text “Next”
Actual Result	When loaded section appears on user interface, a multi-choice option loads with two options available displaying the text “Next”
Status	PASSED

Test Case ID: User Story #133	eEVA_IT_AddElement_Next_01 (Sunny Day)
Purpose	Tests that clicking on the “Next” button from BAC2A loads the BAC2B page
Precondition	User is on the BAC2A page and waits for the counselor to finish speaking
Expected Result	When the user selects the “Next” button, BAC2B page loads
Actual Result	When the user selects the “Next” button, BAC2B page loads
Status	PASSED

Test Case ID: User Story #133	eEVA_IT_AddElement_Next_02 (Rainy Day)
Purpose	Tests that clicking on the counselor image from BAC2A does not load the BAC2B page
Precondition	User is on the BAC2A page and waits for the counselor to finish speaking
Expected Result	When the user clicks on the counselor image the, BAC2B page does not load
Actual Result	When the user clicks on the counselor image the, BAC2B page does not load
Status	PASSED

User Story #166: EditDCU_BAC

Test Case ID: User Story #166	eEVA_UT_EditDCU_BAC_01 (Sunny Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate html code which will load the text “ Estimated peak BAC ” when the user loads the Blood Alcohol Content 2A page
Precondition	Administrator creates content element in the “BAC” form with html code to display text, and then updates and places into the state machine. User is on the “Blood Alcohol Content 2A” page.
Expected Result	Blood Alcohol Content 2A page loads displaying text for “Estimated peak BAC”
Actual Result	Blood Alcohol Content 2A page loads displaying text for “Estimated peak BAC”
Status	PASSED

Test Case ID: User Story #166	eEVA_UT_EditDCU_BAC_02 (Rainy Day)
Purpose	Tests that admin can edit a question/answer element in the survey editor and insert appropriate html code which will not load the text “ Estimated peak BAC ” when the user loads the “Blood Alcohol Content 2A” page
Precondition	Administrator creates question/answer element element in the “BAC” form with html code to display text, and then updates and places into the state machine. User is on the “Blood Alcohol Content 2A” page.
Expected Result	Blood Alcohol Content 2A page loads and does not display text that states “Estimated peak BAC”
Actual Result	Blood Alcohol Content 2A page loads and does not display text that states “Estimated peak BAC”
Status	PASSED

Test Case ID: User Story #166	eEVA_IT_EditDCU_BAC_01 (Sunny Day)
Purpose	Tests that when the user loads the Blood Alcohol Content 2A page, and selects the Next button, the system will load the Blood Alcohol Content 2B
Precondition	User is on the Blood Alcohol Content 2A page, and the counselor has finished speaking. User selects the “Next” button
Expected Result	Blood Alcohol Content 2B page loads
Actual Result	Blood Alcohol Content 2B page loads
Status	PASSED

Test Case ID: User Story #166	eEVA_IT_EditDCU_BAC_02 (Rainy Day)
Purpose	Tests that when the user loads the Blood Alcohol Content 2A page, and selects the button to view the “My Progress”, the system will NOT load the Blood Alcohol Content 2B page
Precondition	User is on the Blood Alcohol Content 2A of drinking page, and the counselor has finished speaking. User selects the button for the “My Progress”
Expected Result	Blood Alcohol Content 2B page does NOT load, and instead only progress clipboard pops up
Actual Result	Blood Alcohol Content 2B page does NOT load, and instead only progress clipboard pops up
Status	PASSED

User Story #197: EditDCU_HowMuch

Test Case ID: User Story #197	eEVA_UT_EditDCU_HowMuch_01 (Sunny Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate html code which will load the text “ Your Drinking Pattern ” when the user loads the “How Much I drink” page
Precondition	Administrator creates content element in the “Drinking Consequences” form with html code to display text, and then updates and places into the state machine. User is on the “How Much I drink” page.
Expected Result	How Much I drink/Quality of drinking page loads displaying text for “Your Drinking Pattern”
Actual Result	How Much I drink/Quality of drinking page loads displaying text for “Your Drinking Pattern”
Status	PASSED

Test Case ID: User Story #197	eEVA_UT_EditDCU_HowMuch_02 (Rainy Day)
Purpose	Tests that admin can edit a question/answer element in the survey editor and insert appropriate html code which will not load the text “ Your Drinking Pattern ” when the user loads the “How Much I drink” page
Precondition	Administrator creates question/answer element element in the “Drinking Consequences” form with html code to display text, and then updates and places into the state machine. User is on the “How Much I drink” page.
Expected Result	How Much I drink/Quality of drinking page loads and does not display text that states “Your Drinking Pattern”
Actual Result	How Much I drink/Quality of drinking page loads and does not display text that states “Your Drinking Pattern”
Status	PASSED

Test Case ID: User Story #197	eEVA_IT_EditDCU_HowMuch_01 (Sunny Day)
Purpose	Tests that when the user loads the How Much I drink/Quality of drinking page, and selects the button to view the “Risk of Future Alcohol-Related Problems”, the system will load the Risk of Future Alcohol-Related Problems page
Precondition	User is on the How Much I drink/Quality of drinking page, and the counselor has finished speaking. User selects the button for the “Risk of Future Alcohol-Related Problems” page
Expected Result	Risk of Future Alcohol-Related Problems page loads
Actual Result	Risk of Future Alcohol-Related Problems page loads
Status	PASSED

Test Case ID: User Story #197	eEVA_IT_EditDCU_HowMuch_02 (Rainy Day)
Purpose	Tests that when the user loads the How Much I drink/Quality of drinking page, and selects the button to view the “My Progress”, the system will NOT load the Risk of Future Alcohol-Related Problems page
Precondition	User is on the How Much I drink/Quality of drinking page, and the counselor has finished speaking. User selects the button for the “My Progress”
Expected Result	Risk of Future Alcohol-Related Problems page does NOT load, and instead only progress clipboard pops up
Actual Result	Risk of Future Alcohol-Related Problems page does NOT load, and instead only progress clipboard pops up
Status	PASSED

User Story #198: EditDCU_RiskFutureProblems

Test Case ID: User Story #198	eEVA_UT_EditDCU_RiskFutureProblems_01 (Sunny Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate html code which will load the text “ Age of onset of drinking or alcohol problems ” when the user loads the “Risk of Future Alcohol-Related Problems” page
Precondition	Administrator creates content element in the “Drinking Consequences” form with html code to display text, and then updates and places into the state machine. User is on the “Risk of Future Alcohol-Related Problems” page.
Expected Result	Risk of Future Alcohol-Related Problems page loads displaying text for “ Age of onset of drinking or alcohol problems ”
Actual Result	Risk of Future Alcohol-Related Problems page loads displaying text for “ Age of onset of drinking or alcohol problems ”
Status	PASSED

Test Case ID: User Story #198	eEVA_UT_EditDCU_RiskFutureProblems_02 (Rainy Day)
Purpose	Tests that admin can edit a question/answer element in the survey editor and insert appropriate html code which will not load the text “ Age of onset of drinking or alcohol problems ” when the user loads the “Risk of Future Alcohol-Related Problems” page
Precondition	Administrator creates question/answer element in the “Drinking Consequences” form with html code to display text, and then updates and places into the state machine. User is on the “Risk of Future Alcohol-Related Problems” page.
Expected Result	Risk of Future Alcohol-Related Problems page loads and does not display text that states “ Age of onset of drinking or alcohol problems ”
Actual Result	Risk of Future Alcohol-Related Problems page loads and does not display text that states “ Age of onset of drinking or alcohol problems ”
Status	PASSED

Test Case ID: User Story #198	eEVA_IT_EditDCU_RiskFutureProblems_01 (Sunny Day)
Purpose	Tests that when the user loads the “Risk of Future Alcohol-Related Problems” page, and selects the button to view the “Quality of Drinking”, the system will load the How Much I drink/Quality of drinking page
Precondition	User is on the “Risk of Future Alcohol-Related Problems ” page, and the counselor has finished speaking. User selects the button for the “Quality of Drinking” page
Expected Result	How Much I drink/Quality of drinking page loads
Actual Result	How Much I drink/Quality of drinking page loads
Status	PASSED

Test Case ID: User Story #198	eEVA_IT_EditDCU_RiskFutureProblems_02 (Rainy Day)
Purpose	Tests that when the user loads the “Risk of Future Alcohol-Related Problems” page, and selects the button to view the “My Progress”, the system will NOT load the How Much I drink/Quality of drinking page
Precondition	User is on the “Risk of Future Alcohol-Related Problems ” page, and the counselor has finished speaking. User selects the button for the “My Progress”
Expected Result	How Much I drink/Quality of drinking page does NOT load, and instead only progress clipboard pops up
Actual Result	How Much I drink/Quality of drinking page does NOT load, and instead only progress clipboard pops up
Status	PASSED

User Story #199: EditDCU_Consequences

Test Case ID: User Story #199	eEVA_UT_EditDCU_Consequences_01 (Sunny Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate html code which will load the text “Total Score” when the user loads the “Consequences” page
Precondition	Administrator creates content element in the “Drinking Consequences” form with html code to display text, and then updates and places into the state machine. User is on the “Consequences” page.
Expected Result	Consequences page loads displaying text for “Total Score”
Actual Result	Consequences page loads displaying text for “Total Score”
Status	PASSED

Test Case ID: User Story #199	eEVA_UT_EditDCU_Consequences_02 (Rainy Day)
Purpose	Tests that admin can edit a question/answer element in the survey editor and insert appropriate html code which will not load the text “Total Score” when the user loads the “Consequences” page
Precondition	Administrator creates question/answer element element in the “Drinking Consequences” form with html code to display text, and then updates and places into the state machine. User is on the “Consequences” page.
Expected Result	Consequences page loads and does not display text that states “Total Score”
Actual Result	Consequences page loads and does not display text that states “Total Score”
Status	PASSED

Test Case ID: User Story #199	eEVA_IT_EditDCU_Consequences_01 (Sunny Day)
Purpose	Tests that when the user loads the Consequences page, and selects the button to view the “Risk of Future Alcohol-Related Problems”, the system will load the Risk of Future Alcohol-Related Problems page
Precondition	User is on the Consequences, and the counselor has finished speaking. User selects the button for the “Risk of Future Alcohol-Related Problems” page
Expected Result	Risk of Future Alcohol-Related Problems page loads
Actual Result	Risk of Future Alcohol-Related Problems page loads
Status	PASSED

Test Case ID: User Story #199	eEVA_IT_EditDCU_Consequences_02 (Rainy Day)
Purpose	Tests that when the user loads the Consequences page, and selects the button to view the “My Progress”, the system will NOT load the Risk of Future Alcohol-Related Problems page
Precondition	User is on the Consequences page, and the counselor has finished speaking. User selects the button for the “My Progress”
Expected Result	Risk of Future Alcohol-Related Problems page does NOT load, and instead only progress clipboard pops up
Actual Result	Risk of Future Alcohol-Related Problems page does NOT load, and instead only progress clipboard pops up
Status	PASSED

User Story #200: EditDCU_Dependence

Test Case ID: User Story #200	eEVA_UT_EditDCU_Dependence_01 (Sunny Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate html code which will load the text “ Impaired control over drinking ” when the user loads the “Dependence” page
Precondition	Administrator creates content element in the “Drinking Consequences” form with html code to display text, and then updates and places into the state machine. User is on the “Dependence” page.
Expected Result	Dependence page loads displaying text for “Impaired control over drinking”
Actual Result	Dependence page loads displaying text for “Impaired control over drinking”
Status	PASSED

Test Case ID: User Story #200	eEVA_UT_EditDCU_Dependence_02 (Rainy Day)
Purpose	Tests that admin can edit a question/answer element in the survey editor and insert appropriate html code which will not load the text “ Impaired control over drinking ” when the user loads the “Dependence” page
Precondition	Administrator creates question/answer element element in the “Drinking Consequences” form with html code to display text, and then updates and places into the state machine. User is on the “Dependence” page.
Expected Result	Dependence page loads and does not display text that states “Impaired control over drinking”
Actual Result	Dependence page loads and does not display text that states “Impaired control over drinking”
Status	PASSED

Test Case ID: User Story #200	eEVA_IT_EditDCU_Dependence_01 (Sunny Day)
Purpose	Tests that when the user loads the Dependence page, and selects the button to view the “Risk of Future Alcohol-Related Problems”, the system will load the Risk of Future Alcohol-Related Problems page
Precondition	User is on the Dependence page and the counselor has finished speaking. User selects the button for the “Risk of Future Alcohol-Related Problems” page
Expected Result	Risk of Future Alcohol-Related Problems page loads
Actual Result	Risk of Future Alcohol-Related Problems page loads
Status	PASSED

Test Case ID: User Story #200	eEVA_IT_EditDCU_Dependence_02 (Rainy Day)
Purpose	Tests that when the user loads the Dependence page, and selects the button to view the “My Progress”, the system will NOT load the Risk of Future Alcohol-Related Problems page
Precondition	User is on the Dependence page, and the counselor has finished speaking. User selects the button for the “My Progress”
Expected Result	Risk of Future Alcohol-Related Problems page does NOT load, and instead only progress clipboard pops up
Actual Result	Risk of Future Alcohol-Related Problems page does NOT load, and instead only progress clipboard pops up
Status	PASSED

User Story #201: EditDCU_Motivation

Test Case ID: User Story #201	eEVA_UT_EditDCU_Motivation_01 (Sunny Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate html code which will load the text “ Recognition of a Problem ” when the user loads the “Motivation” page
Precondition	Administrator creates content element in the “Drinking Consequences” form with html code to display text, and then updates and places into the state machine. User is on the “Motivation” page.
Expected Result	Motivation page loads displaying text for “Recognition of a Problem”
Actual Result	Motivation page loads displaying text for “Recognition of a Problem”
Status	PASSED

Test Case ID: User Story #201	eEVA_UT_EditDCU_Motivation_02 (Rainy Day)
Purpose	Tests that admin can edit a question/answer element in the survey editor and insert appropriate html code which will not load the text “ Recognition of a Problem ” when the user loads the “Motivation” page
Precondition	Administrator creates question/answer element element in the “Drinking Consequences” form with html code to display text, and then updates and places into the state machine. User is on the “Motivation” page.
Expected Result	Motivation page loads and does not display text that states “Recognition of a Problem”
Actual Result	Motivation page loads and does not display text that states “Recognition of a Problem”
Status	PASSED

Test Case ID: User Story #201	eEVA_IT_EditDCU_Motivation_01 (Sunny Day)
Purpose	Tests that when the user loads the Motivation page, and selects the button to view the “Risk of Future Alcohol-Related Problems”, the system will load the Risk of Future Alcohol-Related Problems page
Precondition	User is on the Motivation page and the counselor has finished speaking. User selects the button for the “Risk of Future Alcohol-Related Problems” page
Expected Result	Risk of Future Alcohol-Related Problems page loads
Actual Result	Risk of Future Alcohol-Related Problems page loads
Status	PASSED

Test Case ID: User Story #201	eEVA_IT_EditDCU_Motivation_02 (Rainy Day)
Purpose	Tests that when the user loads the Motivation page, and selects the button to view the “My Progress”, the system will NOT load the Risk of Future Alcohol-Related Problems page
Precondition	User is on the Motivation page, and the counselor has finished speaking. User selects the button for the “My Progress”
Expected Result	Risk of Future Alcohol-Related Problems page does NOT load, and instead only progress clipboard pops up
Actual Result	Risk of Future Alcohol-Related Problems page does NOT load, and instead only progress clipboard pops up
Status	PASSED

User Story #233: EnlargeToggledCounselor

Test Case ID: User Story #233	eEVA_UT_EnlargeToggledCounselor_01 (Sunny Day)
Purpose	Tests that admin can edit CSS styling in the public folder in Webstorm, then can create a content element in the survey editor and insert appropriate html which will load the toggled counselor when the user loads the page
Precondition	Administrator creates content element in a form with html code for a page, and then updates and places into the state machine. User is on the created page.
Expected Result	Page loads displaying toggled counselor on screen taking up the left half the screen.
Actual Result	Page loads displaying toggled counselor on screen taking up the left half the screen.
Status	PASSED

Test Case ID: User Story #233	eEVA_UT_EnlargeToggledCounselor_02 (Rainy Day)
Purpose	Tests that admin can edit CSS styling in the public folder in Webstorm, then can create a feedback list element in the survey editor and insert appropriate html which will NOT load the toggled counselor when the user loads the page
Precondition	Administrator creates feedback list element in a form with html code for a page, and then updates and places into the state machine. User is on the created page.
Expected Result	Page loads displaying counselor on screen taking up the entire the screen and NOT a toggled counselor.
Actual Result	Page loads displaying counselor on screen taking up the entire the screen and NOT a toggled counselor.
Status	PASSED

User Story #234: ModifyContentStyling

Test Case ID: User Story #234	eEVA_UT_ModifyContentStyling_01 (Sunny Day)
Purpose	Tests that when the user loads any BAC or DC page, the system will load the correctly formatting page
Precondition	User is on the is logged in and is on the results page
Expected Result	BAC/DC page loads correctly.
Actual Result	BAC/DC page loads correctly.
Status	PASSED

User Story #235: EditDCU_Congratulations

Test Case ID: User Story #235	eEVA_UT_EditDCU_Congratulations_01 (Sunny Day)
Purpose	Tests that admin can edit a feedbackList element in the survey editor and insert appropriate text which will load “ Congratulations! ” when the user loads the “Congratulations” page
Precondition	Administrator creates feedbackList element in the “Congratulations” form with text for the Congratulations page, and then updates and places into the state machine. User is on the “Congratulations” page.
Expected Result	Congratulations page loads displaying text for “Congratulations!”
Actual Result	Congratulations page loads displaying text for “Congratulations!”
Status	PASSED

Test Case ID: User Story #235	eEVA_UT_EditDCU_Congratulations_02 (Rainy Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate text which will NOT load “Congratulations!” when the user loads the “Congratulations” page
Precondition	Administrator creates content element in the “Congratulations” form with text for the Congratulations page, and then updates and places into the state machine. User is on the “Congratulations” page.
Expected Result	Congratulations page loads displaying and does not display the text for “Congratulations!
Actual Result	Congratulations page loads displaying and does not display the text for “Congratulations!
Status	PASSED

Test Case ID: User Story #235	eEVA_IT_EditDCU_Congratulations_01 (Sunny Day)
Purpose	Tests that when the user loads the Congratulations page, and selects the “Next” button, the system will load the next section, the "Consider Your Options" page
Precondition	User is on the Congratulations page, and the counselor has finished speaking. User selects the button for “Next”
Expected Result	Consider Your Options page loads
Actual Result	Consider Your Options page loads
Status	PASSED

Test Case ID: User Story #235	eEVA_IT_EditDCU_Congratulations_02 (Rainy Day)
Purpose	Tests that when the user loads the Congratulations page, and selects the button to view the "My Progress", the system will NOT load the next section, the "Consider Your Options" page
Precondition	User is on the Congratulations page, and the counselor has finished speaking. User selects the button for the "Next"
Expected Result	Consider Your Options page does NOT load, and instead only progress clipboard pops up
Actual Result	Consider Your Options page does NOT load, and instead only progress clipboard pops up
Status	PASSED

User Story #236: EditDCU_ConsiderYourOptions

Test Case ID: User Story #236	eEVA_UT_EditDCU_ConsiderYourOptions_01 (Sunny Day)
Purpose	Tests that admin can edit a feedbackList element in the survey editor and insert appropriate text which will load " The feedback you've just received may have triggered some thoughts about your drinking. " when the user loads the "Consider Your Options" page
Precondition	Administrator creates feedbackList element in the "Consider Your Options" form with text for the Consider Your Options page, and then updates and places into the state machine. User is on the "Consider Your Options" page.
Expected Result	Consider Your Options page loads displaying text for "The feedback you've just received may have triggered some thoughts about your drinking."
Actual Result	Consider Your Options page loads displaying text for "The feedback you've just received may have triggered some thoughts about your drinking."
Status	PASSED

Test Case ID: User Story #236	eEVA_UT_EditDCU_ConsiderYourOptions_02 (Rainy Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate text which will NOT load " The feedback you've just received may have triggered some thoughts about your drinking. " when the user loads the "Consider Your Options" page
Precondition	Administrator creates content element in the "Consider Your Options" form with text for the Consider Your Options page, and then updates and places into the state machine. User is on the "Consider Your Options" page.
Expected Result	Consider Your Options page loads displaying and does not display the text for "The feedback you've just received may have triggered some thoughts about your drinking."

Actual Result	Consider Your Options page loads displaying and does not display the text for “The feedback you've just received may have triggered some thoughts about your drinking.”
Status	PASSED

Test Case ID: User Story #236	eEVA_IT_EditDCU_ConsiderYourOptions _01 (Sunny Day)
Purpose	Tests that when the user loads the Consider Your Options page, and selects the “Next” button, the system will load the next section, the "Your Current Thinking" page
Precondition	User is on the Consider Your Options page, and the counselor has finished speaking. User selects the button for “Next”
Expected Result	Your Current Thinking page loads
Actual Result	Your Current Thinking page loads
Status	PASSED

Test Case ID: User Story #236	eEVA_IT_EditDCU_ConsiderYourOptions_02 (Rainy Day)
Purpose	Tests that when the user loads the Consider Your Options page, and selects the button to view the “My Progress”, the system will NOT load the next section, the "Your Current Thinking" page
Precondition	User is on the Consider Your Options page, and the counselor has finished speaking. User selects the button for the “Next”
Expected Result	Your Current Thinking page does NOT load, and instead only progress clipboard pops up
Actual Result	Your Current Thinking page does NOT load, and instead only progress clipboard pops up
Status	PASSED

User Story #237: EditDCU_YourCurrentThinking

Test Case ID: User Story #237	eEVA_UT_EditDCU_YourCurrentThinking_01 (Sunny Day)
Purpose	Tests that admin can edit a questionAnswer element in the survey editor and insert appropriate text which will load " First, please indicate which of these statements is closest to what you're thinking now. " when the user loads the "Your Current Thinking" page
Precondition	Administrator creates questionAnswer element in the "Your Current Thinking" form with text for the Your Current Thinking page, and then updates and places into the state machine. User is on the "Your Current Thinking" page.
Expected Result	Your Current Thinking page loads displaying text for "First, please indicate which of these statements is closest to what you're thinking now."
Actual Result	Your Current Thinking page loads displaying text for "First, please indicate which of these statements is closest to what you're thinking now."
Status	PASSED

Test Case ID: User Story #237	eEVA_UT_EditDCU_YourCurrentThinking_02 (Rainy Day)
Purpose	Tests that admin can edit a content element in the survey editor and insert appropriate text which will NOT load " First, please indicate which of these statements is closest to what you're thinking now. " when the user loads the "Your Current Thinking" page
Precondition	Administrator creates content element in the "Your Current Thinking" form with text for the Your Current Thinking page, and then updates and places into the state machine. User is on the "Your Current Thinking" page.
Expected Result	Your Current Thinking page loads displaying and does not display the text for "First, please indicate which of these statements is closest to what you're thinking now."

Actual Result	Your Current Thinking page loads displaying text for “First, please indicate which of these statements is closest to what you’re thinking now.”
Status	PASSED

Test Case ID: User Story #237	eEVA_IT_EditDCU_YourCurrentThinking_01 (Sunny Day)
Purpose	Tests that when the user loads the Your Current Thinking page, and selects the “Next” button, the system will load the next section and the next page in the state machine
Precondition	User is on the Your Current Thinking page, and the counselor has finished speaking. User selects the button for “Next”
Expected Result	The next page loads
Actual Result	Nothing loads since no further pages created
Status	FAILED

Test Case ID: User Story #237	eEVA_IT_EditDCU_YourCurrentThinking_02 (Rainy Day)
Purpose	Tests that when the user loads the Your Current Thinking page, and selects the button to view the “My Progress”, the system will NOT load the next section and the next page
Precondition	User is on the Your Current Thinking page, and the counselor has finished speaking. User selects the button for the “Next”
Expected Result	The next page does NOT load, and instead only progress clipboard pops up
Actual Result	The next page does NOT load, and instead only progress clipboard pops up
Status	PASSED

GLOSSARY

The following terms are important for understanding the domain of the document and the eEVA Data Generation and User Results Analysis Ver 1.0 system:

- Actors: External entities that interact with the system
- Agile Software Development: an iterative and time-boxed approach to software delivery that builds software incrementally from initiation of a project, rather than to deliver it all at once towards the end. Projects are broken down into user stories, which are then prioritized, and are delivered in short iterations (typically two weeks)
- Architectural pattern (King, T., 2016): expresses a fundamental structural organization schema for software systems
- Alcohol Use Disorders Identification Test (AUDIT) (Babor et al., 2001): a 10-item questionnaire that we use to identify people whose alcohol consumption has become hazardous or harmful to their health. The amount and frequency of drinking, alcohol dependence, and problems caused by alcohol are queried using this instrument
- Brief Drinker Profile (BDP) (Miller and Marlatt, 1984): used to assess some information about the family drinking history, other drug use, additional life problems, motivation for treatment, and history of problem development. Information derived from this feature set can be used in selecting the treatment approaches for user (Miller and Hester, 1986) in the behavior change recommender systems.
- Brief Motivational Interventions (BMI) (Miller, Wilbourne, & Hettema, 2003): Used for a range of issues, but particularly important for problem drinkers from those at risk for developing problems to those with severe dependence
- Client/Server Architectural Style (Bruegge, B., & Dutoit, 2010): a subsystem, the server, provides services to instances of other subsystems called the clients, which are responsible for interacting with the user
- Drinker's Check-Up (DCU) (Hester, Squires, & Delaney, 2005): of a computer-based brief motivational intervention for early-stage problem drinkers
- Drinker's Inventory of Consequences (DrInC) (Miller and Tonigan, 1995): a reliable, valid, clinically useful, and self-administered instrument to assess the negative consequences of drinking. DrInC includes 50 questions in six different contexts: physical, inter-personal, intra-personal, impulse control, social responsibility, and control scale.
- Deliverable: A work product for a client
- Design pattern (King, T., 2016): provides a scheme for refining the subsystems or components of a software system, or relationships between them
- MEAN stack: a collection of JavaScript-based technologies — MongoDB, Express.js, AngularJS, and Node.js — used to develop web applications
- Model/View/Controller (MVC) architectural style (Bruegge, B., & Dutoit, 2010): subsystems are classified into three different types- model subsystems maintain domain knowledge, view subsystems display it to the user, and controller subsystems manage the sequence of interactions with the user

- Severity of Alcohol Dependence Questionnaire (SADQ-C) (Stockwell et al., 1983): User's degree of dependence to the alcohol is assessed using a self-administered 20-item questionnaire
- SOCRATES (Miller and Tonigan, 1996): This is sued instrument to assess the stages of a user's readiness and motivation to change. It involves 19 questions categorized in three domains: ambivalence, recognition, and taking steps

APPENDIX

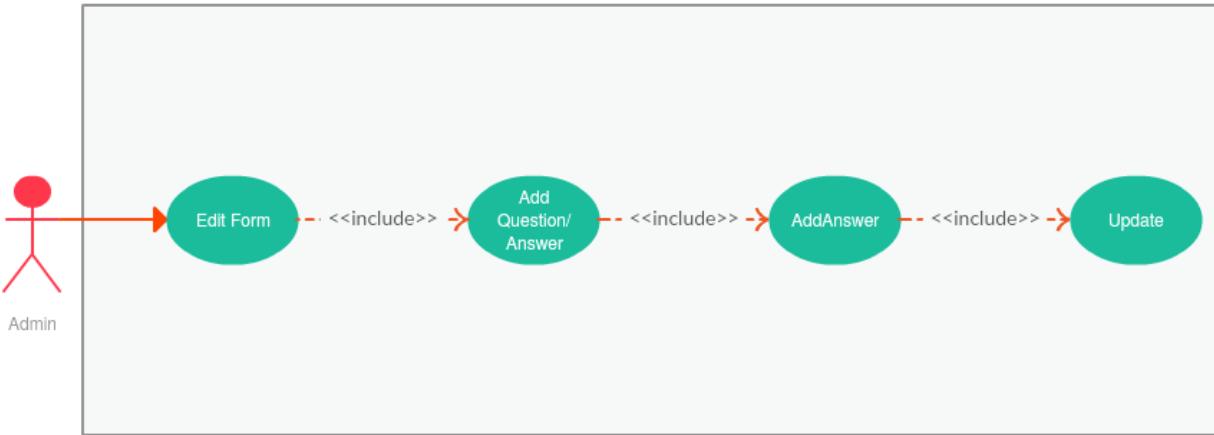
Appendix A – UML Diagrams

AdminTasks(Epic)

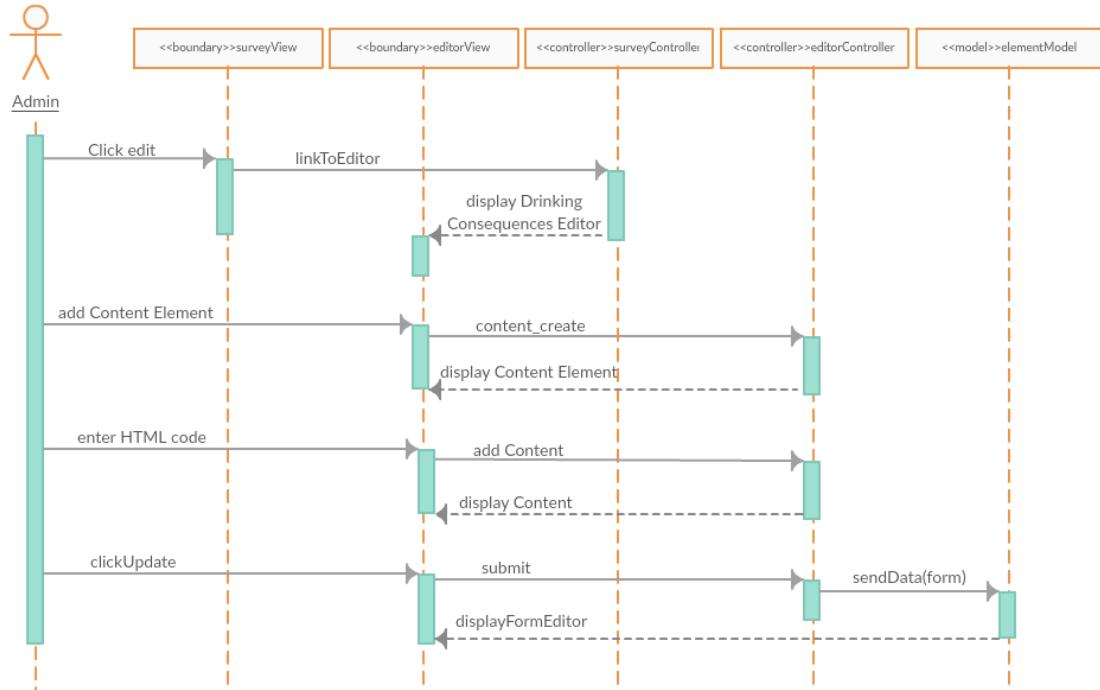
#133_Element_Next

Use Case Diagram Figure 1.0

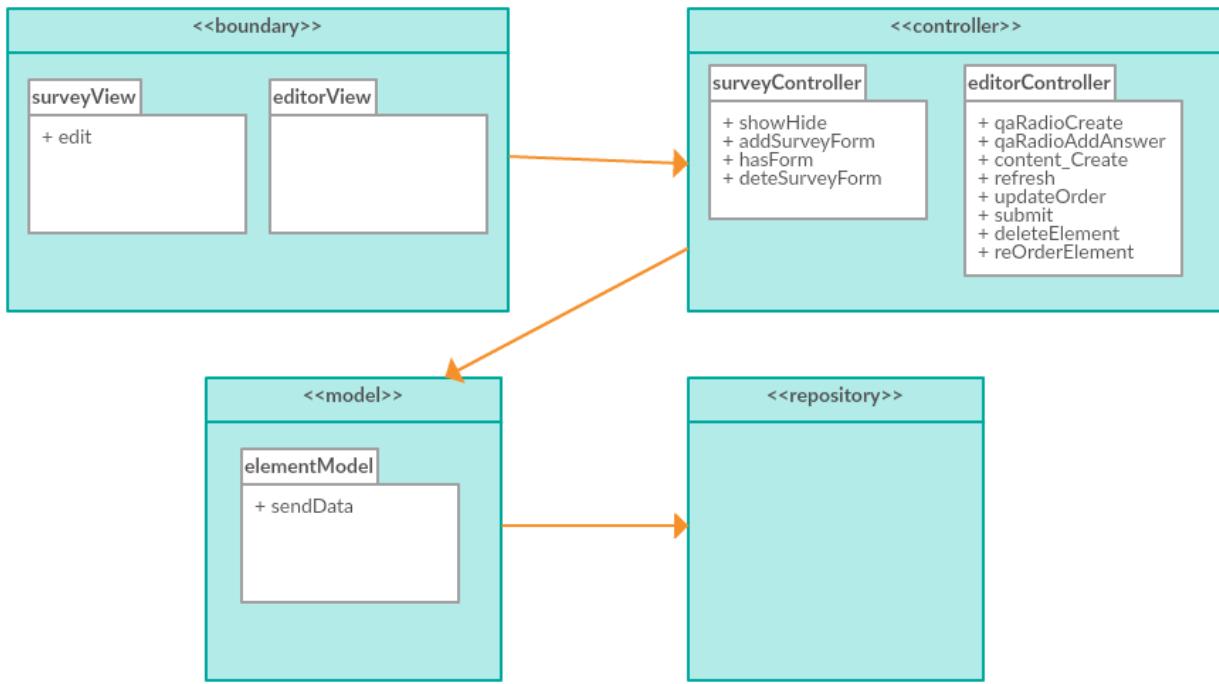
#133 AddElement_Next



Sequence Diagram Figure 1.1

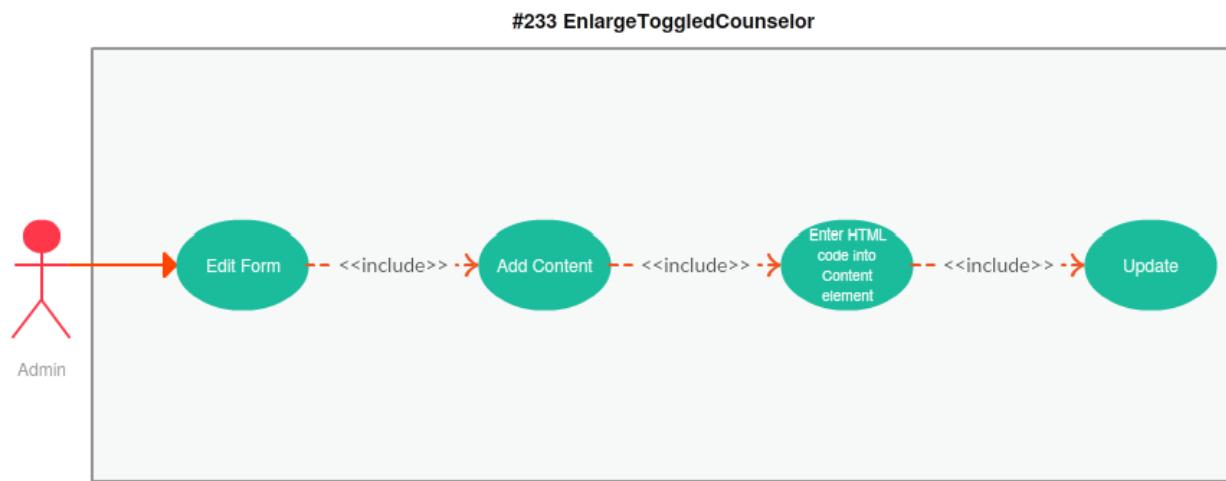


Class Diagram Figure 1.2

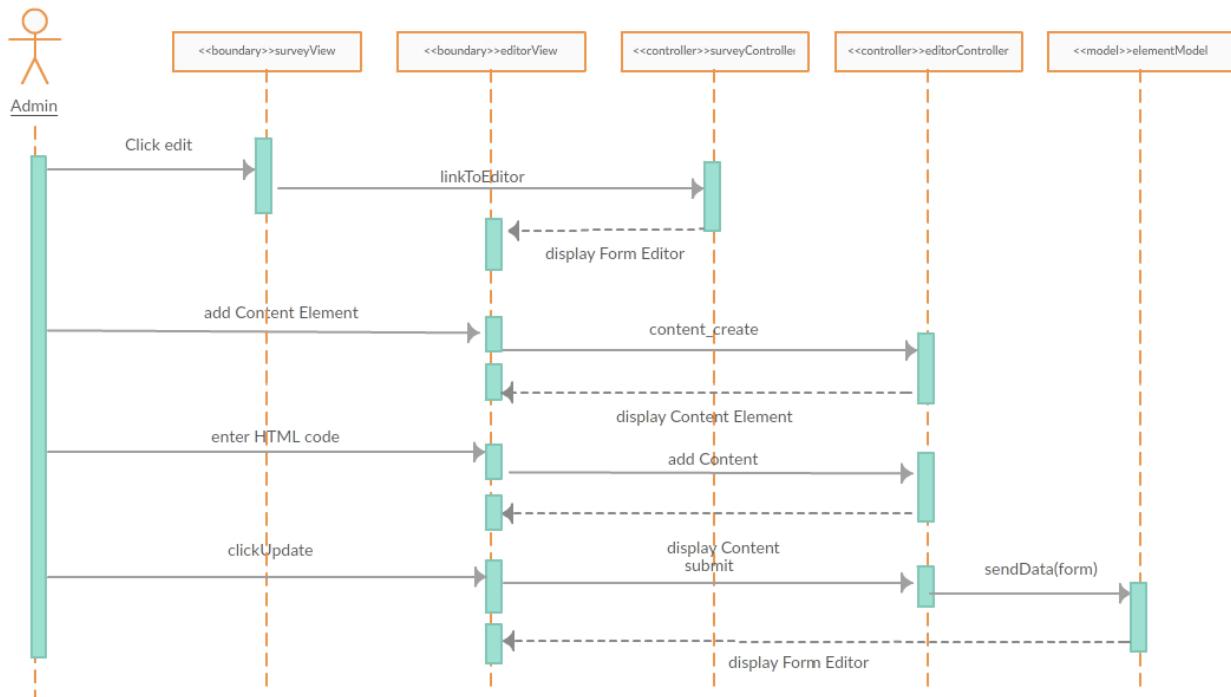


#233_EnlargeToggledCounselor

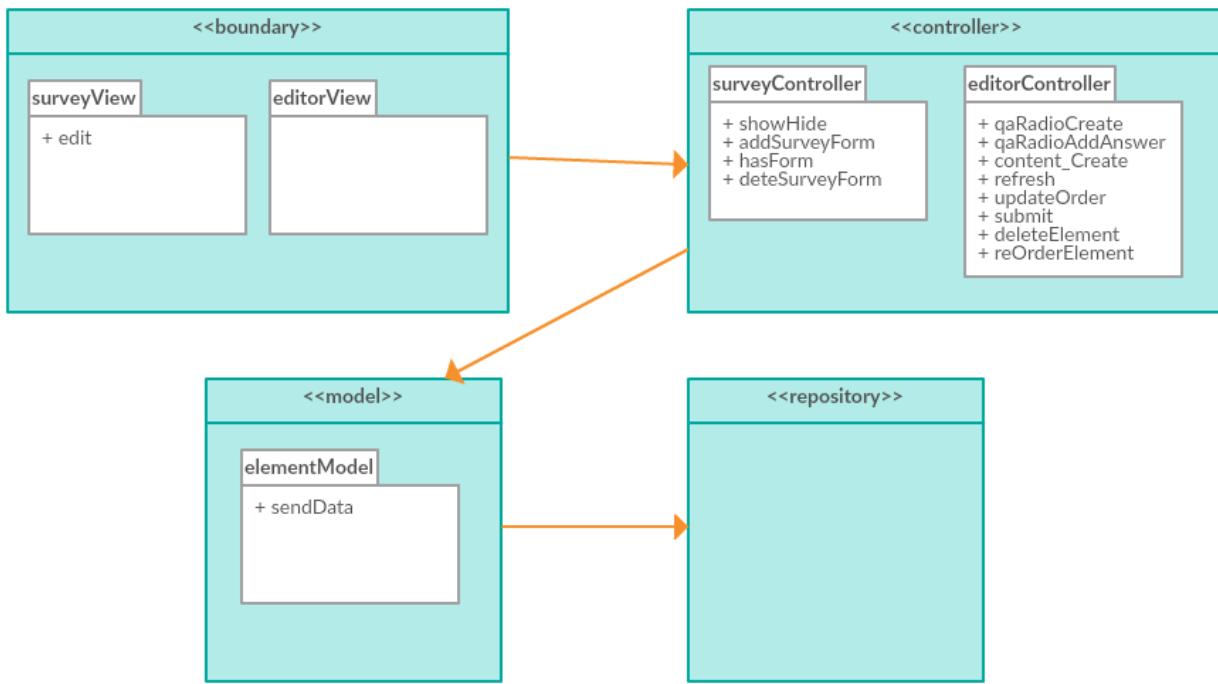
Use Case Diagram Figure 2.0



Sequence Diagram Figure 2.1

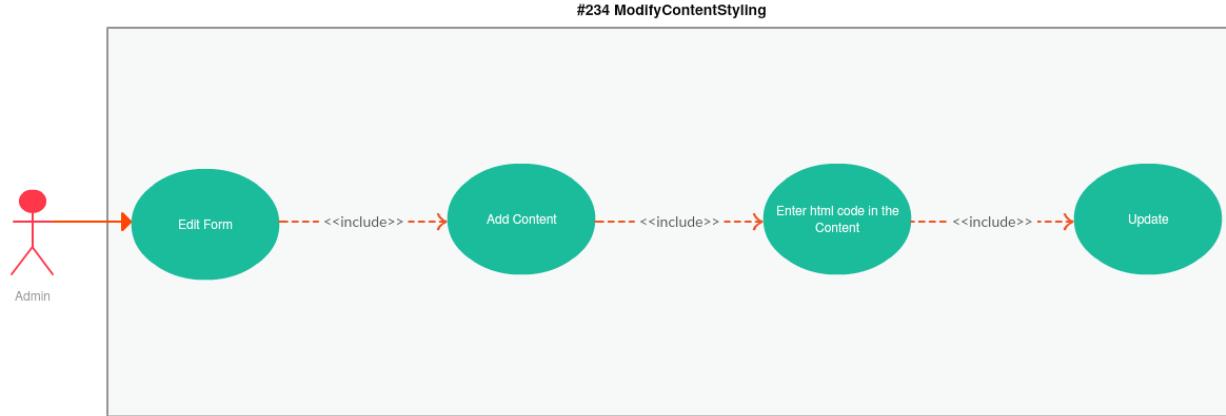


Class Diagram Figure 2.2

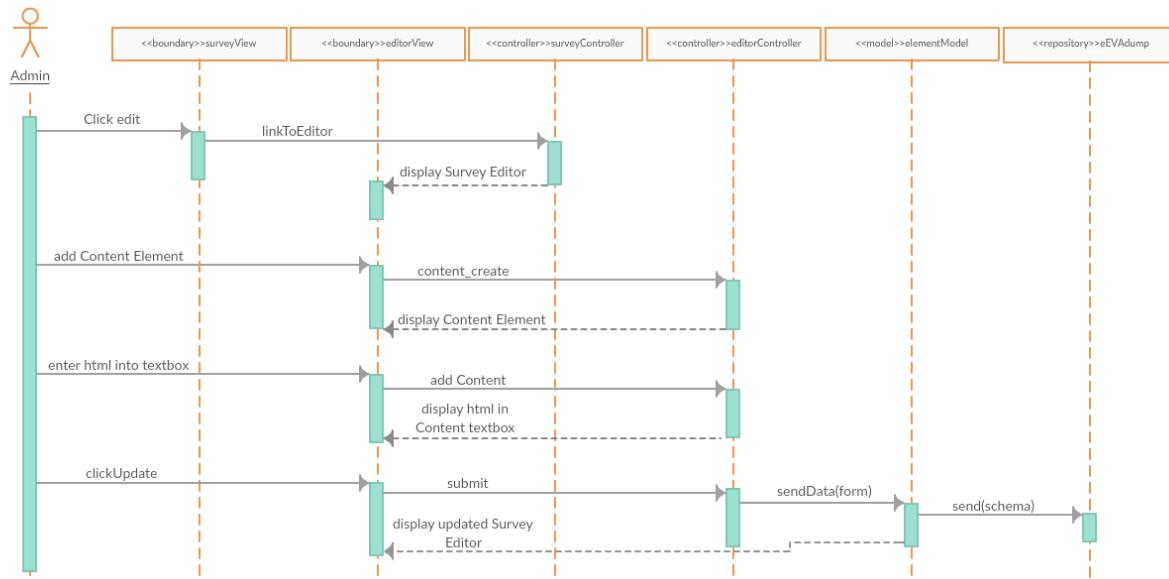


#234_ModifyContentStyling

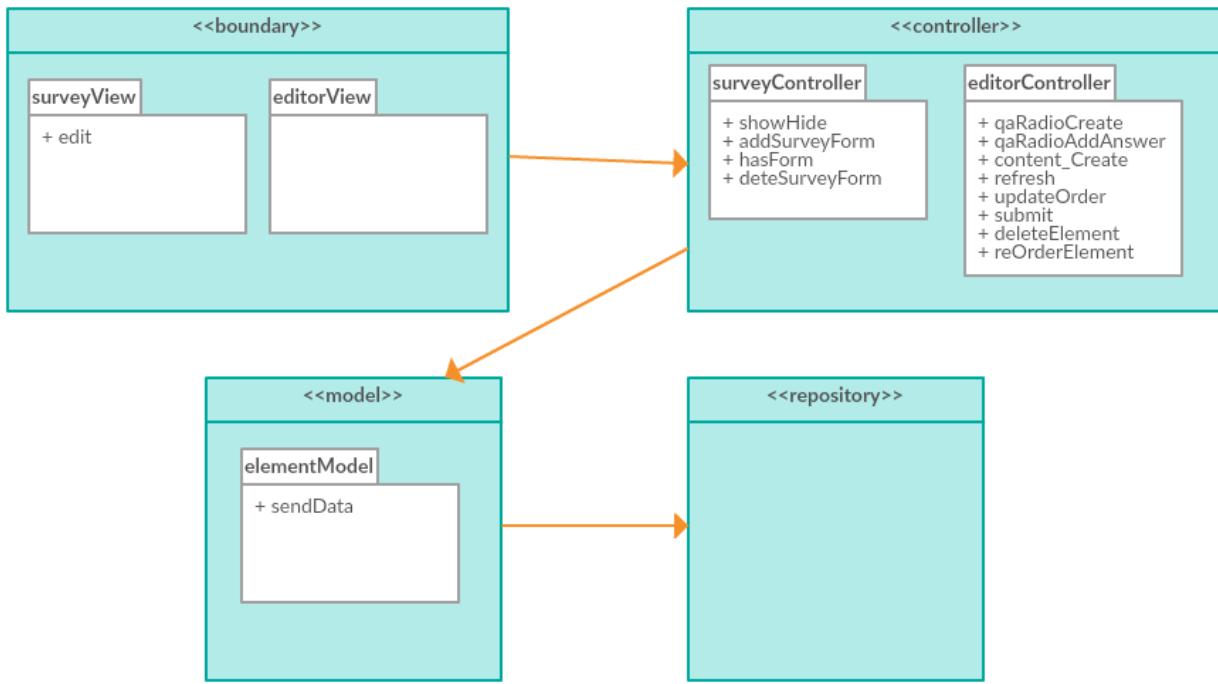
Use Case Diagram Figure 3.0



Sequence Diagram Figure 3.1



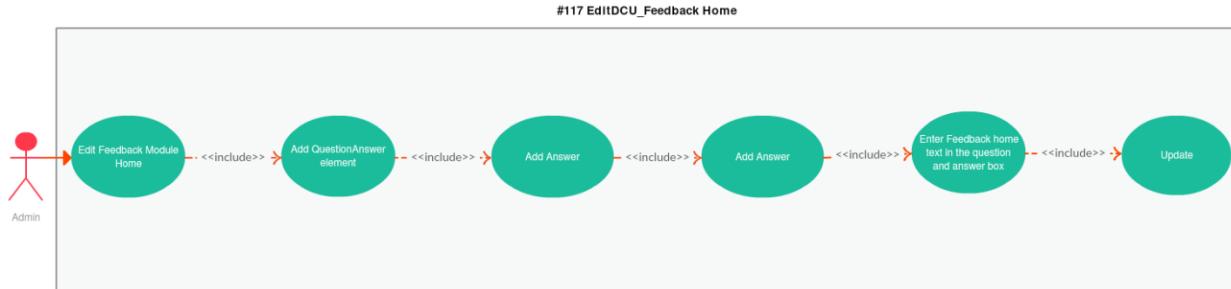
Class Diagram Figure 3.2



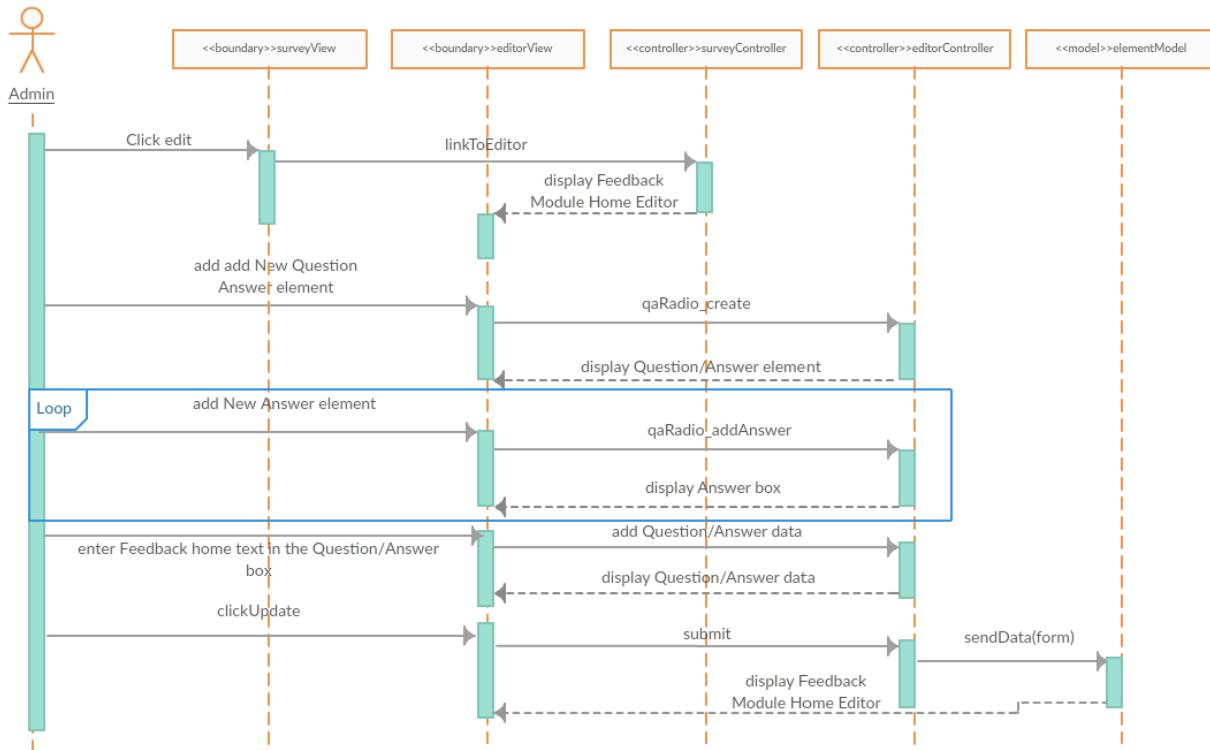
EditIntervention(Epic)

#117_EditDCU_FeedbackHome

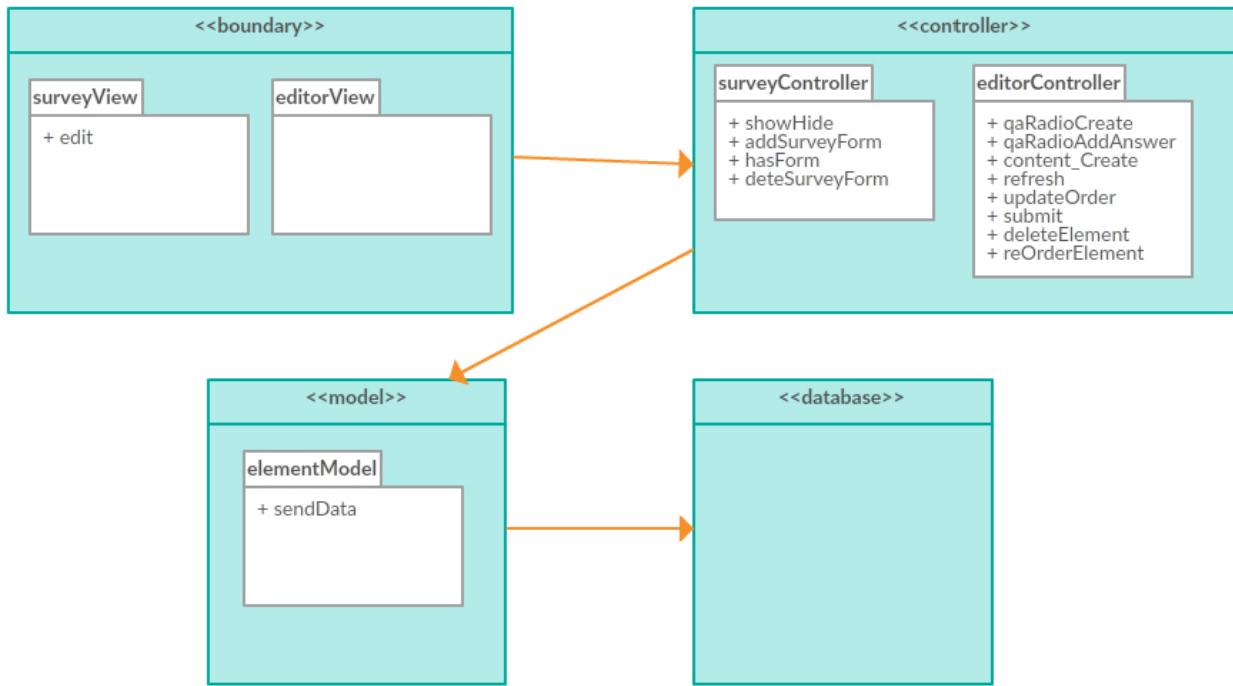
Use Case Diagram Figure 4.0



Sequence Diagram Figure 4.1

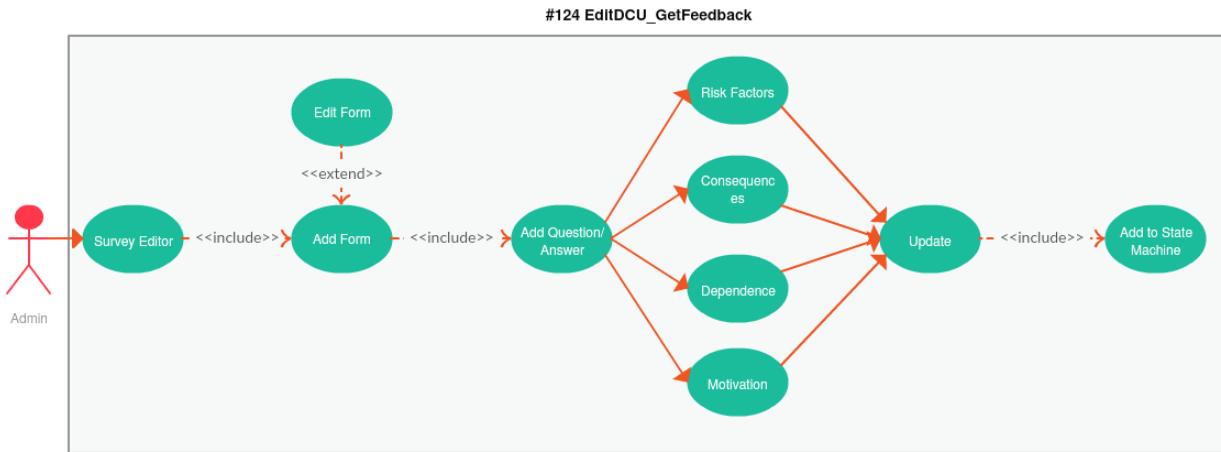


Class Diagram Figure 4.2

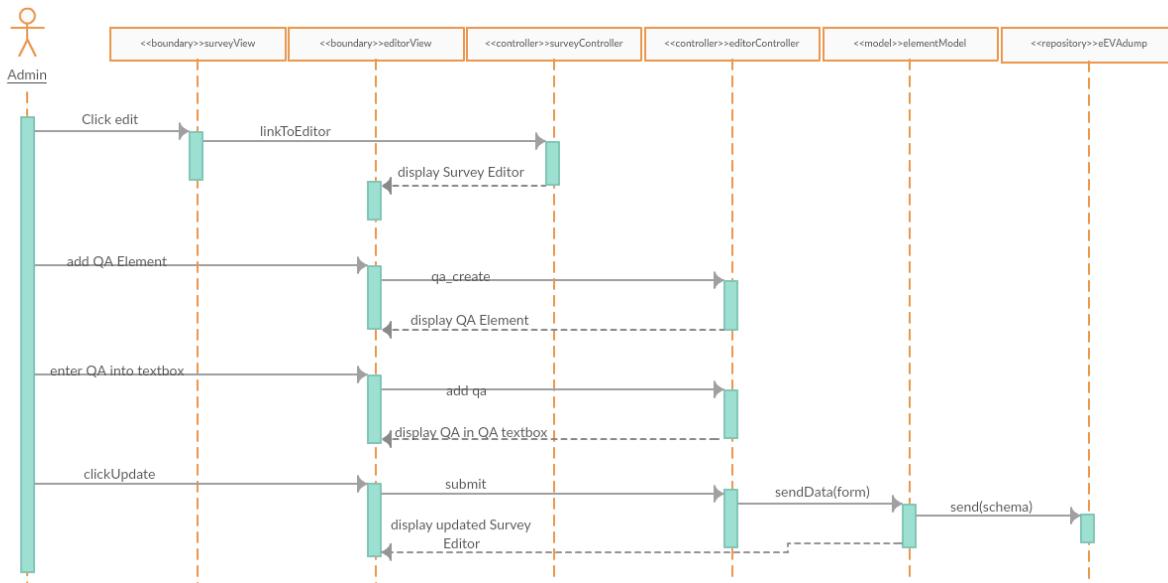


#124_EditDCU_GetFeedback

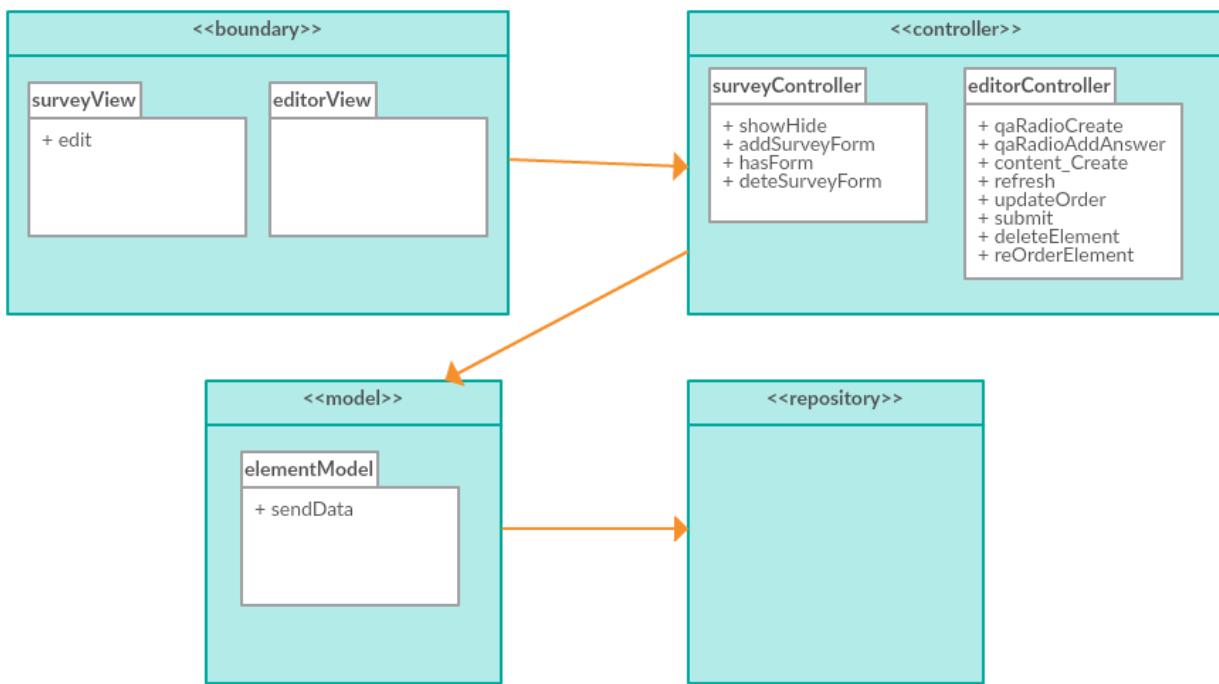
Use Case Diagram Figure 5.0



Sequence Diagram Figure 5.1

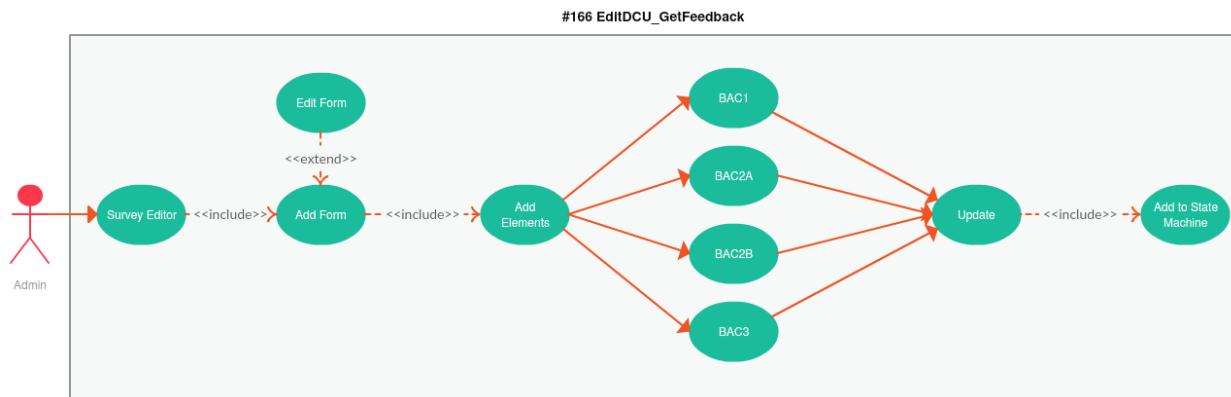


Class Diagram Figure 5.2

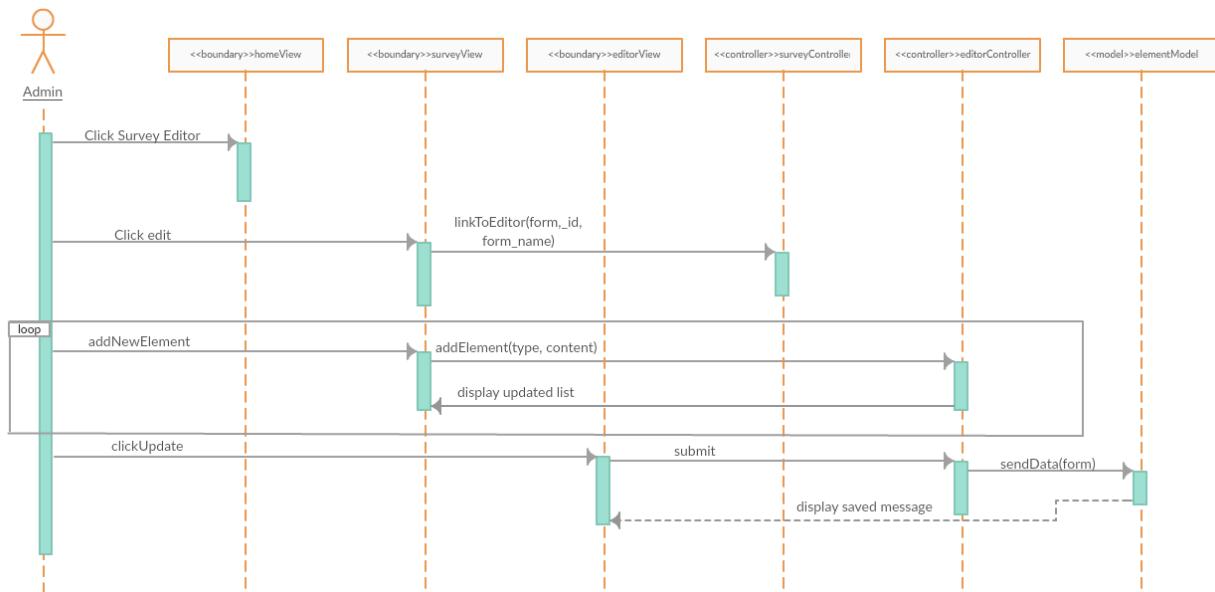


#166_EditDCU_BAC

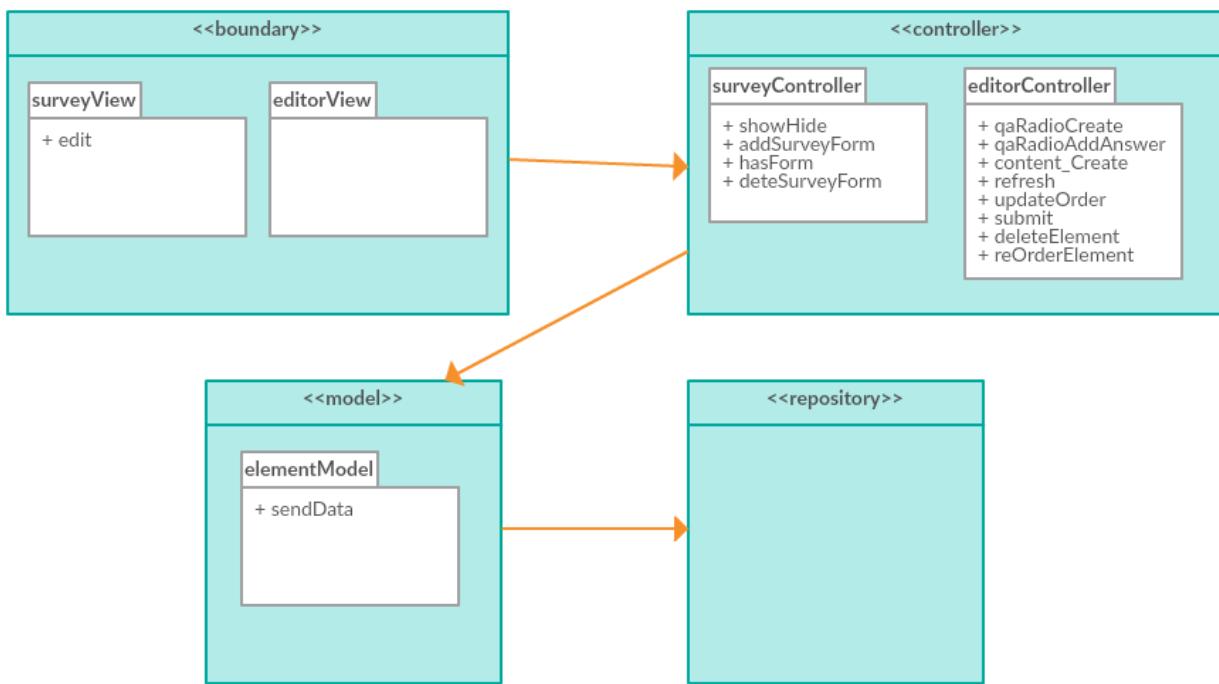
Use Case Diagram Figure 6.0



Sequence Diagram Figure 6.1



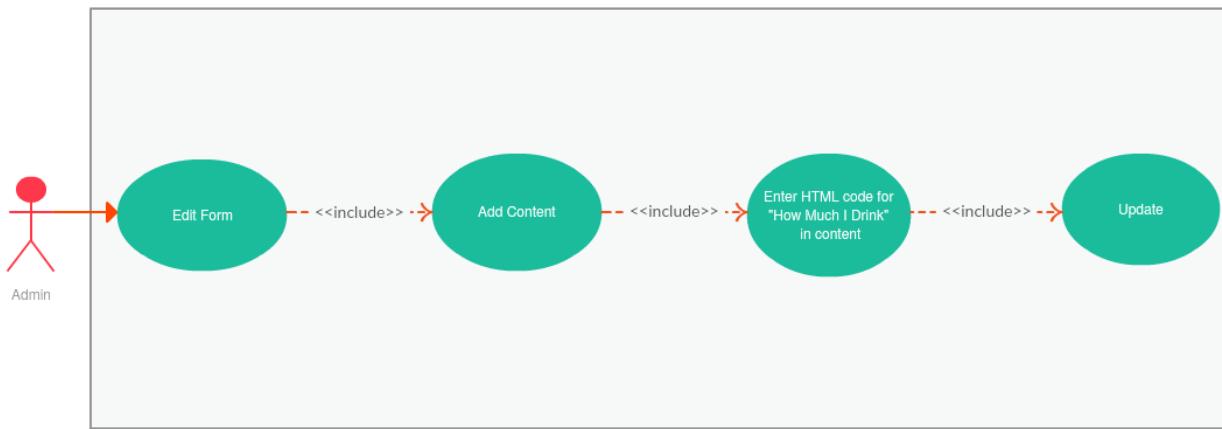
Class Diagram Figure 6.2



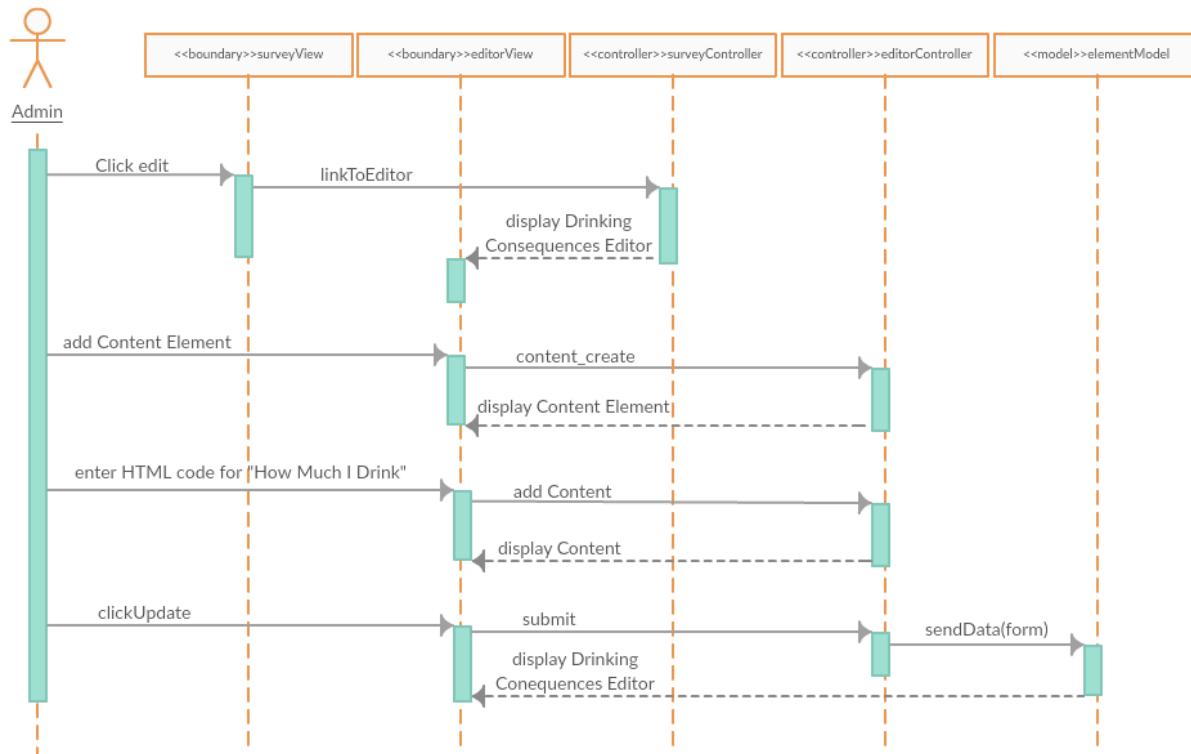
#197_EditDCU_HowMuch

Use Case Diagram Figure 7.0

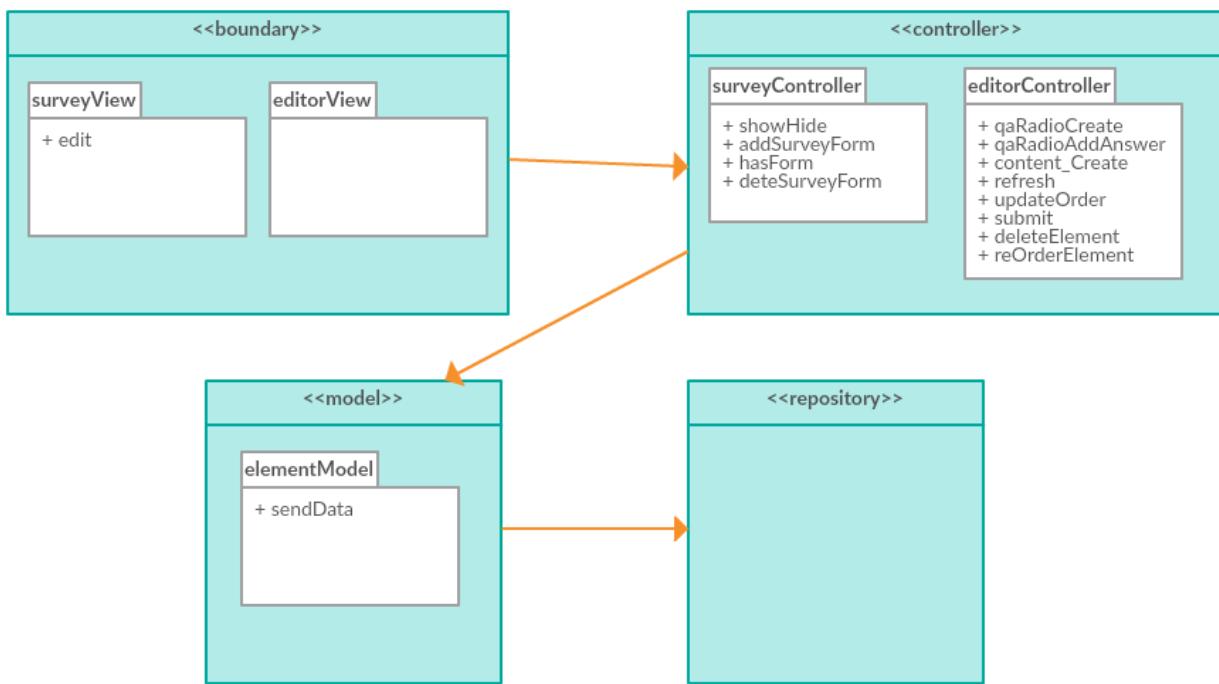
#197>EditDCU_HowMuch



Sequence Diagram Figure 7.1



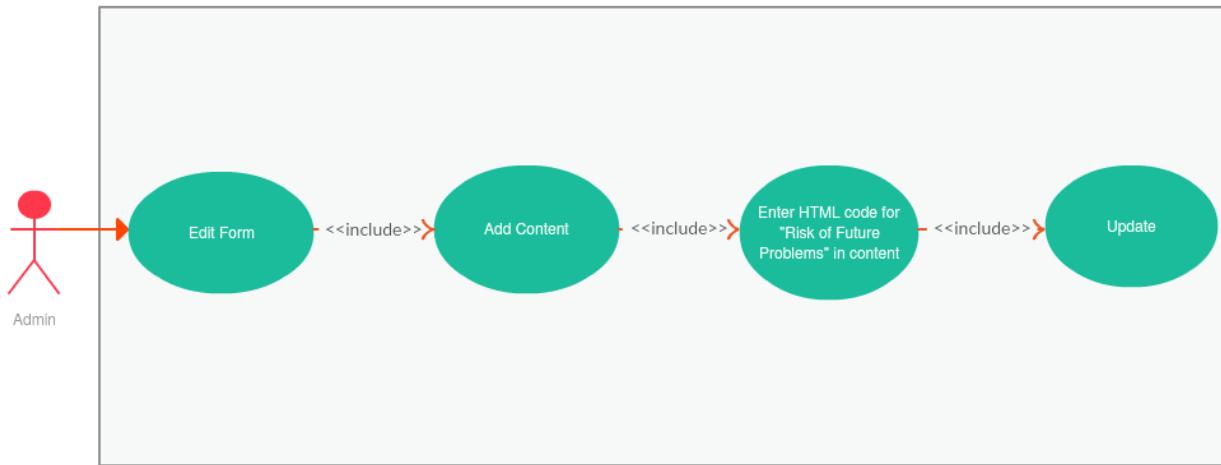
Class Diagram Figure 7.2



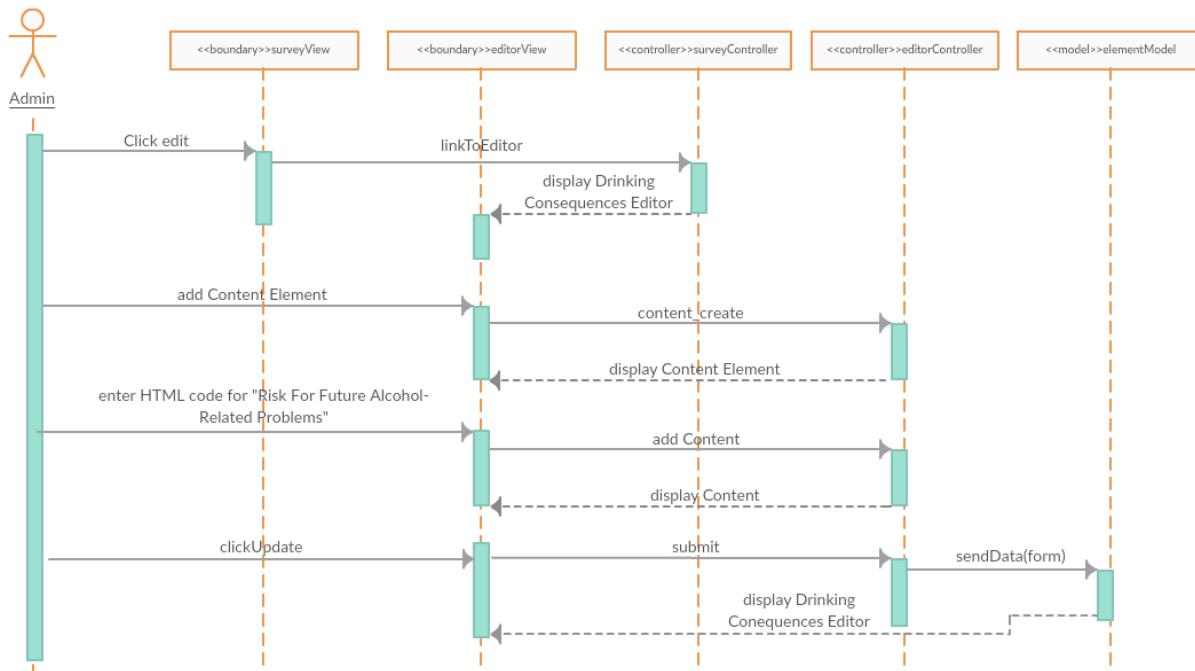
#198_EditDCU_RiskFutureProblems

Use Case Diagram Figure 8.0

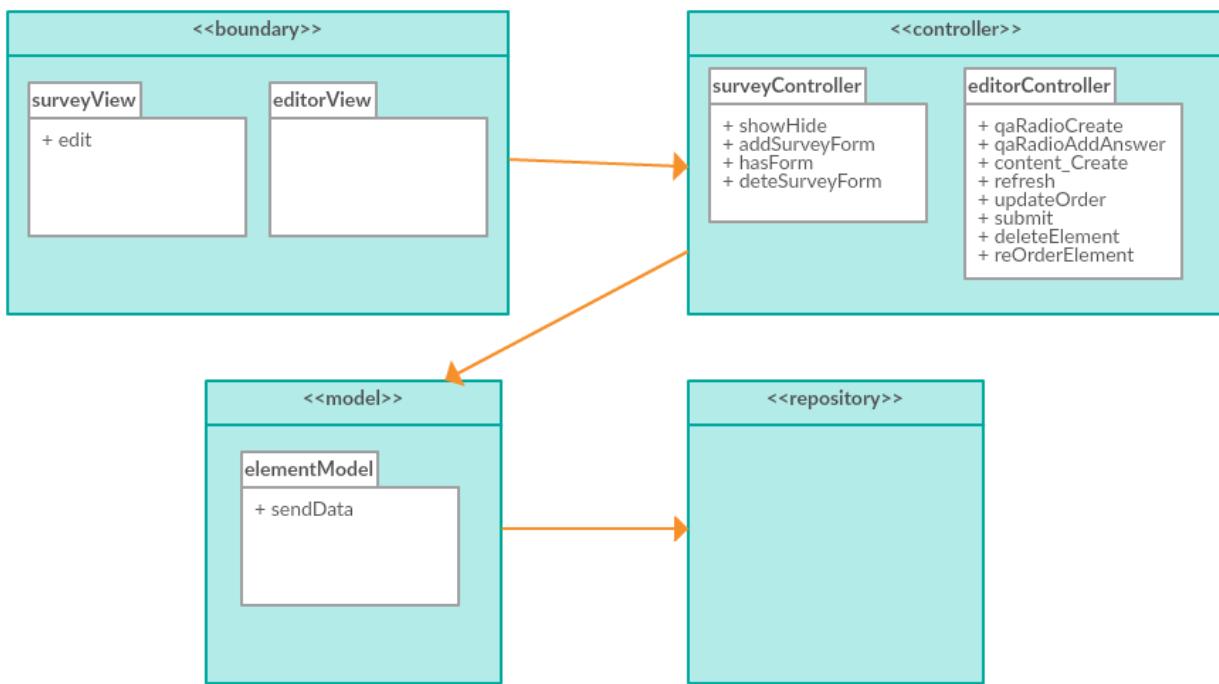
#198_EditDCU_RiskFutureProblems



Sequence Diagram Figure 8.1

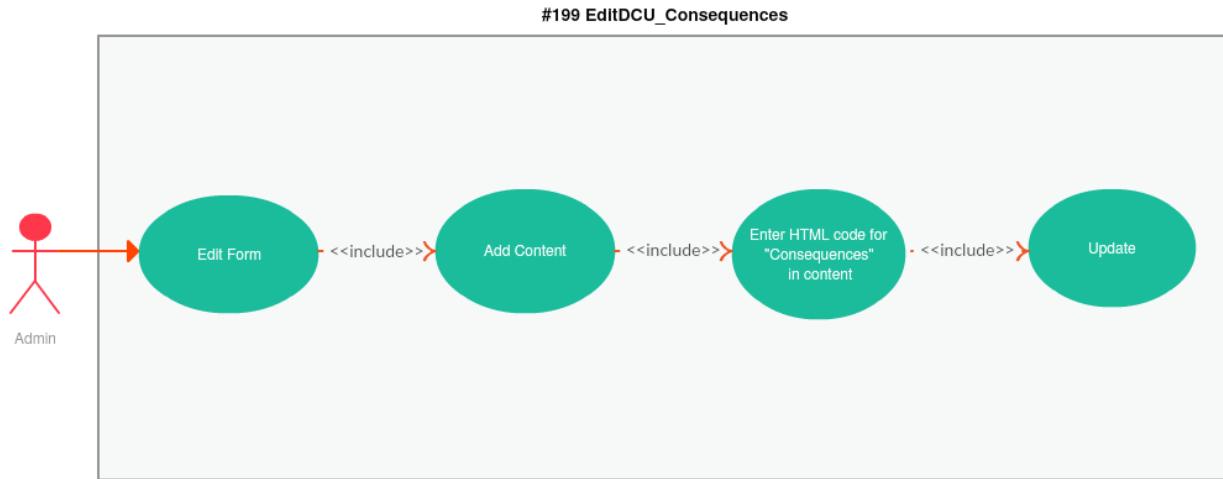


Class Diagram Figure 8.2

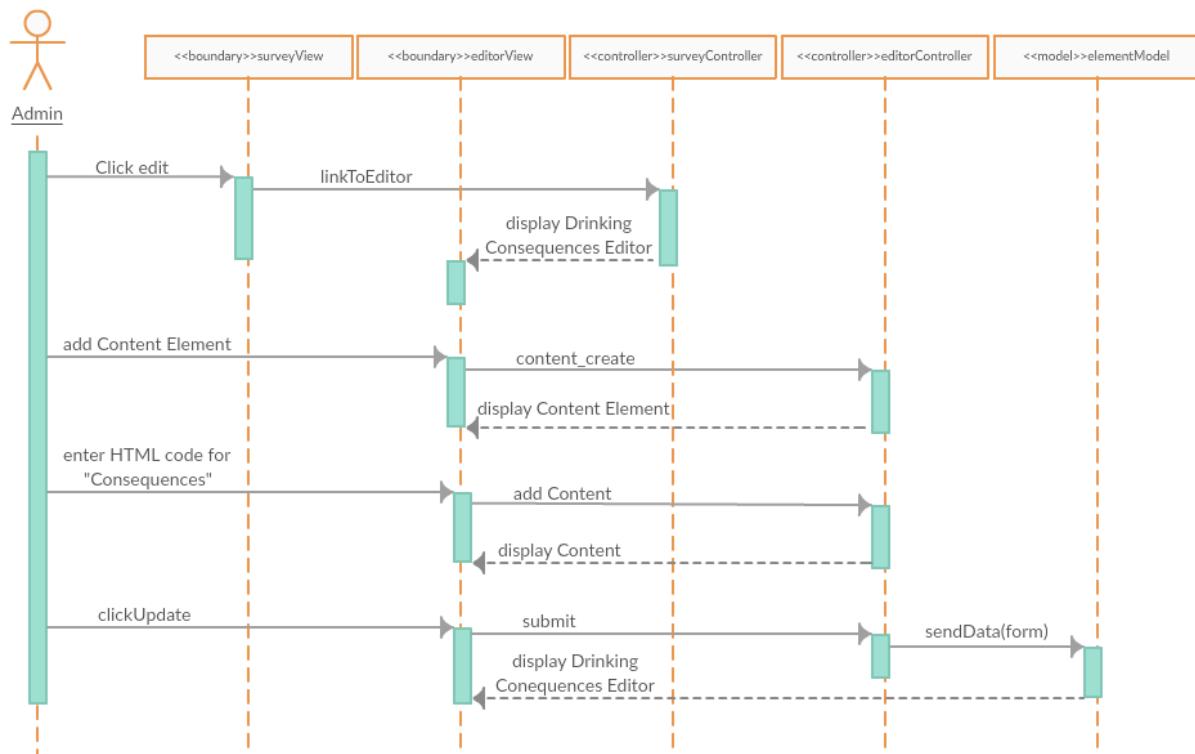


#199_EditDCU_Consequences

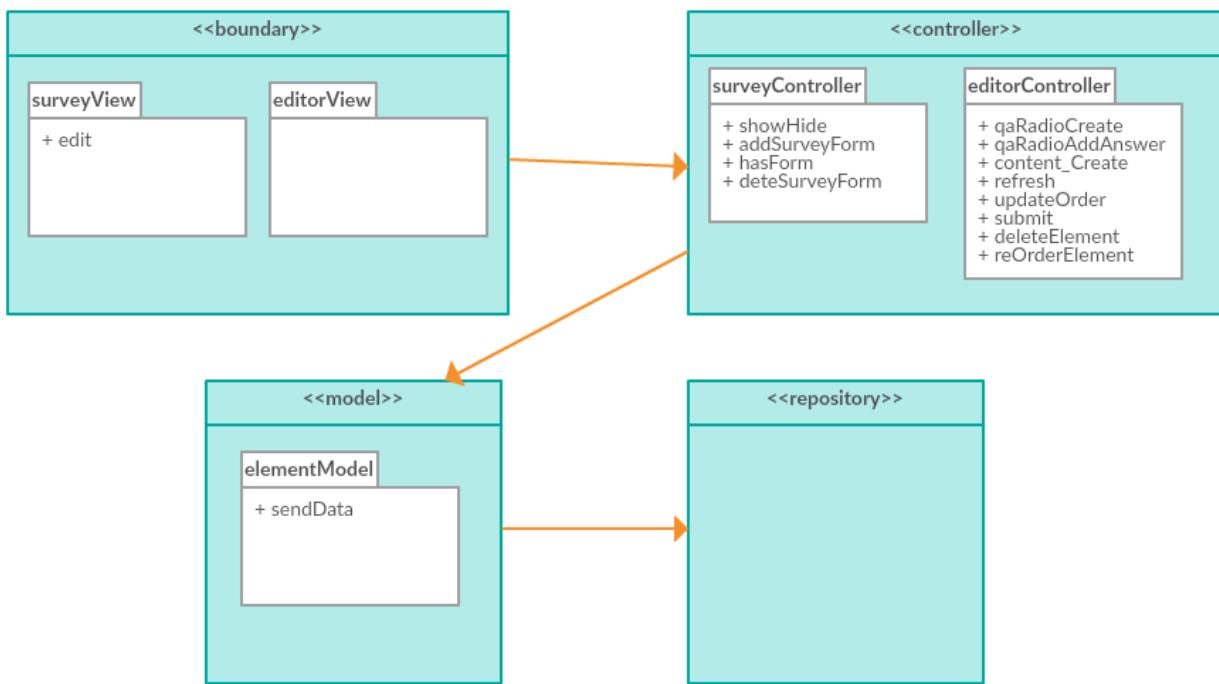
Use Case Diagram Figure 9.0



Sequence Diagram Figure 9.1



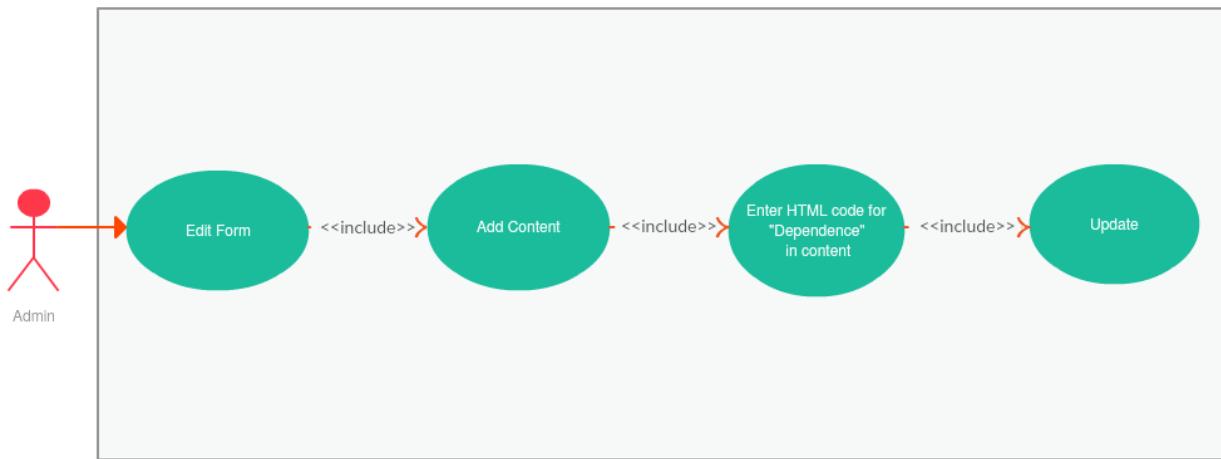
Class Diagram Figure 9.2



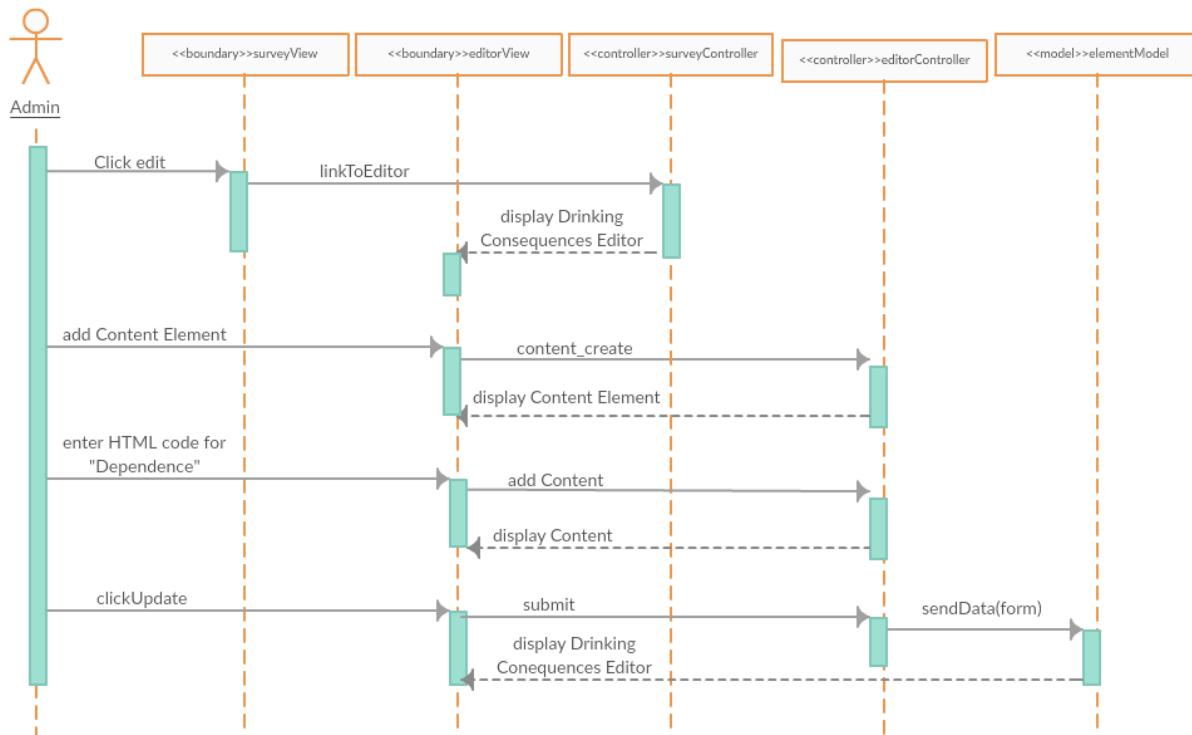
#200_EditDCU_Dependence

Use Case Diagram Figure 10.0

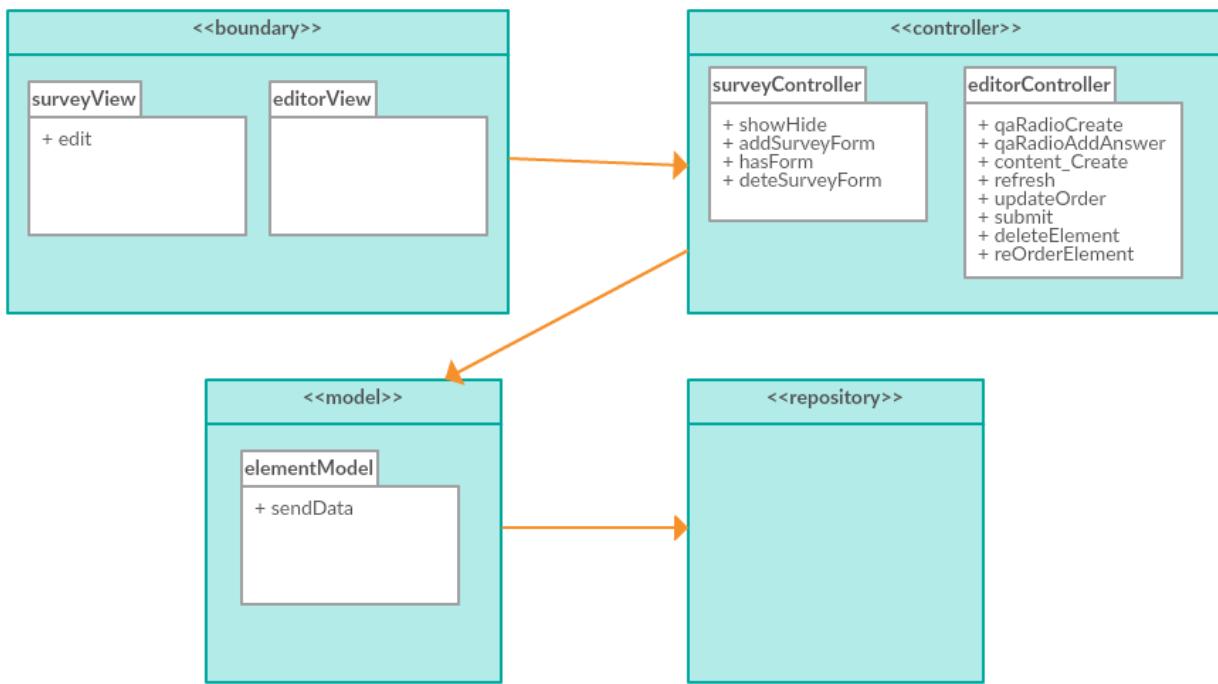
#200>EditDCU_Dependence



Sequence Diagram Figure 10.1



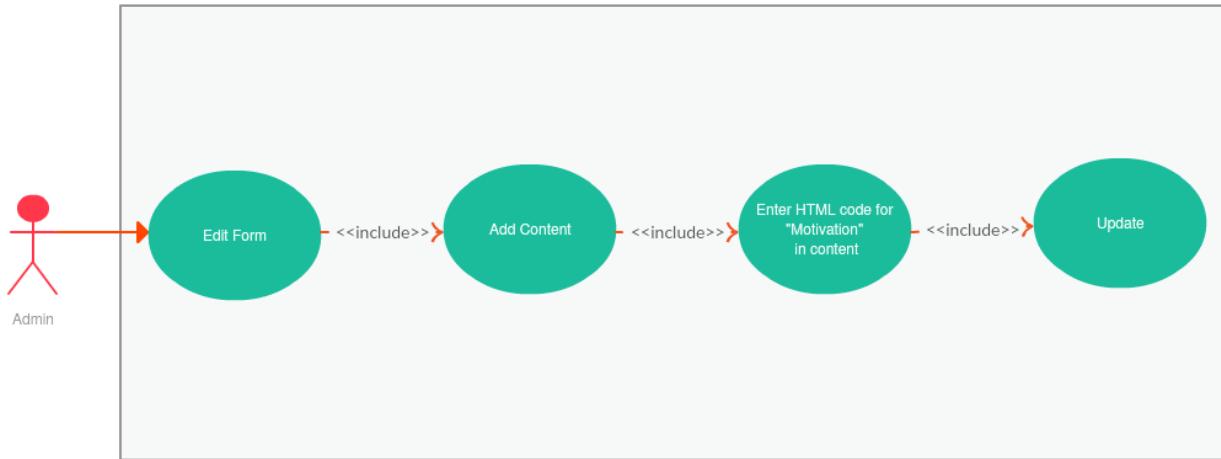
Class Diagram Figure 10.2



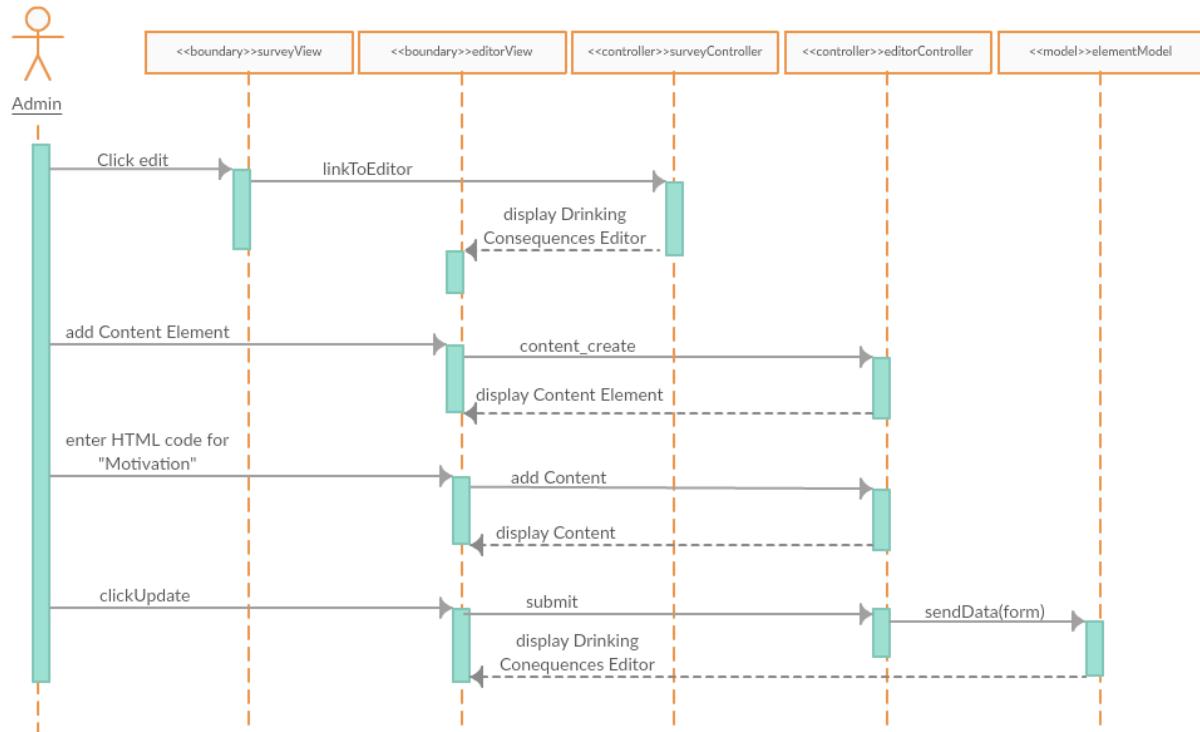
#201_EditDCU_Motivation

Use Case Diagram Figure 11.0

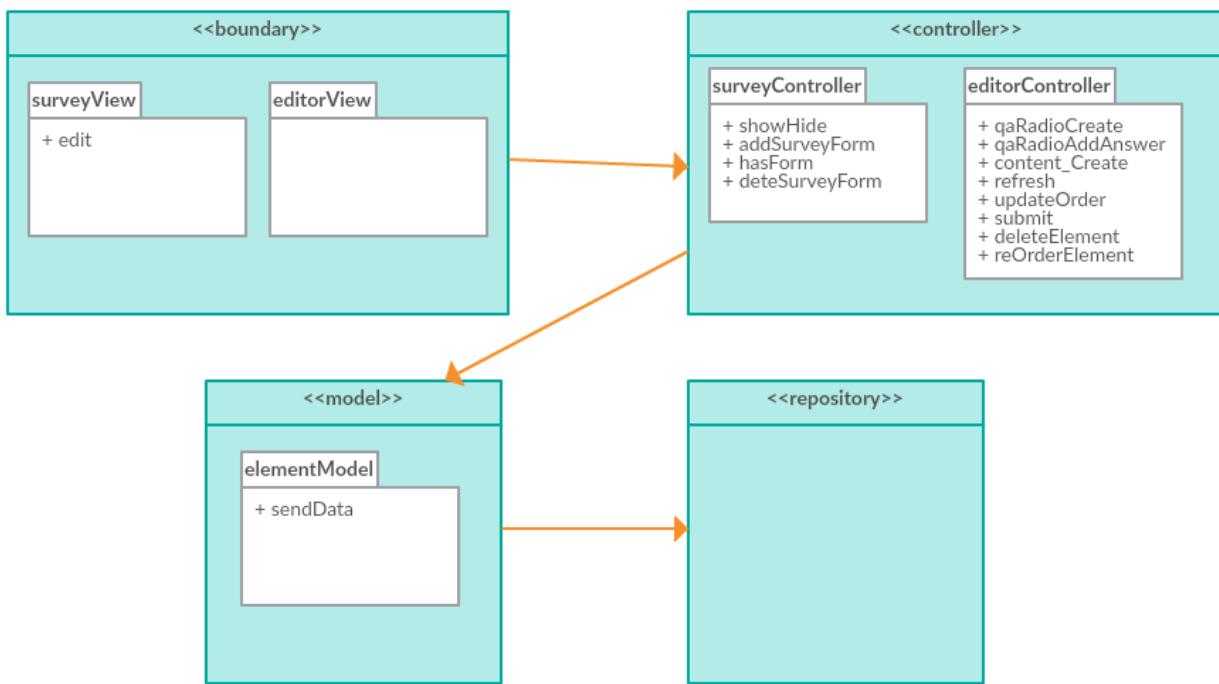
#201 EditDCU_Motivation



Sequence Diagram Figure 11.1



Class Diagram Figure 11.2

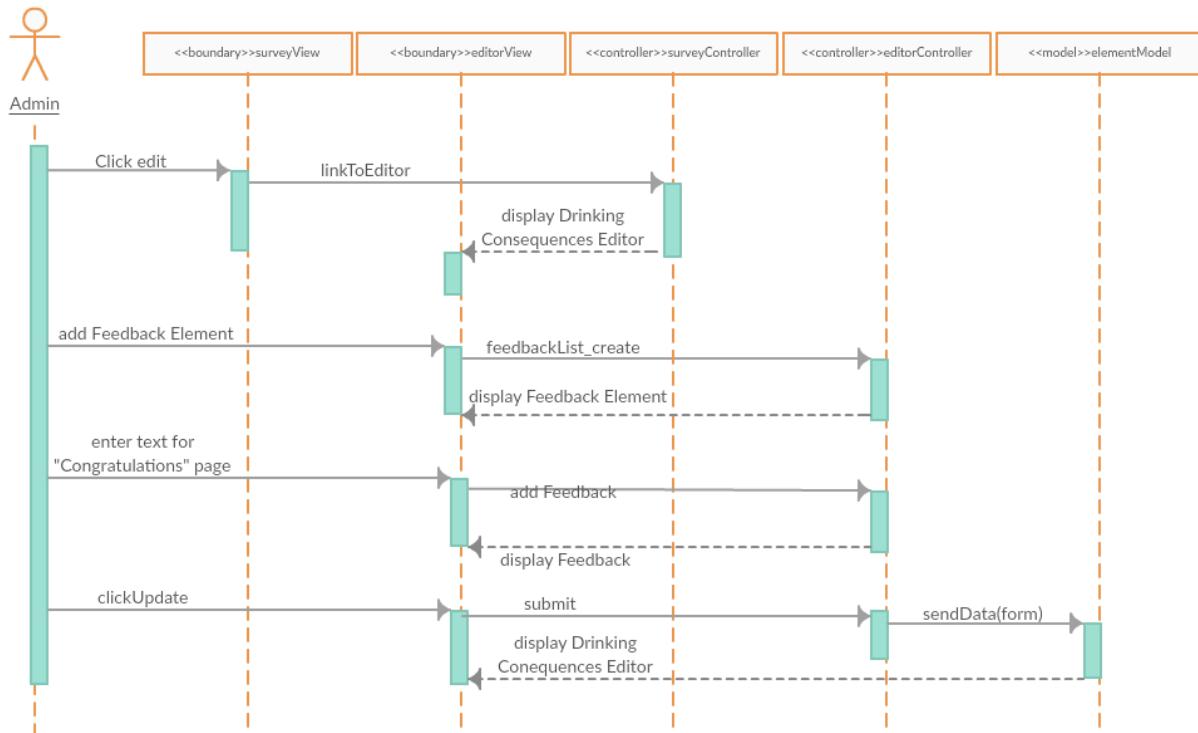


#235_EditDCU_Congratulations

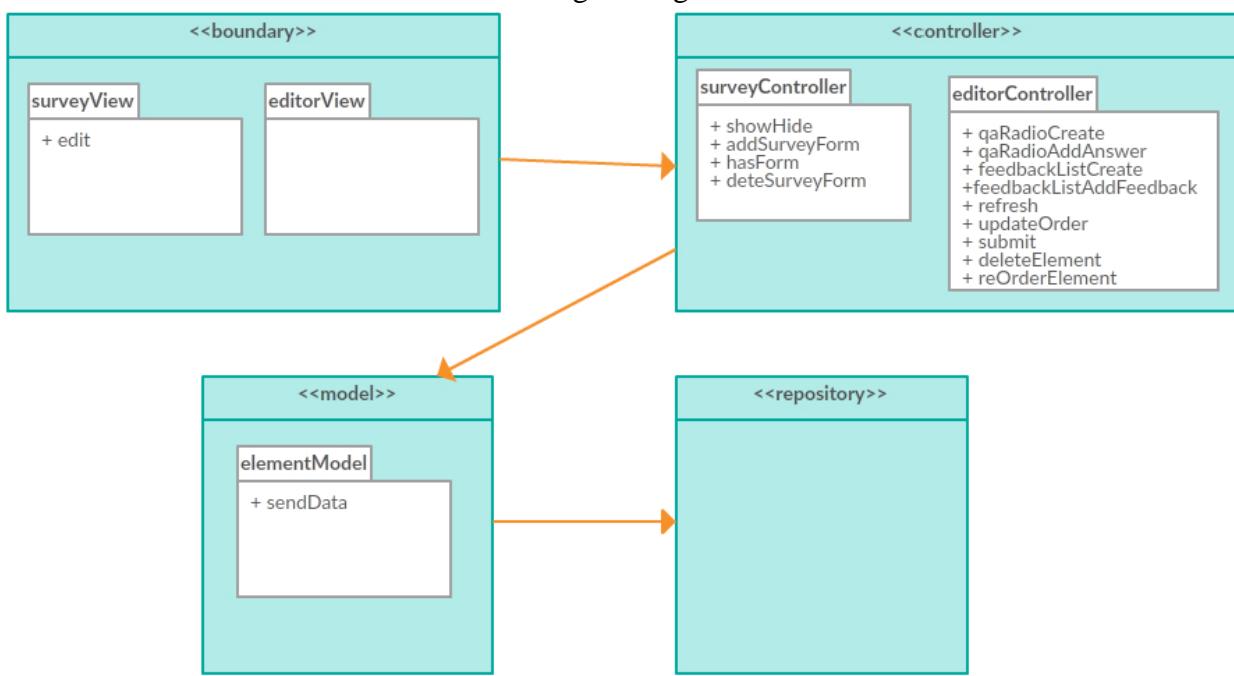
Use Case Diagram Figure 12.0



Sequence Diagram Figure 12.1

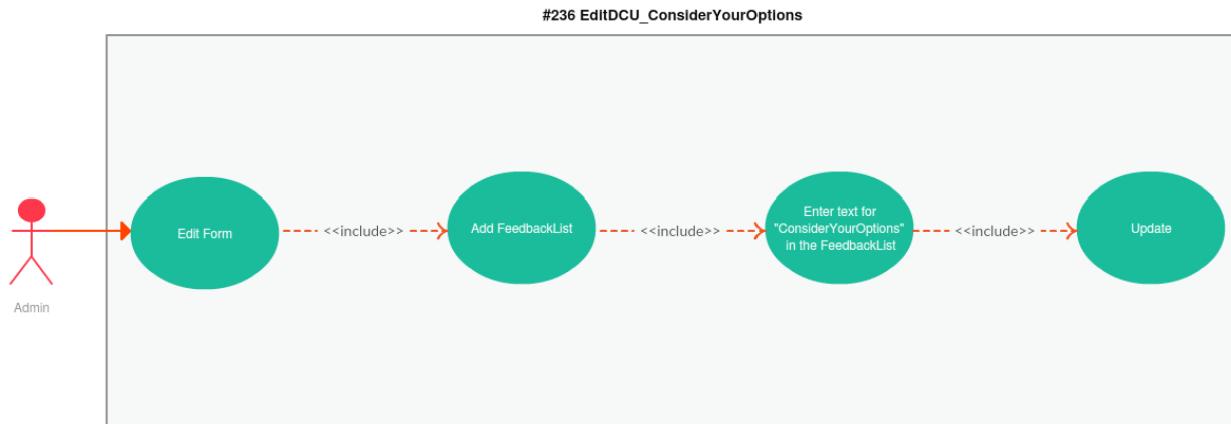


Class Diagram Figure 12.2

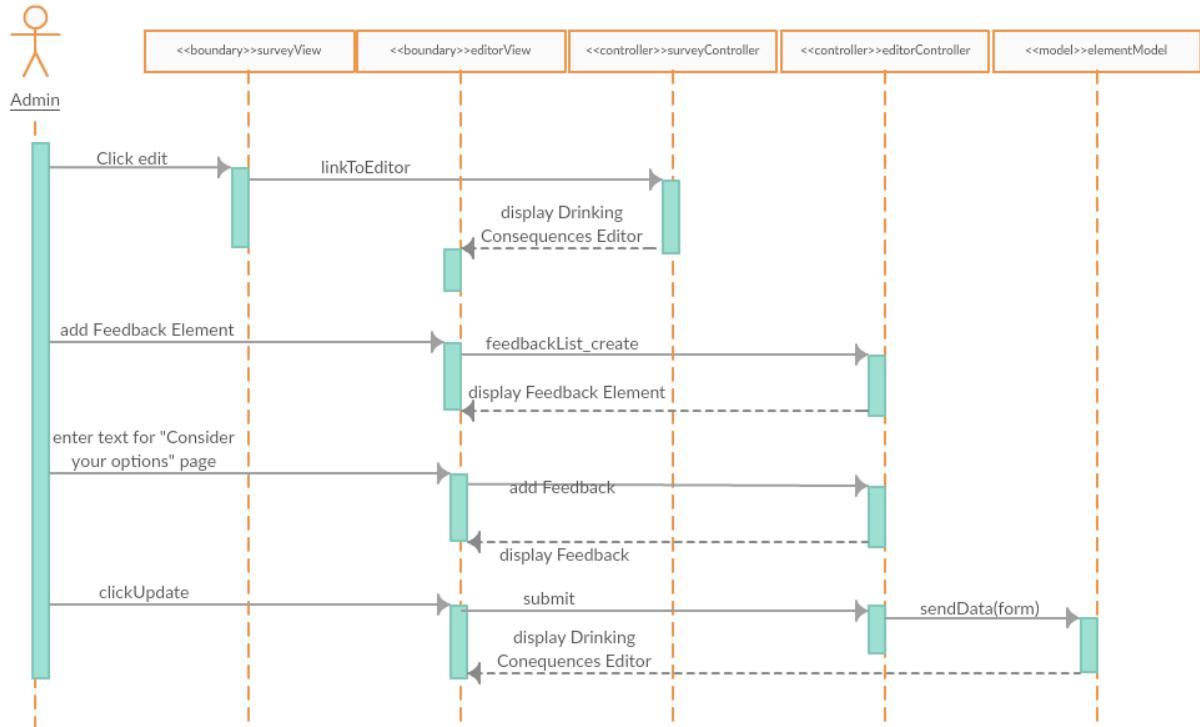


#236_EditDCU_ConsiderYourOptions

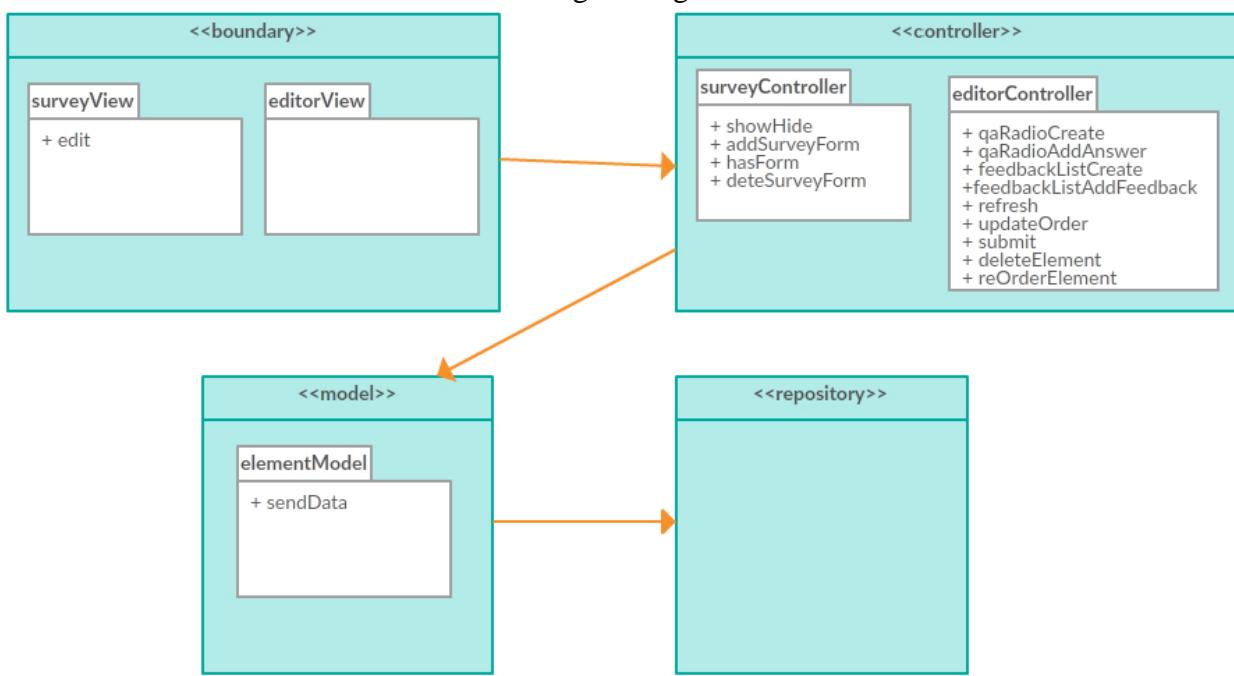
Use Case Diagram Figure 13.0



Sequence Diagram Figure 13.1

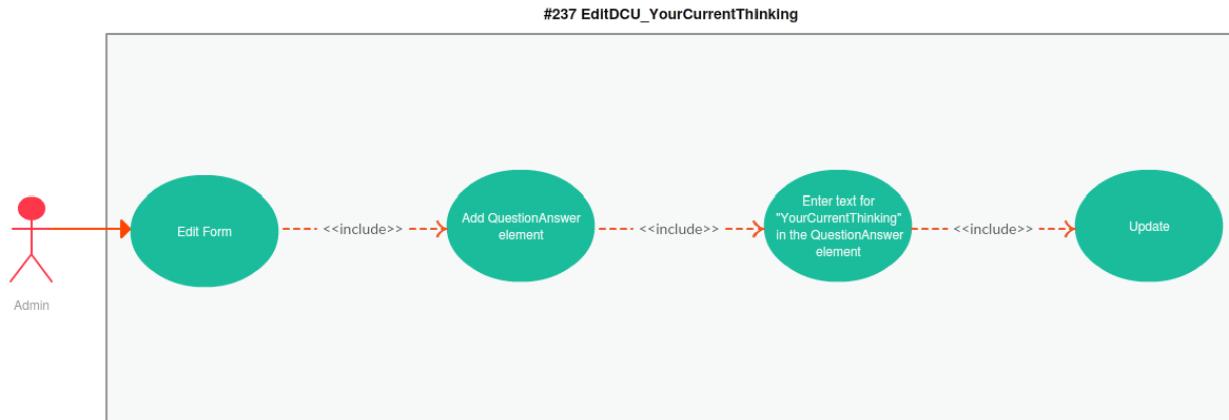


Class Diagram Figure 13.2

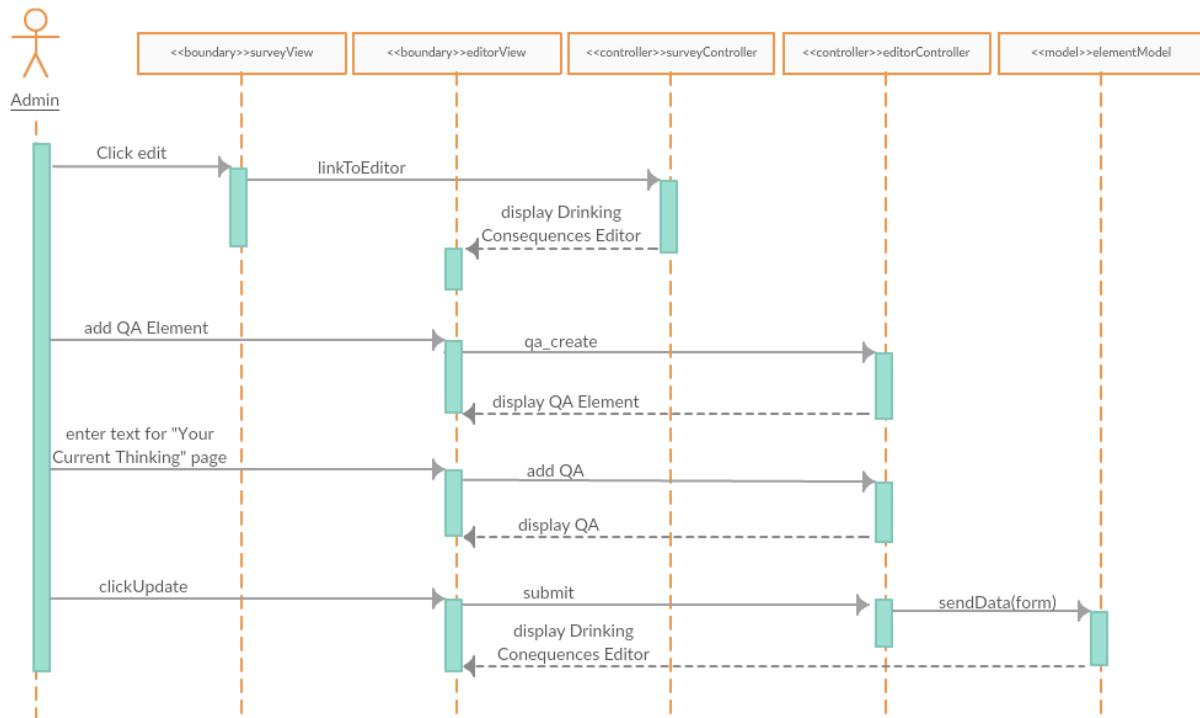


#237_EditDCU_YourCurrentThinking

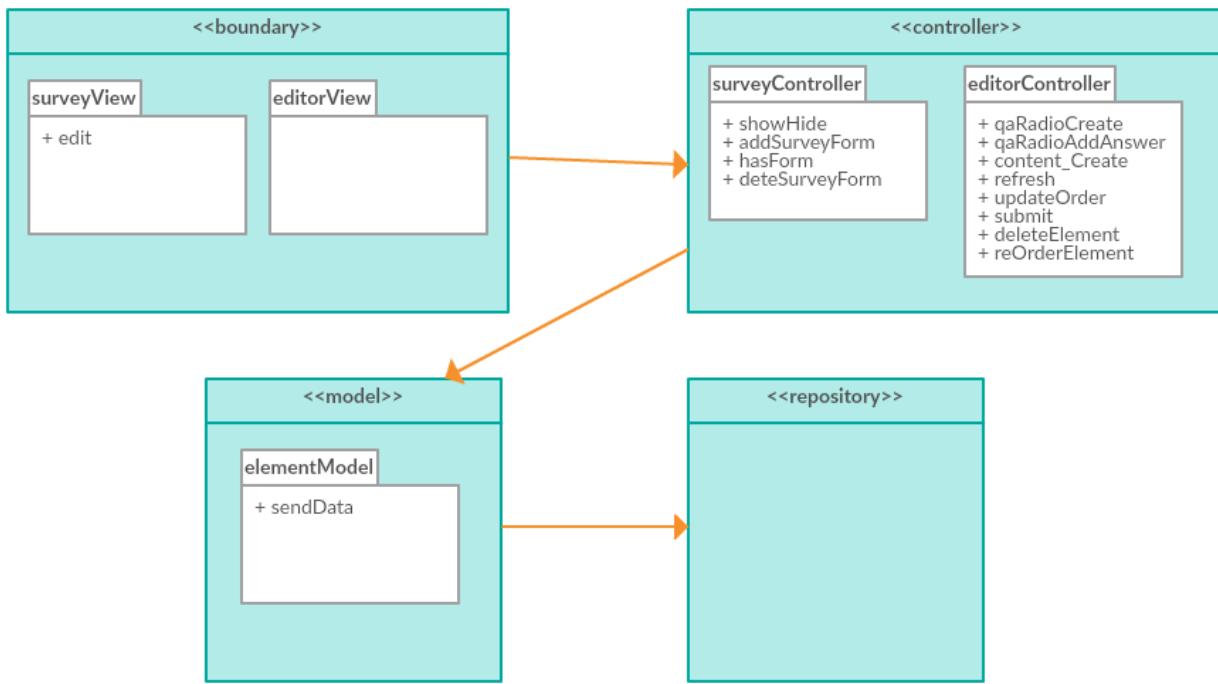
Use Case Diagram Figure 14.0



Sequence Diagram Figure 14.1

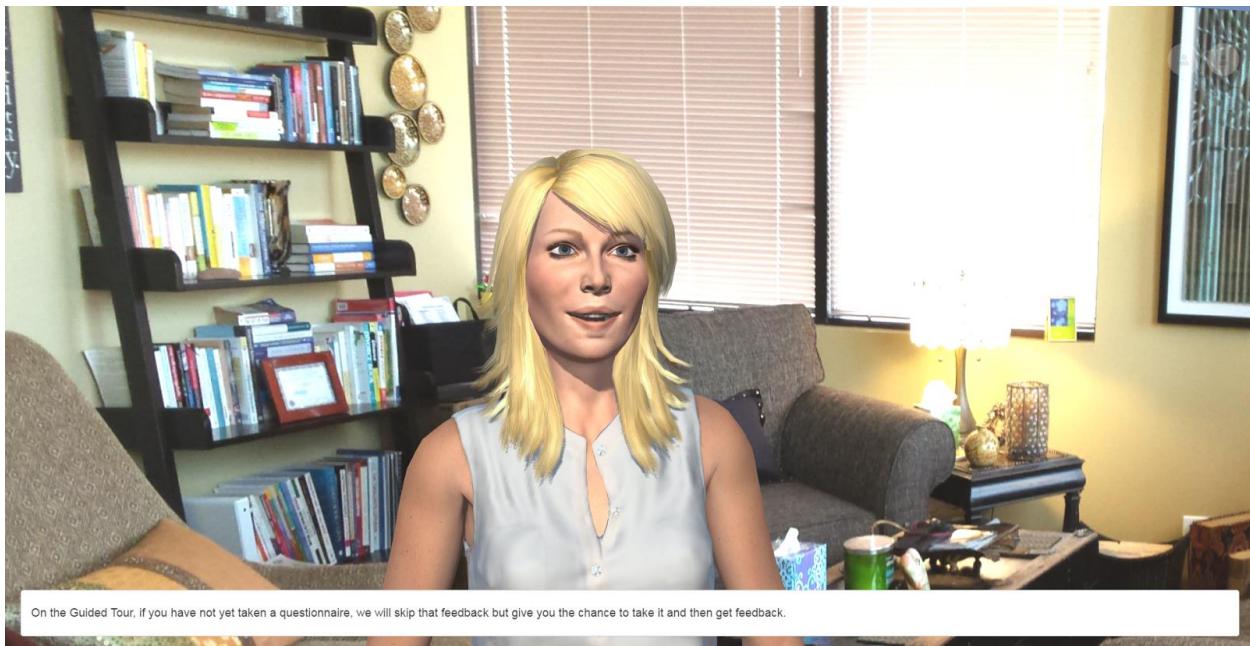
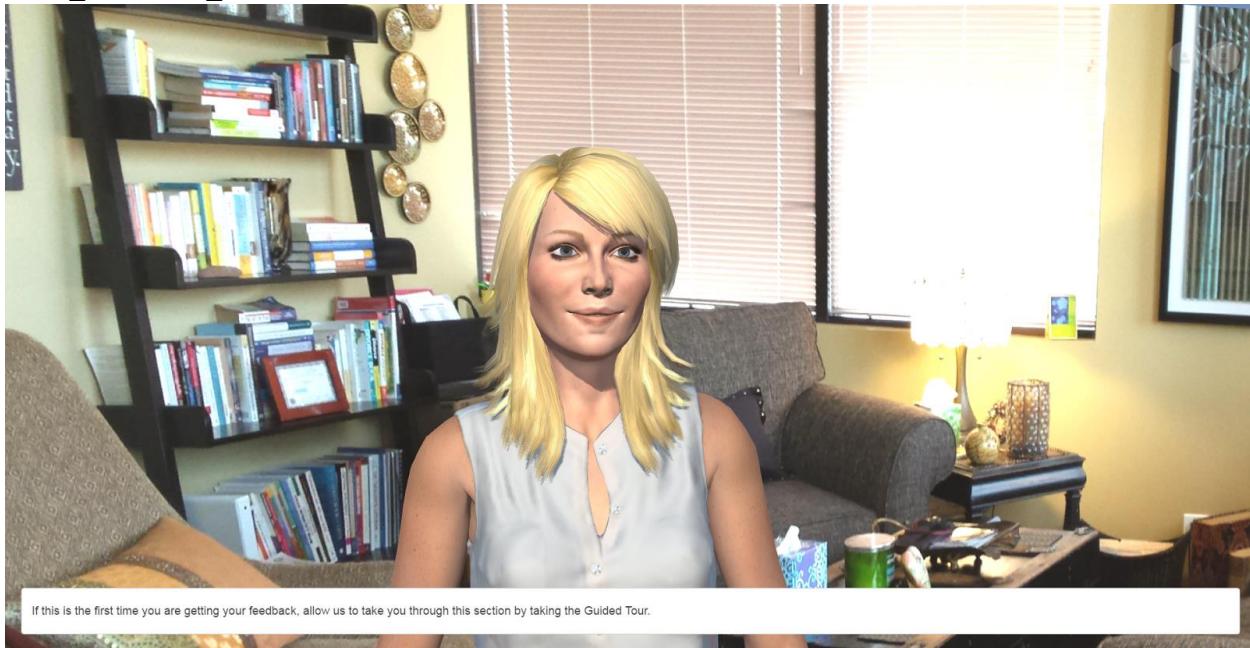


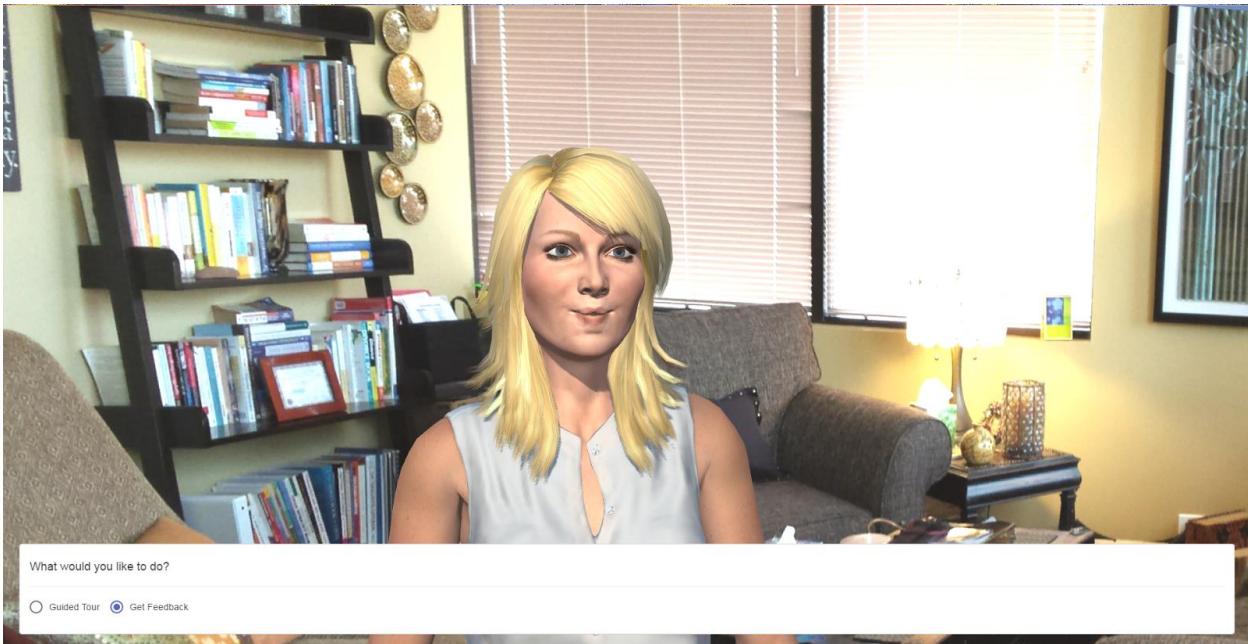
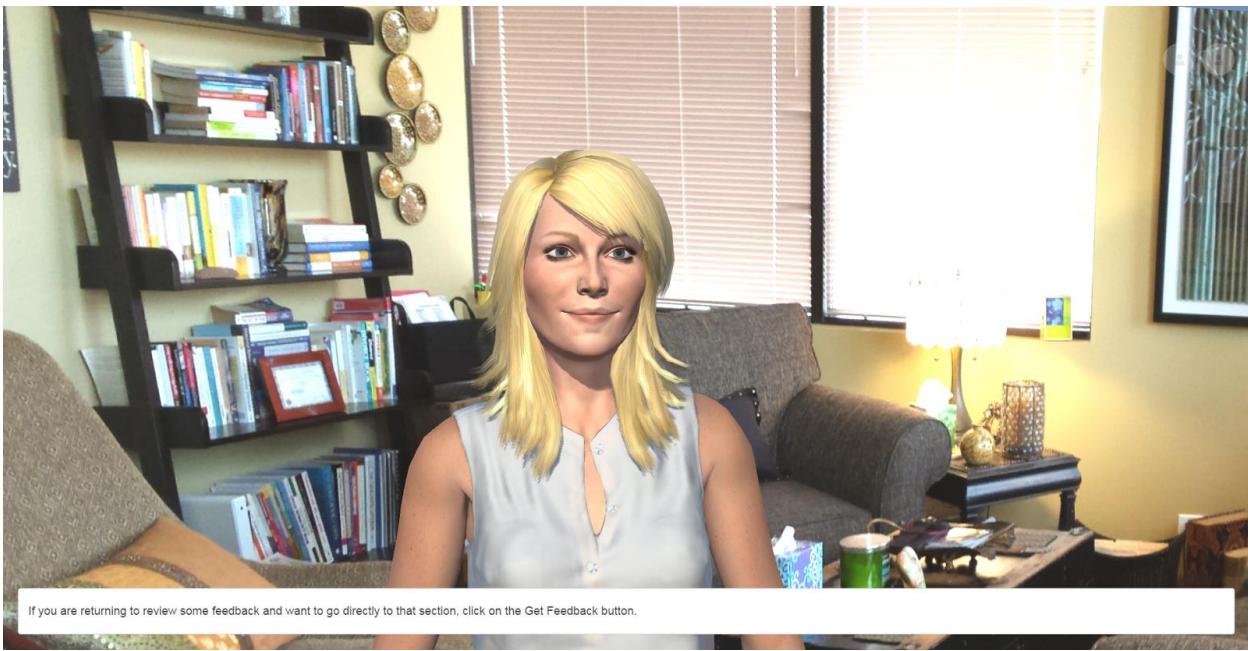
Class Diagram Figure 14.2



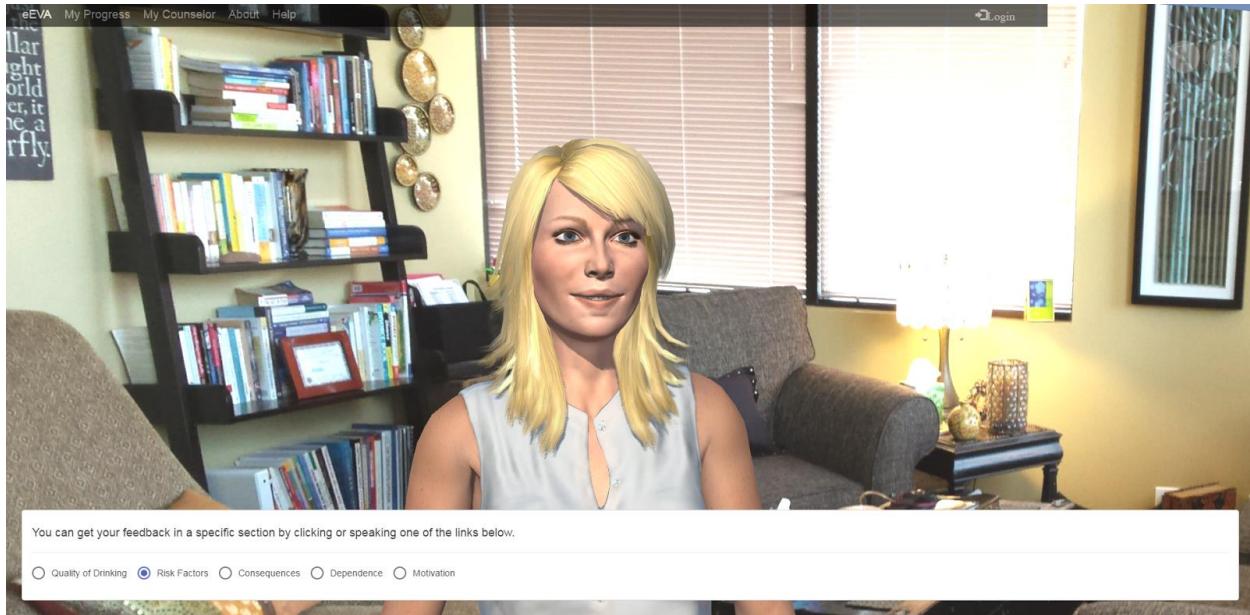
Appendix B – User Interface Design

#117_EditDCU_FeedbackHome





#124_EditDCU_GetFeedback



#133_AddElement_Next

Adding a Question/Answer element in the survey editor with only a single “Answer” turns that response into a button that can be designated “Next” to be presented by the counselor when elements added into the state machine and counselor loaded to user interface.

A screenshot of a software interface for survey editing. At the top, it says "Element 2 (QuestionAnswer)". On the right, there are "Order" and "Delete" buttons. The main area shows a text input field with the placeholder text "Then click the button below." and a button labeled "Next". A red arrow points to the "Next" button. Below the button is a link "Add Answers".

Final Deliverable

eEVA Data Generation and User Results Analysis Version 1.0

↓

Element 8 (QuestionAnswer)

Here is your personal BAC table. Numbers reading down are or how many drinks you might have. Numbers across the top are for the number of hours you might drink. We suggest

Next Remove

Add Answers

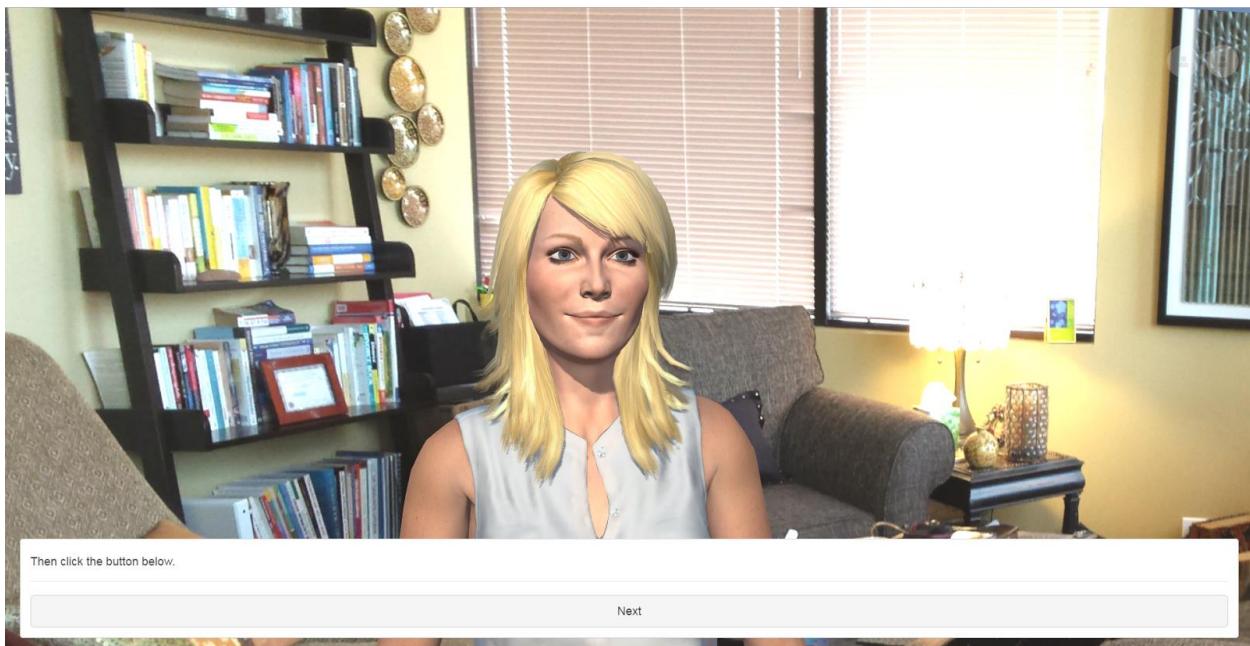
Order ▾ Delete

Element 9 (Content)

Content Text Toggle Editor

Add Question/Answer Add Checkbox Add TextArea Add Feedback Add FeedbackList Add Content

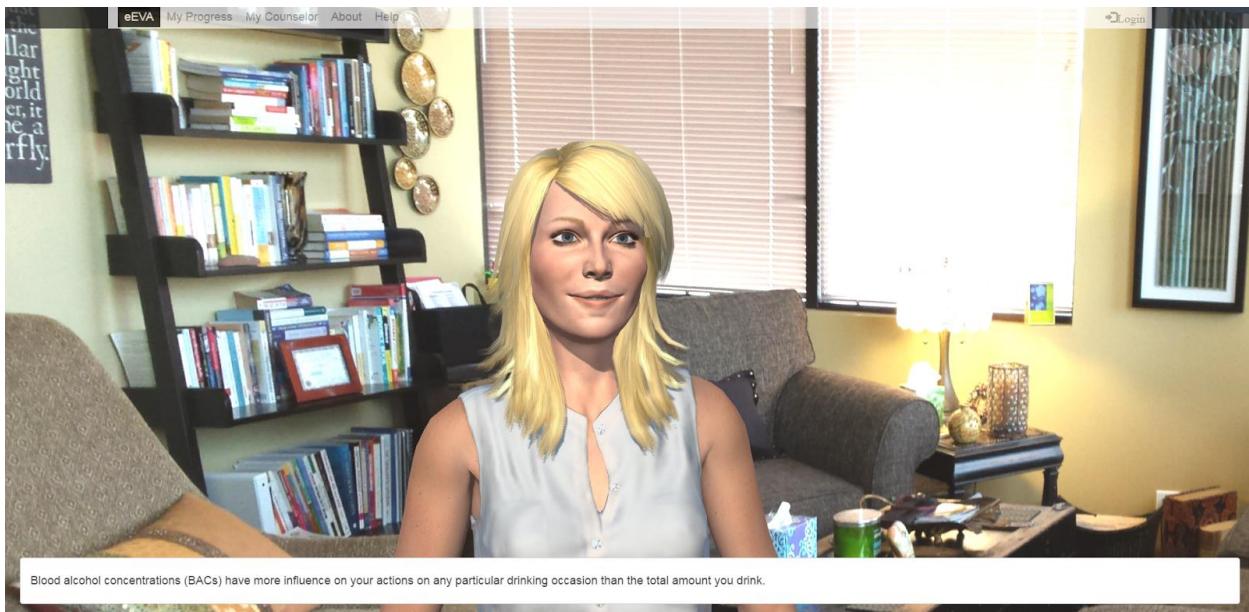
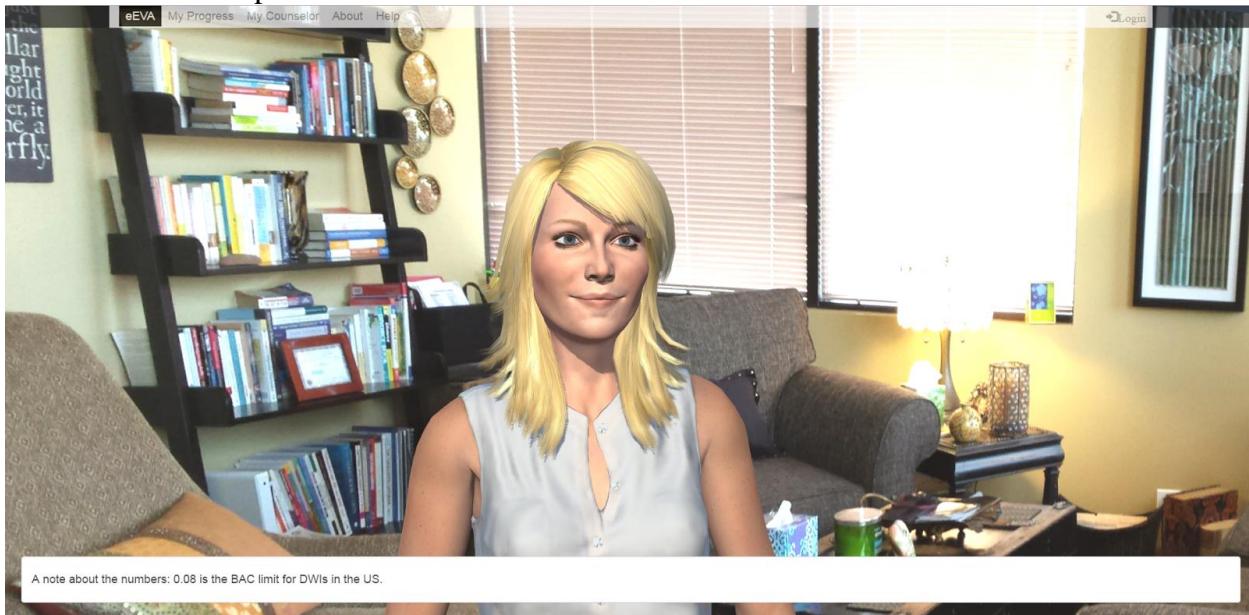
Update



#166_EditDCU_BAC

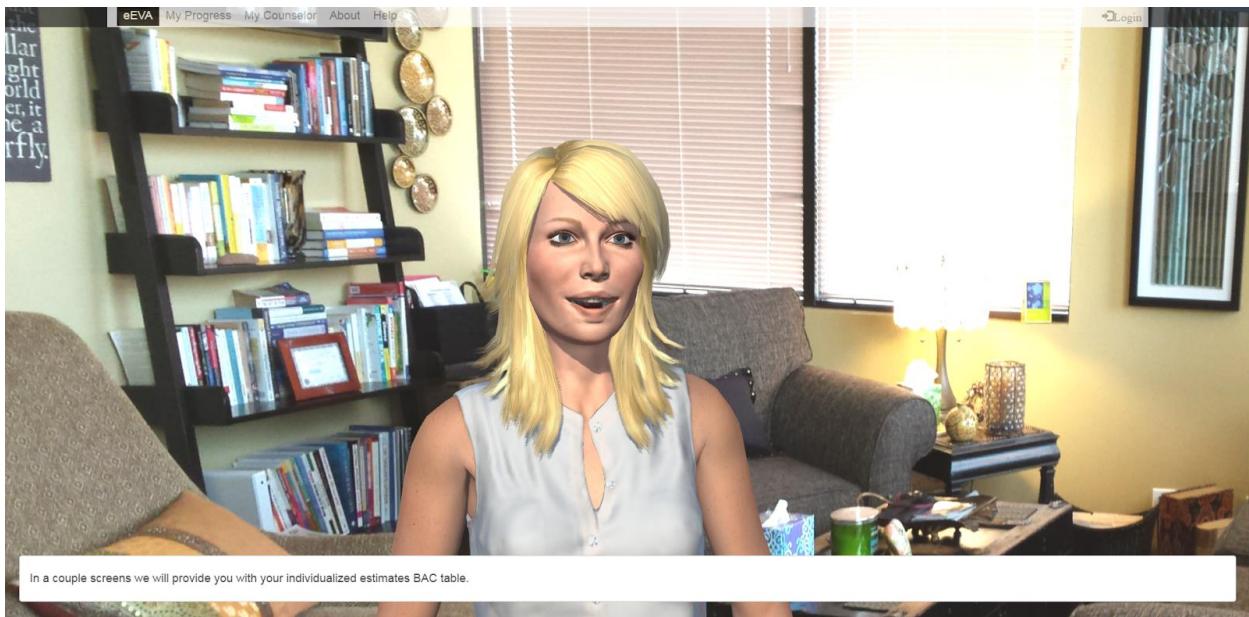
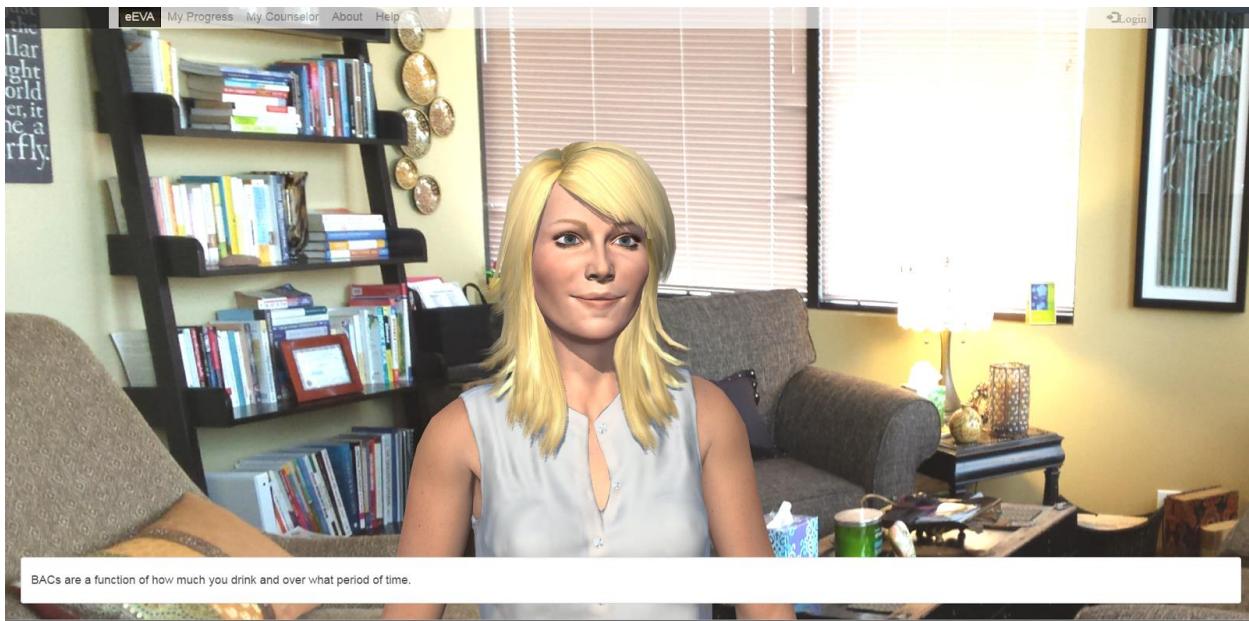
There are 4 part to BAC. BAC 1 is the introduction to the section. BAC2 contains personal BAC information, broken further into 2A, which includes a chart on what various scores mean, and 2B which allows users to input their reactions to their score. Then, BAC3 provides a table which allows users to calculate BAC levels based on number of drinks and number of hours that a user drinks.

The counselor first provides an introduction to the BAC section in BAC1:



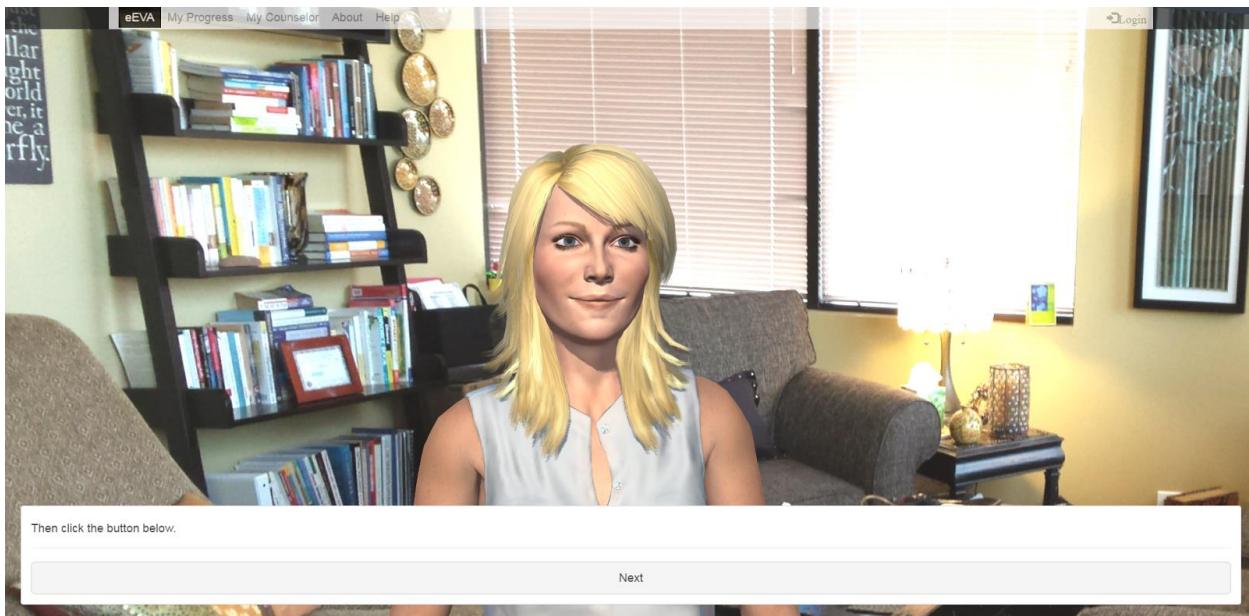
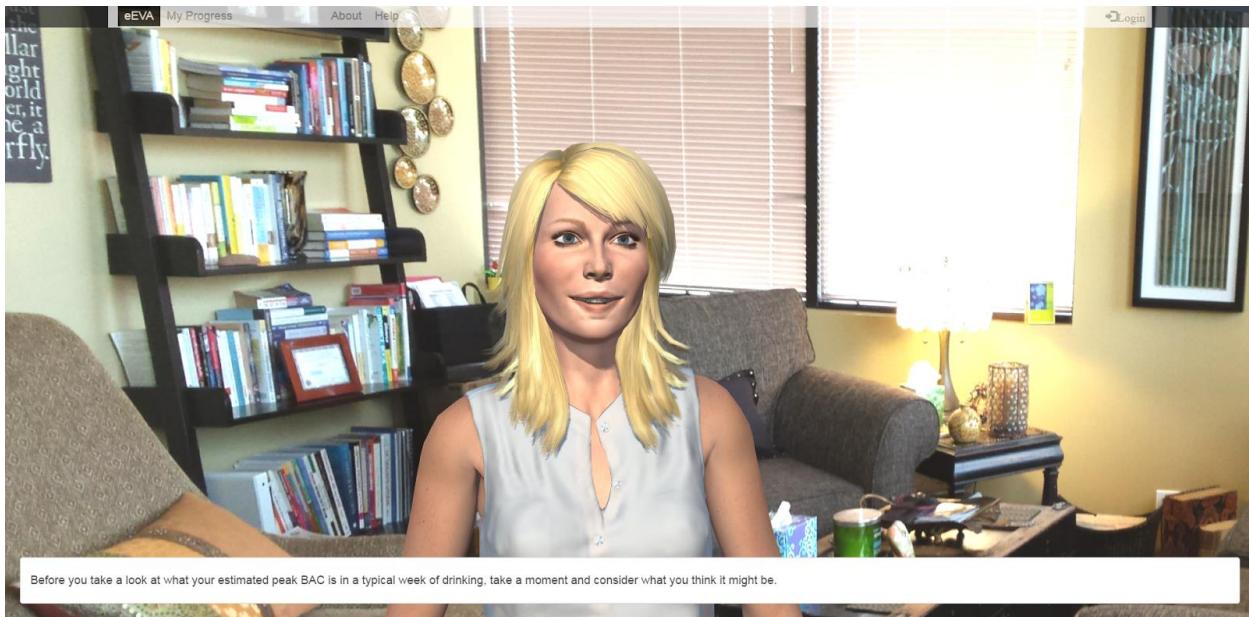
Final Deliverable

eEVA Data Generation and
User Results Analysis Version 1.0



Final Deliverable

eEVA Data Generation and User Results Analysis Version 1.0



Upon clicking “Next” the counselor window toggles to a smaller screen and the BAC2A page is presented:

Your blood alcohol concentration



Estimated peak BAC (during regular week of drinking): XXX
 Estimated peak BAC (on heavier day of drinking): XXX
 Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

BAC	Predictable Effects
0% to .04%	Lightheaded – Relaxation, sensation of warmth, "high," minor impairment of judgment
.05% to .07%	Buzzed – Relaxation, euphoria, lower inhibitions, minor impairment of reasoning and memory, exaggerated emotions (good or bad)
.08% to .10%	Slightly Impaired – Euphoria, fatigue, impairment in balance, speech, vision, reaction time and hearing, judgment and self-control are impaired
.11% to .15%	Drunk – "High" reduced and depressive effects (anxiety, depression or unease) more pronounced; gross motor impairment, judgment and perception severely impaired
.16% to .19%	Very Drunk – Strong state of depression, nausea, disorientation, dizzy, increased motor impairment, blurred vision, judgment further impaired
.20% to .24%	Dazed and Confused – Gross disorientation to time and place, increased nausea and vomiting, may need assistance to stand/walk, impervious to pain, blackout likely
.25% to .30%	Stupor – All mental, physical and sensory functions are severely impaired, accidents very likely, little comprehension may pass out suddenly
.31% and up	Coma – Level of surgical anesthesia, onset of coma, possibility of acute alcohol poisoning, death due to respiratory arrest is likely in 50 % of drinkers

Take a look at your estimated Blood Alcohol Concentration and tolerance, and find out what these values mean.

Next

Upon clicking “Next” BAC2B page is presented, allowing users to select a checkbox and then displaying the appropriate result for their choice in the display window:

Your blood alcohol concentration



Estimated peak BAC (during regular week of drinking): XXX
 Estimated peak BAC (on heavier day of drinking): XXX
 Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

Do you have any reactions to these results?

- About what I expected
- I can handle it pretty well
- Higher than expected
- I am concerned

Do you have reactions to these results? Let me know what you think by selecting your choice. Then click "Next" when you are ready to move on.

Next

eEVA My Progress My Counselor About Help Login

Your blood alcohol concentration



Estimated peak BAC (during regular week of drinking): XXX
Estimated peak BAC (on heavier day of drinking): XXX
Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

Do you have any reactions to these results?

About what I expected
 I can handle it pretty well
 Higher than expected
 I am concerned

You seem to be in touch with the effects alcohol has on you. Thank about whether or not you have any concerns about the blood alcohol levels you reach when you drink.

Do you have reactions to these results? Let me know what you think by selecting your choice. Then click "Next" when you are ready to move on.

Next

eEVA My Progress My Counselor About Help Login

Your blood alcohol concentration



Estimated peak BAC (during regular week of drinking): XXX
Estimated peak BAC (on heavier day of drinking): XXX
Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

Do you have any reactions to these results?

About what I expected
 I can handle it pretty well
 Higher than expected
 I am concerned

Some people feel relieved that they can reach relatively high blood alcohol levels without feeling the effects. They believe this means their bodies handle alcohol safely and efficiently. Unfortunately, this higher tolerance for alcohol can put us at risk for doing more damage to ourselves without getting the message that we are reaching potentially dangerous blood alcohol levels.

Do you have reactions to these results? Let me know what you think by selecting your choice. Then click "Next" when you are ready to move on.

Next

Your blood alcohol concentration



Estimated peak BAC (during regular week of drinking): XXX
 Estimated peak BAC (on heavier day of drinking): XXX
 Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

Do you have any reactions to these results?

About what I expected
 I can handle it pretty well
 Higher than expected
 I am concerned

It can be surprising to see how high your blood alcohol levels can get, even during what you consider normal drinking situations. Remember that anyone can develop tolerance to alcohol over time. Think about other reactions you might be having to this new information.

Do you have reactions to these results? Let me know what you think by selecting your choice. Then click "Next" when you are ready to move on.

Next

Your blood alcohol concentration



Estimated peak BAC (during regular week of drinking): XXX
 Estimated peak BAC (on heavier day of drinking): XXX
 Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

Do you have any reactions to these results?

About what I expected
 I can handle it pretty well
 Higher than expected
 I am concerned

It can be surprising to see how high your blood alcohol levels can get, even during what you consider normal drinking situations. Remember that anyone can develop tolerance to alcohol over time. Think about other reactions you might be having to this new information.

Do you have reactions to these results? Let me know what you think by selecting your choice. Then click "Next" when you are ready to move on.

Next

Upon clicking “Next” BAC3 page is presented, allowing users to Calculate BAC based on entered values, and to print the screen:

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The screenshot shows the eEVA web application interface. At the top, there is a navigation bar with links for "eEVA", "My Progress", "My Counselor", "About", and "Help". On the right side of the header is a "Login" button and two user profile icons. Below the header, the main content area has a title "Your blood alcohol concentration". To the left, there is a photograph of a blonde woman with short hair, wearing a light blue sleeveless top, sitting in an office environment. Below the photo are two input fields: "To get a specific BAC estimated enter the number of drinks here:" and "Then enter the number of hours you drink here:". Underneath these fields are buttons for "Calculate BAC", "Reset", and "Print". To the right of the photo is a large table titled "Numbers of Hours You Drink". The table has two sections: "Number of Drinks you Might Have" (rows) and "Numbers of Hours You Drink" (columns). The columns are labeled 1 through 10. The data values represent BAC levels for different combinations of drinks and hours.

Number of Drinks you Might Have	Numbers of Hours You Drink									
	1	2	3	4	5	6	7	8	9	10
1	0.013	0	0	0	0	0	0	0	0	0
2	0.043	0.026	0.009	0	0	0	0	0	0	0
3	0.073	0.056	0.039	0.022	0.005	0	0	0	0	0
4	0.103	0.086	0.069	0.052	0.035	0.018	0.001	0	0	0
5	0.133	0.116	0.099	0.082	0.065	0.048	0.031	0.014	0	0
6	0.163	0.146	0.129	0.112	0.095	0.078	0.061	0.044	0.027	0.01
7	0.193	0.176	0.159	0.142	0.125	0.108	0.091	0.074	0.057	0.04
8	0.233	0.206	0.189	0.172	0.155	0.138	0.121	0.104	0.087	0.07
9	0.253	0.236	0.219	0.202	0.185	0.168	0.151	0.134	0.117	0.1
10	0.283	0.266	0.249	0.232	0.215	0.198	0.181	0.164	0.147	0.13

Below the table, a message reads: "Here is your personal BAC table. Numbers reading down are or how many drinks you might have. Numbers across the top are for the number of hours you might drink. We suggest you to print the table using the Print button before you try the BAC estimate to the left. The table is based on your weight and gender. It is an estimate only." At the bottom of the page is a "Next" button.

If the number of drinks entered or hours you drink is incorrect, an error message appears:

The screenshot shows the eEVA web application interface with an error message. A modal dialog box in the center says "localhost:3000 says: Invalid Entry!" with an "OK" button. The rest of the page is identical to the previous screenshot, showing the BAC calculator and the personal BAC table. Red arrows point to the input fields where invalid values were entered: "123" in the "drinks" field and "23" in the "hours" field.

When the time is entered corresponding with appropriate values, the chart highlights properly:

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eEVA Data Generation and User Results Analysis Version 1.0

Your blood alcohol concentration

To get a specific BAC estimated enter the number of drinks here: drinks

Then enter the number of hours you drink here: hours

Here is your personal BAC table. Numbers reading down are or how many drinks you might have. Numbers across the top are for the number of hours you might drink. We suggest you to print the table using the Print button before you try the BAC estimate to the left. The table is based on your weight and gender. It is an estimate only.

Number of Drinks you Might Have	Numbers of Hours You Drink									
	1	2	3	4	5	6	7	8	9	10
1	0.013	0	0	0	0	0	0	0	0	0
2	0.043	0.026	0.009	0	0	0	0	0	0	0
3	0.073	0.056	0.039	0.022	0.005	0	0	0	0	0
4	0.103	0.086	0.069	0.052	0.036	0.018	0.009	0	0	0
5	0.133	0.116	0.099	0.082	0.065	0.048	0.031	0.014	0	0
6	0.163	0.146	0.129	0.112	0.095	0.078	0.061	0.044	0.027	0.01
7	0.193	0.176	0.159	0.142	0.125	0.108	0.091	0.074	0.057	0.04
8	0.233	0.206	0.189	0.172	0.155	0.138	0.121	0.104	0.087	0.07
9	0.253	0.236	0.219	0.202	0.185	0.168	0.151	0.134	0.117	0.1
10	0.283	0.266	0.249	0.232	0.215	0.198	0.181	0.164	0.147	0.13

Per styling changes requested by the product owner, some of the screens were revised to be consistent with the later styling. The screenshots below (from 11/5/2016) includes the present styling for BAC 2-BAC3:

Your Blood Alcohol Concentration

Estimated peak BAC (during regular week of drinking): XXX

Estimated peak BAC (on heavier day of drinking): XXX

Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

Take a look at your estimated Blood Alcohol Concentration and tolerance, and find out what these values mean.

Understanding the Blood Alcohol Concentration Numbers	
BAC	Predictable Effects
.02% to .04%	Lightheaded – Relaxation, sensation of warmth, "high," minor impairment of judgment
.05% to .07%	Buzzed – Relaxation, euphoria, lower inhibitions, minor impairments of memory and memory, exaggerated emotions (good and bad)
.08% to .10%	Legally Impaired – Euphoria, fatigue, impairment in balance, speech, vision, reaction time and hearing, judgment and self-control are impaired
.11% to .15%	Drunk – "High" reduced and depressive effects (anxiety, depression or unease) more pronounced, gross motor impairment, judgment and perception severely impaired
.16% to .19%	Very Drunk – Strong state of depression, nausea, disorientation, dizzy, increased motor impairment, blurred vision, judgment further impaired
.20% to .24%	Dazed and Confused – Gross disorientation to time and place, increased nausea and vomiting, may need assistance to stand/walk, impervious to pain, blackout like
.25% to .30%	Stupor – All mental, physical and sensory functions are severely impaired, accidents very likely, little comprehension, may pass out suddenly
.31% and up	Coma – Level of surgical amnesia, onset of coma, possibility of acute alcohol poisoning, death due to respiratory arrest is likely in 50% of drinkers

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eEVA Data Generation and User Results Analysis Version 1.0

Your Blood Alcohol Concentration



Estimated peak BAC (during regular week of drinking): XXX
 Estimated peak BAC (on heavier day of drinking): XXX
 Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

Do you have any reactions to these results?

- About what I expected
- I can handle it pretty well
- Higher than expected
- I am concerned

Do you have reactions to these results? Let me know what you think by selecting your choice. Then click "Next" when you are ready to move on.

Next

Your Blood Alcohol Concentration



To get a specific BAC estimated enter the number of drinks here: drinks
 Then enter the number of hours you drink here: hours

Numbers of Hours You Drink

Number of Drinks you Might Have	Numbers of Hours You Drink									
	1	2	3	4	5	6	7	8	9	10
1	0.013	0	0	0	0	0	0	0	0	0
2	0.043	0.026	0.009	0	0	0	0	0	0	0
3	0.073	0.056	0.039	0.022	0.005	0	0	0	0	0
4	0.103	0.086	0.069	0.052	0.035	0.018	0.001	0	0	0
5	0.133	0.116	0.099	0.082	0.065	0.048	0.031	0.014	0	0
6	0.163	0.146	0.129	0.112	0.095	0.078	0.061	0.044	0.027	0.01
7	0.193	0.176	0.159	0.142	0.125	0.108	0.091	0.074	0.057	0.04
8	0.233	0.206	0.189	0.172	0.155	0.138	0.121	0.104	0.087	0.007
9	0.253	0.236	0.219	0.202	0.185	0.168	0.151	0.134	0.117	0.1
10	0.283	0.266	0.249	0.232	0.215	0.198	0.181	0.164	0.147	0.13

Here is your personal BAC table. Numbers reading down are or how many drinks you might have. Numbers across the top are for the number of hours you might drink. We suggest you to print the table using the Print button before you try the BAC estimate to the left. The table is based on your weight and gender. It is an estimate only.

Next

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User Results Analysis Version 1.0

#197_EditDCU_HowMuch

eEVA My Progress My Counselor About Help 

Quality of Drinking



You described your drinking pattern as: XXX

The total number of standard drinks you had per week in the last 4 weeks was: XXX

Your drinking relative to the other US XXX(MALES/FEMALES) is (percentile): XXX

How Much Do Americans Drink?
There's a wide range.

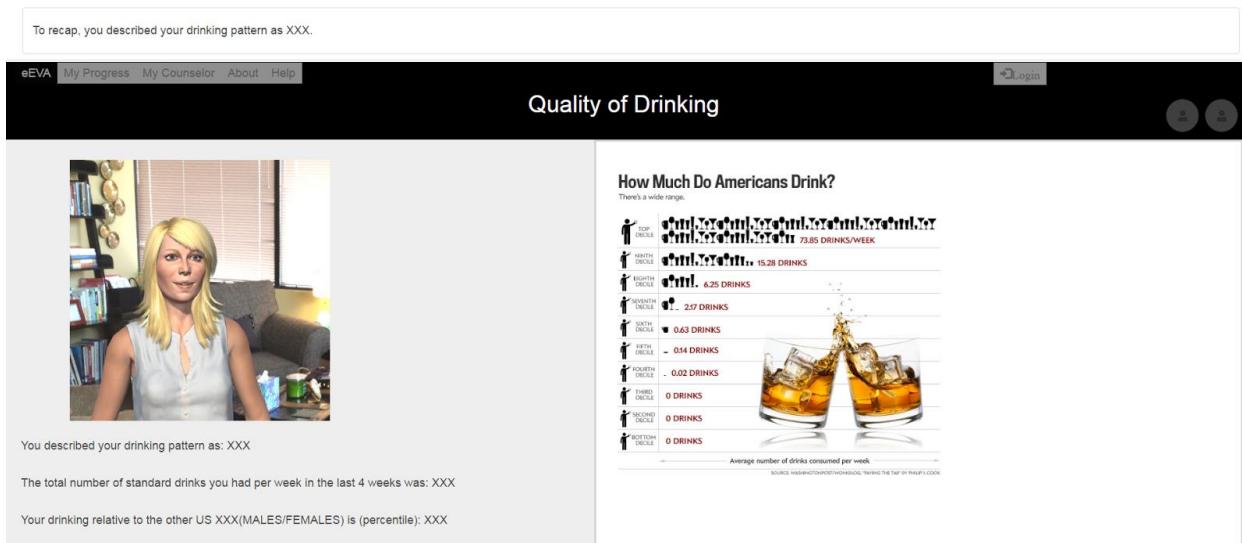
DECILE	DRINKS
TOP DECILE	73.85 DRINKS/WEEK
NINTH DECILE	15.28 DRINKS
EIGHTH DECILE	6.25 DRINKS
SEVENTH DECILE	2.7 DRINKS
SIXTH DECILE	0.63 DRINKS
FIFTH DECILE	0.14 DRINKS
FOURTH DECILE	0.02 DRINKS
THIRD DECILE	0 DRINKS
SECOND DECILE	0 DRINKS
BOTTOM DECILE	0 DRINKS

Average number of drinks consumed per week.
SOURCE: MADDOWS, C., & PHILIP MORRISON. "TAKING THE TAP" BY PHILIP L. COOK

To recap, you described your drinking pattern as XXX.

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Quality of Drinking



You described your drinking pattern as: XXX

The total number of standard drinks you had per week in the last 4 weeks was: XXX

Your drinking relative to the other US XXX(MALES/FEMALES) is (percentile): XXX

How Much Do Americans Drink?
There's a wide range.

DECILE	DRINKS
TOP DECILE	73.85 DRINKS/WEEK
NINTH DECILE	15.28 DRINKS
EIGHTH DECILE	6.25 DRINKS
SEVENTH DECILE	2.7 DRINKS
SIXTH DECILE	0.63 DRINKS
FIFTH DECILE	0.14 DRINKS
FOURTH DECILE	0.02 DRINKS
THIRD DECILE	0 DRINKS
SECOND DECILE	0 DRINKS
BOTTOM DECILE	0 DRINKS

Average number of drinks consumed per week.
SOURCE: MADDOWS, C., & PHILIP MORRISON. "TAKING THE TAP" BY PHILIP L. COOK

The total number of standard drinks you had per week in the last 4 weeks was XXX.

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Quality of Drinking



You described your drinking pattern as: XXX

The total number of standard drinks you had per week in the last 4 weeks was: XXX

Your drinking relative to the other US XXX(MALES/FEMALES) is (percentile): XXX

How Much Do Americans Drink?

There's a wide range.



Decile	Average Number of Drinks Consumed per Week
TOP DECILE	73.85 DRINKS/WEEK
NINTH DECILE	15.28 DRINKS
EIGHTH DECILE	6.25 DRINKS
SEVENTH DECILE	2.77 DRINKS
SIXTH DECILE	0.63 DRINKS
FIFTH DECILE	0.14 DRINKS
FOURTH DECILE	0.02 DRINKS
THIRD DECILE	0 DRINKS
SECOND DECILE	0 DRINKS
BOTTOM DECILE	0 DRINKS

Average number of drinks consumed per week

SOURCE: WASHINGTON POST/PHILIP MORRIS "TAKING THE TAP" BY PHILIP MORRIS CO.

Looking at the chart on my right, you can see that your drinking relative to other US (MALES/FEMALES) falls within the XXX percentile;

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Quality of Drinking



You described your drinking pattern as: XXX

The total number of standard drinks you had per week in the last 4 weeks was: XXX

Your drinking relative to the other US XXX(MALES/FEMALES) is (percentile): XXX

How Much Do Americans Drink?

There's a wide range.



Decile	Average Number of Drinks Consumed per Week
TOP DECILE	73.85 DRINKS/WEEK
NINTH DECILE	15.28 DRINKS
EIGHTH DECILE	6.25 DRINKS
SEVENTH DECILE	2.77 DRINKS
SIXTH DECILE	0.63 DRINKS
FIFTH DECILE	0.14 DRINKS
FOURTH DECILE	0.02 DRINKS
THIRD DECILE	0 DRINKS
SECOND DECILE	0 DRINKS
BOTTOM DECILE	0 DRINKS

Average number of drinks consumed per week

SOURCE: WASHINGTON POST/PHILIP MORRIS "TAKING THE TAP" BY PHILIP MORRIS CO.

meaning your average weekly consumption of alcohol is greater than XX percent of all US (MALES/FEMALES)

#198_EditDCU_RiskFutureProblems

Risk for Future Alcohol-Related Problems

Based on the information that you provided

I've put together a summary of your information

To illustrate your risk for future alcohol-related problems

Age of onset of drinking or alcohol problems: XXX

Family history: XXX

Other drug use (history or current use): XXX

Score on the screening questionnaire: XXX

Tolerance: XXX

Take a look at your risk for future alcohol-related problems. Then what else would you like to see?

Quality of Drinking Consequences Dependence Motivation No thank you, I'm ready to move on.

Per styling changes requested by the product owner, the screen below was revised to be consistent with the later styling. The screenshots below (from 11/7/2016) includes the present styling:

Brief Drinker Profile (BDP) Feedback Summary

Risk for Future Alcohol-Related Problems Based on Your	
Age of onset of drinking or alcohol problems:	High Risk
Family History:	Medium Risk
Other drug use (history or current use):	High Risk
Score on the screening questionnaire:	40 Very High
Tolerance:	High

Alcoholism has one of the highest risks for future related disease and death in the United States. It increases your risk of developing long-term conditions such as diabetes, obesity, liver disease, heart disease, and even cancer. When one consumes alcohol in moderation, the risk is small for these long-term effects. If someone becomes dependent on alcohol, they run the risk of the body depending on alcohol to function. Once you are chemically reliant upon it, you run the risks of these life-threatening side effects.

Factors such as those provided in the chart may lead to alcohol abuse, and future health issues.

Take a look at your risk for future alcohol-related problems. Then what else would you like to see?

Quality of Drinking Consequences Dependence Motivation No thank you, I'm ready to move on.

#199_EditDCU_Consequences

eEVA My Progress My Counselor About Help Login

Drinker Inventory of Consequences (DrInC) Feedback Summary



The Drinker Inventory of Consequences is a self-report assessment of drinking related consequences. **Social Responsibility** taps role-fulfillment repercussions that are observable by others. These include work/school problems (missing days, poor quality of work, being fired or suspended), financial indiscretion, getting into trouble, and failing to meet expectations. **Impulse Control** is a reasonable but imperfect description of the content of these 12 items. These include the following sequelae of overdrinking: exacerbation of other substance use (smoking, drug use, overeating), impulsive actions and risk-taking, physical fights, driving and accidents after drinking, arrests and trouble with the law, and inflicting injury on others or damage to property. The **Physical** subscale contains items that reflect adverse physical states resulting from excessive drinking. Included are both acute and chronic effects of overdrinking. The items query hangovers, sleeping problems, and sickness; harm to health, appearance, eating habits, and sexuality; and injury while drinking. Take a look at your own scores for these items to the right.

Alcohol-Related Consequences		
Assessment	Recent	Lifetime
Social Responsibility:	 38.2 low	 18.2 very low
Impulse Control:	 38.2 low	 18.2 very low
Physical:	 38.2 low	 88.2 very high

Click next

next

eEVA My Progress My Counselor About Help Login

Drinker Inventory of Consequences (DrInC) Feedback Summary



The Drinker Inventory of Consequences is a self-report assessment of drinking related consequences. The Lifetime Consequences **Total Score** reflects the overall number of alcohol problems that have occurred during your lifetime. **Interpersonal** consequences focuses on the impact of drinking on your relationships. Adverse consequences here include damage to or the loss of a friendship or love relationship, impairment of parenting and harm to family, concern about drinking from family or friends, damage to reputation, and cruel or embarrassing actions while drinking. **Intrapersonal** factors of alcohol consumption can be considered as one's own perception of drinking. These subjective perceptions that may not be readily observable by others. These include feeling bad, unhappy or guilty because of drinking; experiencing a personality change for the worse; and interference with personal growth, spiritual/moral life, interests and activities, and having the kind of life one wants. Take a look at your own scores for these items to the right.

Alcohol-Related Consequences		
Assessment	Recent	Lifetime
Total Score:	 38.2 low	 18.2 very low
Interpersonal:	 38.2 low	 18.2 very low
Intrapersonal:	 38.2 low	 88.2 very high

Click next

Next

#200_EditDCU_Dependence

eEVA My Progress My Counselor About Help Login

Severity of Alcohol Dependence Questionnaire (SADQ-C) Feedback Summary



Dependence		
Total Score:	10	low
Impaired control over drinking:	6	medium

Alcohol abuse means having unhealthy or dangerous drinking habits, such as drinking every day or drinking too much at a time. When you abuse alcohol, you continue to drink even though you know your drinking is causing problems. If you continue to abuse alcohol, it can lead to **alcohol dependence**. Alcohol dependence means that you are physically or mentally addicted to alcohol. You have a strong need, or craving, to drink. You feel like you must drink just to get by.

The Severity of Alcohol Dependence Questionnaire (SADQ-C) was developed by the Addiction Research Unit at the Maudsley Hospital. It is a measure of the severity of dependence. A score of 31 or higher indicates "severe alcohol dependence." A score of 16 to 30 indicates "moderate dependence." A score of below 16 usually indicates only a mild physical dependency. To see what your alcohol dependence is, take a look at your scores to the right.

Take a look at your risk for dependence. Then what else would you like to see?

Quality of Drinking Risk for Future Alcohol-Related Problems Consequences Motivation No thank you, I'm ready to move on.

#201_EditDCU_Motivation

eEVA My Progress My Counselor About Help Login

Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) Feedback Summary



Motivation	
Total Recognition of a Problem:	Your score on the Recognition scale is in the XXX range. This suggests that, relative to others who have gone through the MATCH project, you do not think that drinking is causing you serious problems. An alternate explanation is that you score in this range because you tend to reject labels such as PROBLEM DRINKER or ALCOHOLIC.
Ambivalence About Changing:	Your score on the Ambivalence scale is in the XXX range. Relative to others who have gone through the MATCH project, you seem to know that your drinking either is or is not in control, hurting yourself or others, and that you either are or are not ALCOHOLIC. If you have a high score on the Recognition scale, this low score on Ambivalence suggests that you know that your drinking is causing problems. If you have a low score on the Recognition scale, it suggests you think that your drinking is not causing problems.
Taking Steps in Changing:	Your score on the Taking Steps scale is in the XXX range. Relative to others who have gone through the MATCH project, it seems that you are not currently doing things to change your drinking, nor have you made any such changes recently.

The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) is an experimental instrument designed to assess readiness for change in alcohol abusers. **Motivation** is the driving force behind actions. Typically, motivation is described as being either intrinsic or extrinsic. With intrinsic motivation the individual will do things because they feel that it is good or right. Extrinsic motivation comes from societal expectations, peer groups and authority figures. Therefore an individual might be motivated to do something because they feel it is right or because they feel forced to by external conditions and expectations. To see where you stand on your own motivation to change, take a look at your scores to the right.

Click next

localhost:3010/#

#233_Enlarge Toggled Counselor
BAC2A Old

Your Blood Alcohol Concentration



Estimated peak BAC (during regular week of drinking): XXX

Estimated peak BAC (on heavier day of drinking): XXX

Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

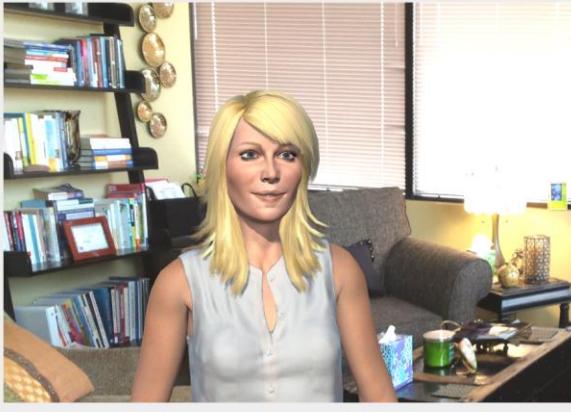
Understanding the Blood Alcohol Concentration Numbers	
BAC	Predictable Effects
.02% to .04%	Lightheaded - Relaxation, sensation of warmth, "high," minor impairment of judgment
.05% to .07%	Buzzed - Relaxation, euphoria, lower inhibitions, minor impairment of reasoning and memory, exaggerated emotions (good and bad)
.08% to .10%	Legally Impaired - Euphoria, fatigue, impairment in balance, speech, vision, reaction time and hearing, judgment and self-control are impaired
.11% to .15%	Drunk - "High" reduced and depressive effects (anxiety, depression or unease) more pronounced; gross motor impairment, judgment and perception severely impaired
.16% to .19%	Very Drunk - Strong state of depression, nausea, disorientation, dizzy, increased motor impairment, blurred vision, judgment further impaired
.20% to .24%	Dazed and Confused - Gross disorientation to time and place, increased nausea and vomiting, may need assistance to stand/walk, impervious to pain, blackout likely
.25% to .30%	Stupor - All mental, physical and sensory functions are severely impaired, accidents very likely, little comprehension, may pass out suddenly
.31% and up	Coma - Level of surgical amnesia, onset of coma, possibility of acute alcohol poisoning, death due to respiratory arrest is likely in 50 % of smokers

Say next

Next

BAC2ANew

Your Blood Alcohol Concentration



Understanding the Blood Alcohol Concentration Numbers	
BAC	Predictable Effects
.02% to .04%	Lightheaded - Relaxation, sensation of warmth, "high," minor impairment of judgment
.05% to .07%	Buzzed - Relaxation, euphoria, lower inhibitions, minor impairment of reasoning and memory, exaggerated emotions (good and bad)
.08% to .10%	Legally Impaired - Euphoria, fatigue, impairment in balance, speech, vision, reaction time and hearing, judgment and self-control are impaired
.11% to .15%	Drunk - "High" reduced and depressive effects (anxiety, depression or unease) more pronounced; gross motor impairment, judgment and perception severely impaired
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.25% to .30%	Stupor - All mental, physical and sensory functions are severely impaired, accidents very likely, little comprehension, may pass out suddenly
.31% and up	Coma - Level of surgical amnesia, onset of coma, possibility of acute alcohol poisoning, death due to respiratory arrest is likely in 50 % of smokers

Estimated peak BAC (during regular week of drinking): 0.13

Estimated peak BAC (on heavier day of drinking): 0.19

Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: medium-high

Take a look at your estimated Blood Alcohol Concentration and tolerance, and find out what these values mean.

Next

#234_ModifyContentStyling
BAC2A Old

eEVA My Progress My Counselor About Help 

Your Blood Alcohol Concentration



Estimated peak BAC (during regular week of drinking): XXX

Estimated peak BAC (on heavier day of drinking): XXX

Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

Understanding the Blood Alcohol Concentration Numbers	
BAC	Predictable Effects
.02% to .04%	Lightheaded – Relaxation, sensation of warmth, "high," minor impairment of judgment.
.05% to .07%	Buzzed – Relaxation, euphoria, lower inhibitions, minor impairment of reasoning and memory, exaggerated emotions (good and bad).
.08% to .10%	Legally Impaired – Euphoria, fatigue, impairment in balance, speech, vision, reaction time and hearing, judgment and self-control are impaired.
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.31% and up	Coma – Level of surgical amnesia, onset of coma, possibility of acute alcohol poisoning, death due to respiratory arrest is likely in 50 % of drinkers.

Say next 

[Next](#)

BAC2A New

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Your Blood Alcohol Concentration



Understanding the Blood Alcohol Concentration Numbers	
BAC	Predictable Effects
.02% to .04%	Lightheaded – Relaxation, sensation of warmth, "high," minor impairment of judgment.
.05% to .07%	Buzzed – Relaxation, euphoria, lower inhibitions, minor impairment of reasoning and memory, exaggerated emotions (good and bad).
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Estimated peak BAC (during regular week of drinking): 0.13

Estimated peak BAC (on heavier day of drinking): 0.19

Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: medium-high

Take a look at your estimated Blood Alcohol Concentration and tolerance, and find out what these values mean. 

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BAC2B Old

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Your Blood Alcohol Concentration



Estimated peak BAC (during regular week of drinking): XXX
 Estimated peak BAC (on heavier day of drinking): XXX
 Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: XXX

Do you have any reactions to these results?

- About what I expected
- I can handle it pretty well
- Higher than expected
- I am concerned

Say next

Next

BAC2B New

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Your Blood Alcohol Concentration



Do you have any reactions to these results?

- About what I expected
- I can handle it pretty well
- Higher than expected
- I am concerned

Estimated peak BAC (during regular week of drinking): 0.13
 Estimated peak BAC (on heavier day of drinking): 0.19
 Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: medium-high

Do you have reactions to these results? Let me know what you think by selecting your choice. Then click "Next" when you are ready to move on.

Next

Your Blood Alcohol Concentration



Do you have any reactions to these results?

About what I expected
 I can handle it pretty well
 Higher than expected
 I am concerned

Estimated peak BAC (during regular week of drinking): 0.13
 Estimated peak BAC (on heavier day of drinking): 0.19
 Based on these BACs your risk for alcohol problems because of your tolerance for alcohol is: medium-high

Some people feel relieved that they can reach relatively high blood alcohol levels without feeling the effects. They believe this means their bodies handle alcohol safely and efficiently. Unfortunately, this higher tolerance for alcohol can put us at risk for doing more damage to ourselves without getting the message that we are reaching potentially dangerous blood alcohol levels.

Do you have reactions to these results? Let me know what you think by selecting your choice. Then click "Next" when you are ready to move on.

Next

BAC3 Old

Your blood alcohol concentration



Number of Drinks you Might Have	Numbers of Hours You Drink									
	1	2	3	4	5	6	7	8	9	10
1	0.013	0	0	0	0	0	0	0	0	0
2	0.043	0.026	0.009	0	0	0	0	0	0	0
3	0.073	0.056	0.039	0.022	0.005	0	0	0	0	0
4	0.103	0.086	0.069	0.052	0.035	0.018	0.001	0	0	0
5	0.133	0.116	0.099	0.082	0.065	0.048	0.031	0.014	0	0
6	0.163	0.146	0.129	0.112	0.095	0.078	0.061	0.044	0.027	0.01
7	0.193	0.176	0.159	0.142	0.125	0.108	0.091	0.074	0.057	0.04
8	0.233	0.206	0.189	0.172	0.155	0.138	0.121	0.104	0.087	0.07
9	0.263	0.236	0.219	0.202	0.185	0.168	0.151	0.134	0.117	0.1
10	0.283	0.266	0.249	0.232	0.215	0.198	0.181	0.164	0.147	0.13

To get a specific BAC estimated enter the number of drinks here: drinks

Then enter the number of hours you drink here: hours

Say next

Next

Final Deliverable

eEVA Data Generation and User Results Analysis Version 1.0

BAC3 New

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Your Blood Alcohol Concentration



Number of Drinks you Might Have	Numbers of Hours You Drink									
	1	2	3	4	5	6	7	8	9	10
1	0.013	0	0	0	0	0	0	0	0	0
2	0.043	0.026	0.009	0	0	0	0	0	0	0
3	0.073	0.056	0.039	0.022	0.005	0	0	0	0	0
4	0.103	0.086	0.069	0.052	0.035	0.018	0.001	0	0	0
5	0.133	0.116	0.099	0.082	0.065	0.048	0.031	0.014	0	0
6	0.163	0.146	0.129	0.112	0.095	0.078	0.061	0.044	0.027	0.01
7	0.193	0.176	0.159	0.142	0.125	0.108	0.091	0.074	0.057	0.04
8	0.233	0.206	0.189	0.172	0.155	0.138	0.121	0.104	0.087	0.007
9	0.253	0.236	0.219	0.202	0.185	0.168	0.151	0.134	0.117	0.1
10	0.283	0.266	0.249	0.232	0.215	0.198	0.181	0.164	0.147	0.13

To get a specific BAC estimated enter the number of drinks here: drinks

Then enter the number of hours you drink here: hours

[Calculate BAC](#) [Reset](#) [Print](#)

Here is your personal BAC table. Numbers reading down are or how many drinks you might have. Numbers across the top are for the number of hours you might drink. We suggest you to print the table using the Print button before you try the BAC estimate to the left. The table is based on your weight and gender. It is an estimate only.

Next

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Your Blood Alcohol Concentration



Number of Drinks you Might Have	Numbers of Hours You Drink									
	1	2	3	4	5	6	7	8	9	10
1	0.013	0	0	0	0	0	0	0	0	0
2	0.043	0.026	0.009	0	0	0	0	0	0	0
3	0.073	0.056	0.039	0.022	0.005	0	0	0	0	0
4	0.103	0.086	0.069	0.052	0.035	0.018	0.001	0	0	0
5	0.133	0.116	0.099	0.082	0.065	0.048	0.031	0.014	0	0
6	0.163	0.146	0.129	0.112	0.095	0.078	0.061	0.044	0.027	0.01
7	0.193	0.176	0.159	0.142	0.125	0.108	0.091	0.074	0.057	0.04
8	0.233	0.206	0.189	0.172	0.155	0.138	0.121	0.104	0.087	0.007
9	0.253	0.236	0.219	0.202	0.185	0.168	0.151	0.134	0.117	0.1
10	0.283	0.266	0.249	0.232	0.215	0.198	0.181	0.164	0.147	0.13

To get a specific BAC estimated enter the number of drinks here: drinks

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Next

DC1 Old

eEVA My Progress My Counselor About Help Login

Quality of Drinking



You described your drinking pattern as: XXX

The total number of standard drinks you had per week in the last 4 weeks was: XXX

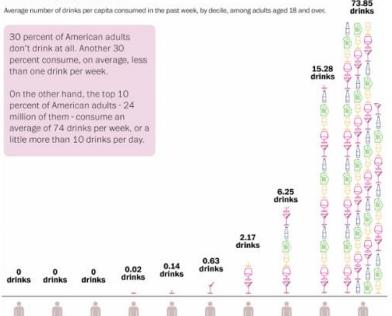
Your drinking relative to the other US XXX(MALES/FEMALES) is (percentile): XXX

Time for a stiff drink

Average number of drinks per capita consumed in the past week, by decile, among adults aged 18 and over.

30 percent of American adults don't drink at all. Another 30 percent consume, on average, less than one drink per week.

On the other hand, the top 10 percent of American adults - 24 million of them - consume an average of 74 drinks per week, or a little more than 10 drinks per day.



Source: "Paying the Tab," by Philip J. Cook

Say next

Next

DC1 New

eEVA My Progress My Counselor About Help Login

Quality of Drinking



You described your drinking pattern as: moderate

The total number of standard drinks you had per week in the last 4 weeks was: 17

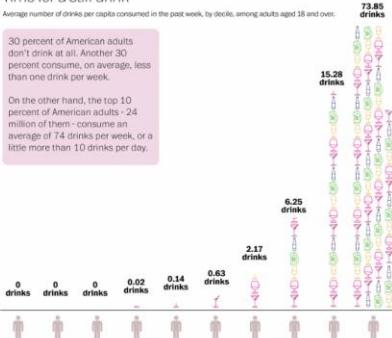
Your drinking relative to the other US MALES is (percentile): 83

Time for a stiff drink

Average number of drinks per capita consumed in the past week, by decile, among adults aged 18 and over.

30 percent of American adults don't drink at all. Another 30 percent consume, on average, less than one drink per week.

On the other hand, the top 10 percent of American adults - 24 million of them - consume an average of 74 drinks per week, or a little more than 10 drinks per day.



Source: "Paying the Tab," by Philip J. Cook

The total number of standard drinks you had per week in the last 4 weeks was 17.

Final Deliverable

eEVA Data Generation and User Results Analysis Version 1.0

Quality of Drinking

Time for a stiff drink

Average number of drinks per capita consumed in the past week, by decile, among adults aged 18 and over.

30 percent of American adults don't drink at all. Another 30 percent consume, on average, less than one drink per week.

On the other hand, the top 10 percent of American adults - 24 million of them - consume an average of 74 drinks per week, or a little more than 10 drinks per day.

Decile	Drinks
Bottom decile	0
Second decile	0
Third decile	0
Fourth decile	0.02
Fifth decile	0.14
Sixth decile	0.63
Seventh decile	2.17
Eighth decile	6.25
Ninth decile	15.28
Top decile	73.85

You described your drinking pattern as: moderate

The total number of standard drinks you had per week in the last 4 weeks was: 17

Your drinking relative to the other US MALES is (percentile): 83

Source: "Playing the Odds," by Philip J. Cook

WASHINGTONPOST.COM/WONKBLOG

Is there another section you would like to view your results from?

Risk for Future Alcohol-Related Problems Consequences Dependence Motivation No thank you, I'm ready to move on.

DC2 Old

Brief Drinker Profile (BDP) Feedback Summary

Risk for Future Alcohol-Related Problems Based on Your	
Age of onset of drinking or alcohol problems:	High Risk
Family History:	Medium Risk
Other drug use (history or current use):	High Risk
Score on the screening questionnaire:	40 Very High
Tolerance:	High

Alcoholism has one of the highest risks for future related disease and death in the United States. It increases your risk of developing long-term conditions such as diabetes, obesity, liver disease, heart disease, and even cancer. When one consumes alcohol in moderation, the risk is small for these long-term effects. If someone becomes dependent on alcohol, they run the risk of the body depending on alcohol to function. Once you are chemically reliant upon it, you run the risks of these life-threatening side effects.

Factors such as those provided in the chart may lead to alcohol abuse, and future health issues.

Say next

Next

DC2 New

Brief Drinker Profile (BDP) Feedback Summary



Risk for Future Alcohol-Related Problems Based on Your	
Age of onset of drinking or alcohol problems:	High Risk
Family History:	Medium Risk
Other drug use (history or current use):	High Risk
Score on the screening questionnaire:	40 Very High
Tolerance:	High

Alcoholism has one of the highest risks for future related disease and death in the United States. It increases your risk of developing long-term conditions such as diabetes, obesity, liver disease, heart disease, and even cancer. When one consumes alcohol in moderation, the risk is small for these long-term effects. If someone becomes dependent on alcohol, they run the risk of the body depending on alcohol to function. Once you are chemically reliant upon it, you run the risks of these life-threatening side effects.

Factors such as those provided in the chart may lead to alcohol abuse, and future health issues.

Take a look at your risk for future alcohol-related problems. Then what else would you like to see?

Quality of Drinking Consequences Dependence Motivation No thank you, I'm ready to move on.

DC3A Old

Drinker Inventory of Consequences (DrInC) Feedback Summary



The Drinker Inventory of Consequences is a self-report assessment of drinking related consequences. The Lifetime Consequences **Total Score** reflects the overall number of alcohol problems that have occurred during your lifetime. **Interpersonal** consequences focuses on the impact of drinking on your relationships. Adverse consequences here include damage to or the loss of a friendship or love relationship, impairment of parenting and harm to family, concern about drinking from family or friends, damage to reputation, and cruel or embarrassing actions while drinking. **Intrapersonal** factors of alcohol consumption can be considered as one's own perception of drinking. These subjective perceptions that may not be readily observable by others. These include feeling bad, unhappy or guilty because of drinking; experiencing a personality change for the worse; and interference with personal growth, spiritual/moral life, interests and activities, and having the kind of life one wants. Take a look at your own scores for these items to the right.

Alcohol-Related Consequences		
Assessment	Recent	Lifetime
Total Score:	38.2 <small>low</small>	18.2 <small>very low</small>
Interpersonal:	38.2 <small>low</small>	18.2 <small>very low</small>
Intrapersonal:	38.2 <small>low</small>	88.2 <small>very high</small>

Say next

Next

DC3B New

Drinker Inventory of Consequences (DrInC) Feedback Summary

Alcohol-Related Consequences		
Assessment	Recent	Lifetime
Total Score:	38.2	18.2
Interpersonal:	38.2	18.2
Intrapersonal:	38.2	88.2

The Drinker Inventory of Consequences is a self-report assessment of drinking related consequences. The Lifetime Consequences Total Score reflects the overall number of alcohol problems that have occurred during your lifetime. **Interpersonal** consequences focuses on the impact of drinking on your relationships. Adverse consequences here include damage to or the loss of a friendship or love-relationship, impairment of parenting and harm to family, concern about drinking from family or friends, damage to reputation, and cruel or embarrassing actions while drinking. **Intrapersonal** factors of alcohol consumption can be considered as one's own perception of drinking. These subjective perceptions that may not be readily observable by others. These include feeling bad, unhappy or guilty because of drinking; experiencing a personality change for the worse; and interference with personal growth, spiritual/moral life, interests and activities, and having the kind of life one wants. Take a look at your own scores for these items above.

Take a look at your risk for alcohol-related consequences and then click the "Next" button when you are ready to see more alcohol related consequences.

Next

DC3B Old

Drinker Inventory of Consequences (DrInC) Feedback Summary

Alcohol-Related Consequences		
Assessment	Recent	Lifetime
Social Responsibility:	38.2 low	18.2 very low
Impulse Control:	38.2 low	18.2 very low
Physical:	38.2 low	88.2 very high

The Drinker Inventory of Consequences is a self-report assessment of drinking related consequences. **Social Responsibility** taps role-fulfillment repercussions that are observable by others. These include work/school problems (missing days, poor quality of work, being fired or suspended); financial indiscretion, getting into trouble, and failing to meet expectations. **Impulse Control** is a reasonable but imperfect description of the content of these 12 items. These include the following sequelae of overdrinking: exacerbation of other substance use (smoking, drug use, overeating), impulsive actions and risk-taking, physical fights, driving and accidents after drinking, arrests and trouble with the law, and inflicting injury on others or damage to property. The **Physical** subscale contains items that reflect adverse physical states resulting from excessive drinking. Included are both acute and chronic effects of overdrinking. The items query hangovers, sleeping problems, and sickness; harm to health, appearance, eating habits, and sexuality; and injury while drinking. Take a look at your own scores for these items to the right.

Say next

Next

DC3B New

Drinker Inventory of Consequences (DrInC) Feedback Summary

Alcohol-Related Consequences		
Assessment	Recent	Lifetime
Social Responsibility:	38.2	18.2
Impulse Control:	38.2	18.2
Physical:	38.2	88.2

The Drinker Inventory of Consequences is a self-report assessment of drinking related consequences. **Social Responsibility** taps role-f Fulfillment report situations that are observable by others. These include work-related problems (missing days, poor quality of work, being fired or suspended), financial indiscretions, social withdrawal, and family and social expectation. **Impulse Control** is reasonable behavior in response to the content of these 12 items. These include the following sequelae of overdrinking: exacerbation of other substance use (smoking, drug use, overeating), impulsive actions and risk-taking, physical fights, driving and accidents after drinking, arrests and trouble with the law, and inflicting injury on others or damage to property. The **Physical** subscale contains items that reflect adverse physical states resulting from excessive drinking. Included are both acute and chronic effects of overdrinking. The items query hangovers, sleeping problems, and sickness; harm to health, appearance, eating habits, and sexuality; and injury while drinking. Take a look at your own scores for these items above.

Take a look at your risk for alcohol-related consequences. Then what else would you like to see?

Quality of Drinking Risk for Future Alcohol-Related Problems Dependence Motivation No thank you, I'm ready to move on.

DC4 Old

Severity of Alcohol Dependence Questionnaire (SADQ-C) Feedback Summary

Dependence		
Total Score:	10	low
Impaired control over drinking:	6	medium

Alcohol abuse means having unhealthy or dangerous drinking habits, such as drinking every day or drinking too much at a time. When you abuse alcohol, you continue to drink even though you know your drinking is causing problems. If you continue to abuse alcohol, it can lead to **alcohol dependence**. Alcohol dependence means that you are physically or mentally addicted to alcohol. You have a strong need, or craving, to drink. You feel like you must drink just to get by.

The Severity of Alcohol Dependence Questionnaire (SADQ-C) was developed by the Addiction Research Unit at the Maudsley Hospital. It is a measure of the severity of dependence. A score of 31 or higher indicates "severe alcohol dependence." A score of 16 to 30 indicates "moderate dependence." A score of below 16 usually indicates only a mild physical dependency. To see what your alcohol dependence is, take a look at your scores to the right.

Say next

Next

DC4 New

eEVA My Progress My Counselor About Help 

Severity of Alcohol Dependence Questionnaire (SADQ-C) Feedback Summary



Dependence		
Total Score:	10	low
Impaired control over drinking:	6	medium

Alcohol abuse means having unhealthy or dangerous drinking habits, such as drinking every day or drinking too much at a time. When you abuse alcohol, you continue to drink even though you know your drinking is causing problems. If you continue to abuse alcohol, it can lead to **alcohol dependence**. Alcohol dependence means that you are physically or mentally addicted to alcohol. You have a strong need, or craving, to drink. You feel like you must drink just to get by.

The Severity of Alcohol Dependence Questionnaire (SADQ-C) was developed by the Addiction Research Unit at the Maudsley Hospital. It is a measure of the severity of dependence. A score of 31 or higher indicates "severe alcohol dependence." A score of 16 indicates "moderate dependence." A score of below 16 usually indicates only a mild physical dependency. To see what your alcohol dependence is, take a look at your scores above.

Take a look at your risk for dependence. Then what else would you like to see?

Quality of Drinking Risk for Future Alcohol-Related Problems Consequences Motivation No thank you, I'm ready to move on.

DC5 Old

eEVA My Progress My Counselor About Help 

Stages of Change Readiness and Treatment Efficacy Scale (SOCRATES) Feedback Summary



Motivation	
Total Recognition of a Problem:	Your score on the Recognition scale is in the XXX range. This suggests that, relative to others who have gone through the MATCH project, you do not think that drinking is causing you serious problems. An alternate explanation is that you score in this range because you tend to reject labels such as PROBLEM DRINKER or ALCOHOLIC.
Ambivalence About Changing:	Your score on the Ambivalence scale is in the XXX range. Relative to others who have gone through the MATCH project, you seem to know that your drinking either is or is not in control, hurting yourself or others, and that you either are or are not ALCOHOLIC. If you have a high score on the Recognition scale, this low score on Ambivalence suggests that you know that your drinking is causing problems. If you have a low score on the Recognition scale, it suggests you think that your drinking is not causing problems.
Taking Steps in Changing:	Your score on the Taking Steps scale is in the XXX range. Relative to others who have gone through the MATCH project, it seems that you are not currently doing things to change your drinking, nor have you made any such changes recently.

The Stages of Change Readiness and Treatment Efficacy Scale (SOCRATES) is an experimental instrument designed to assess reasons for change in alcohol use. Motivation is the underlying force behind actions. Typically, motivation is described as being either intrinsic or extrinsic. With intrinsic motivation the individual will do things because they feel that it is good or right. Extrinsic motivation comes from societal expectations, peer groups and authority figures. Therefore an individual might be motivated to do something because they feel it is right or because they feel forced to by external conditions and expectations. To see where you stand on your own motivation to change, take a look at your scores to the right.

Say next

Next

DC5 New

eEVA My Progress My Counselor About Help   

Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) Feedback Summary



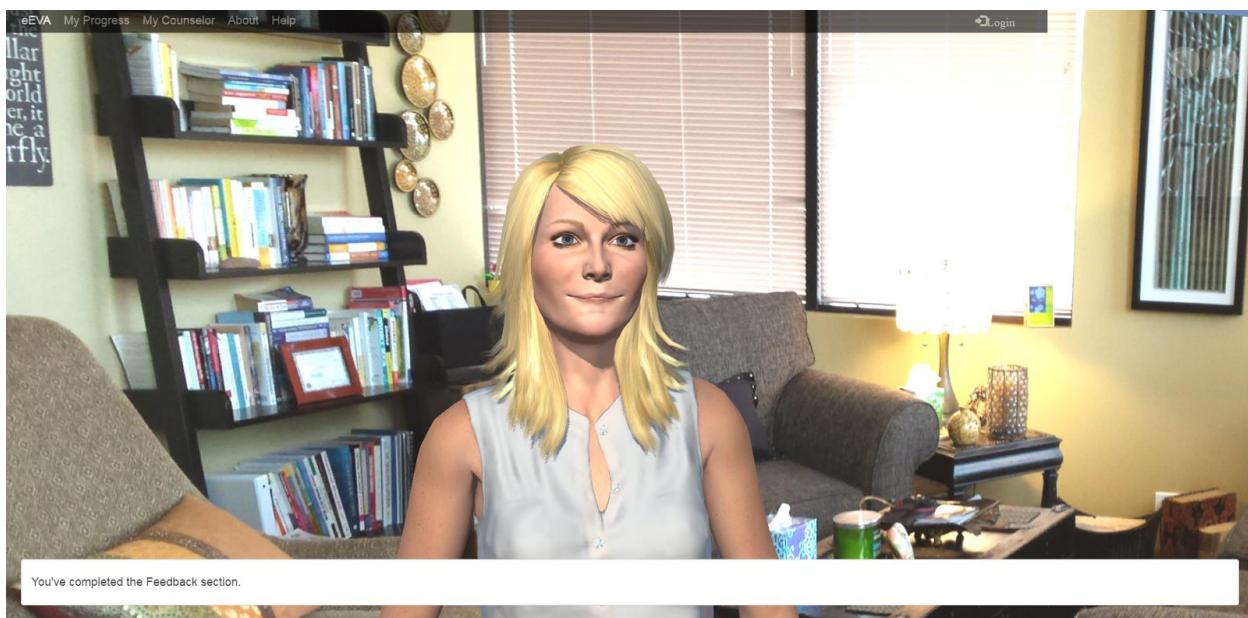
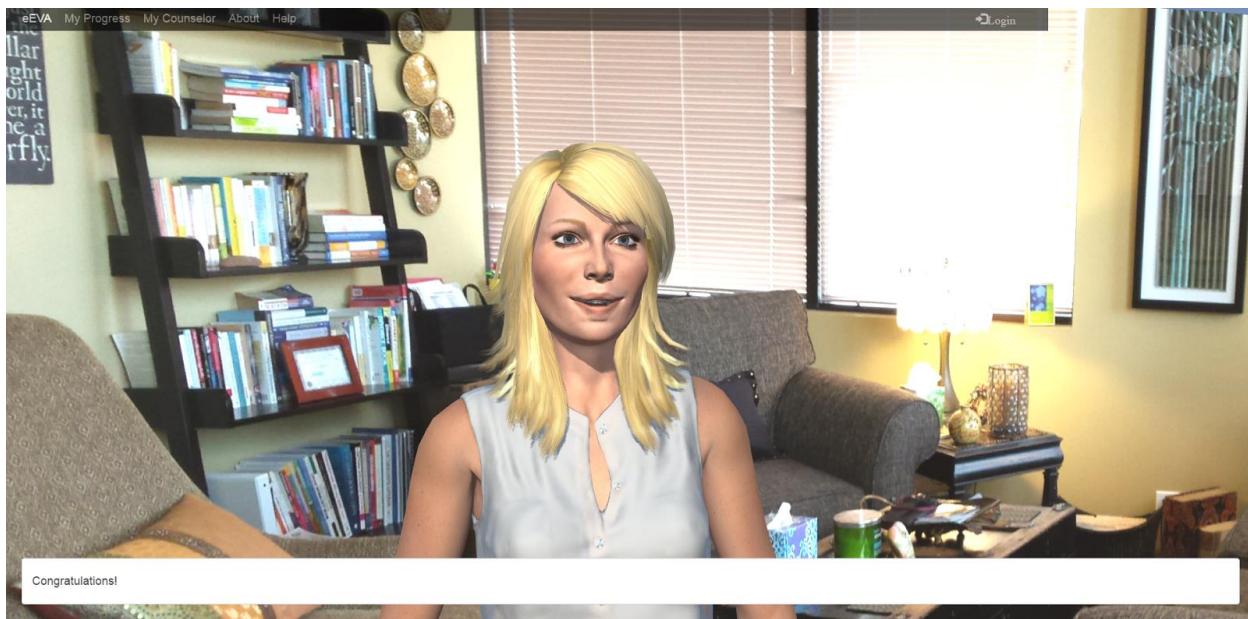
Motivation	
Total Recognition of Problem:	Your score on the Recognition scale is in the XXX range. This suggests that, relative to others who have gone through the MATCH project, you do not think that drinking is causing you serious problems. An alternate explanation is that you score in this range because you tend to reject labels such as PROBLEM DRINKER or ALCOHOLIC.
Ambivalence About Changing:	Your score on the Ambivalence scale is in the XXX range. Relative to others who have gone through the MATCH project, you seem to know that your drinking either is or is not in control, hurting yourself or others, and that you either are or are not ALCOHOLIC. If you have a high score on the Recognition scale, this low score on Ambivalence suggests that you know that your drinking is causing problems. If you have a low score on the Recognition scale, it suggests you think that your drinking is not causing problems.
Taking Steps in Changing:	Your score on the Taking Steps scale is in the XXX range. Relative to others who have gone through the MATCH project, it seems that you are not currently doing things to change your drinking, nor have you made any such changes recently.

The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) is an experimental instrument designed to assess readiness for change in alcohol abuse. Motivation is the driving force behind action. Typically, motivation is described as being either intrinsic or extrinsic. With intrinsic motivation the individual will do things because they feel that it is good or right. Extrinsic motivation comes from societal expectations, peer groups and authority figures. Therefore an individual might be motivated to do something because they feel it is right or because they feel forced to by external conditions and expectations. To see where you stand on your own motivation to change, take a look at your scores above.

Take a look at your risk for motivation. Then what else would you like to see?

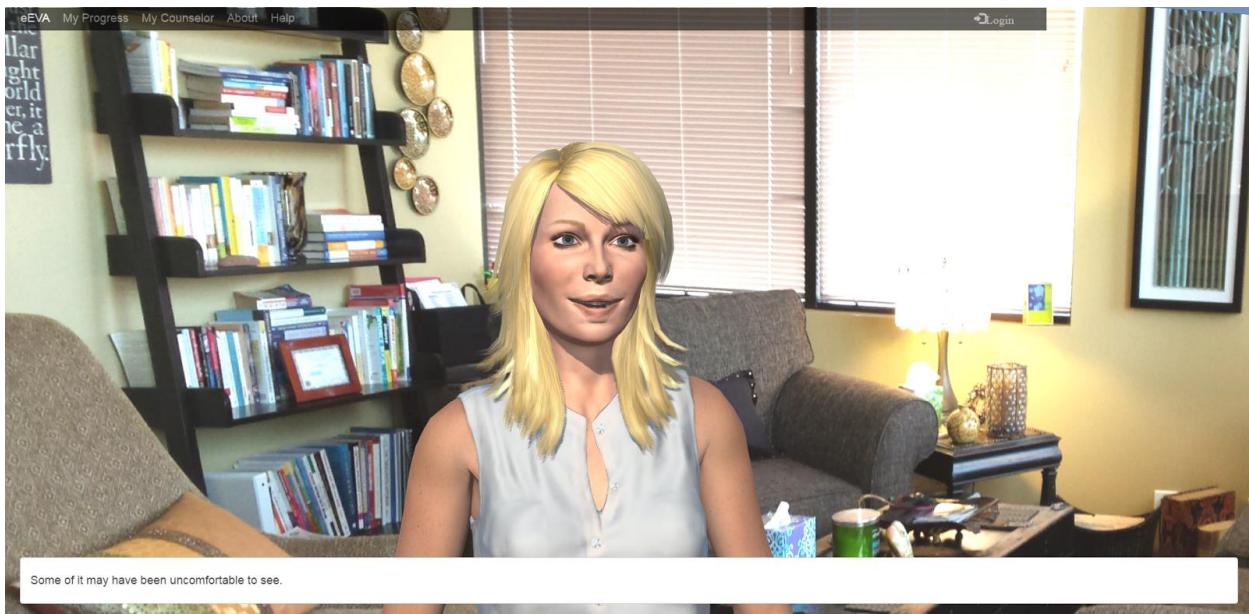
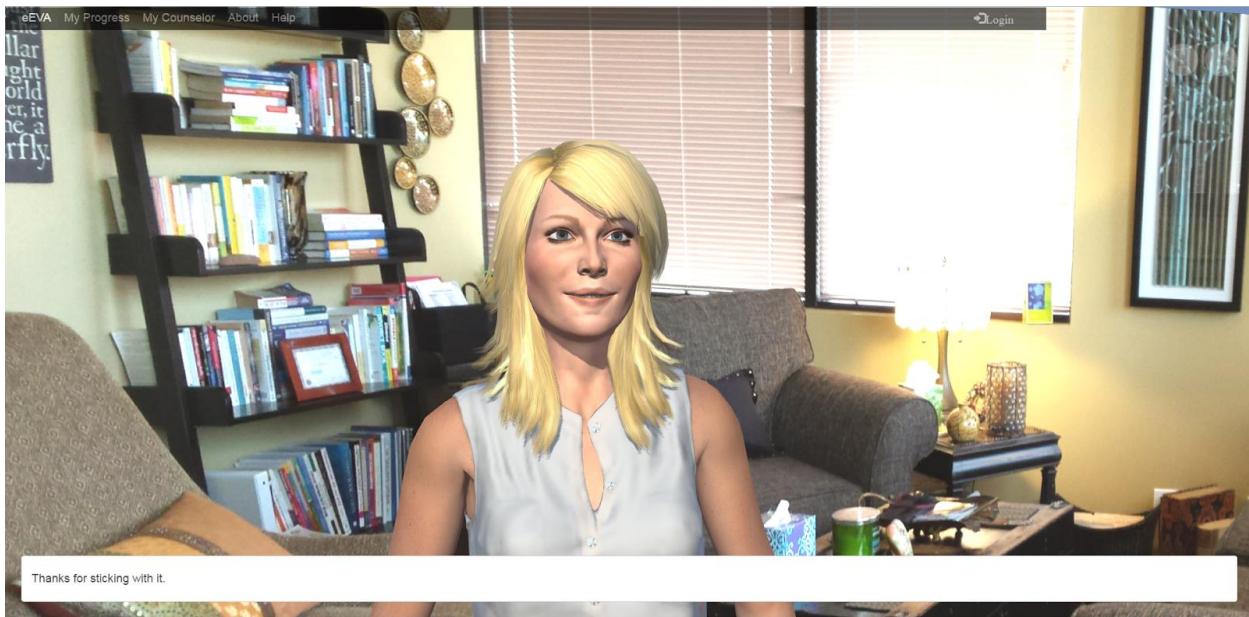
Quality of Drinking Risk for Future Alcohol-Related Problems Consequences Dependence No thank you, I'm ready to move on.

#235_EditDCU_Congratulations



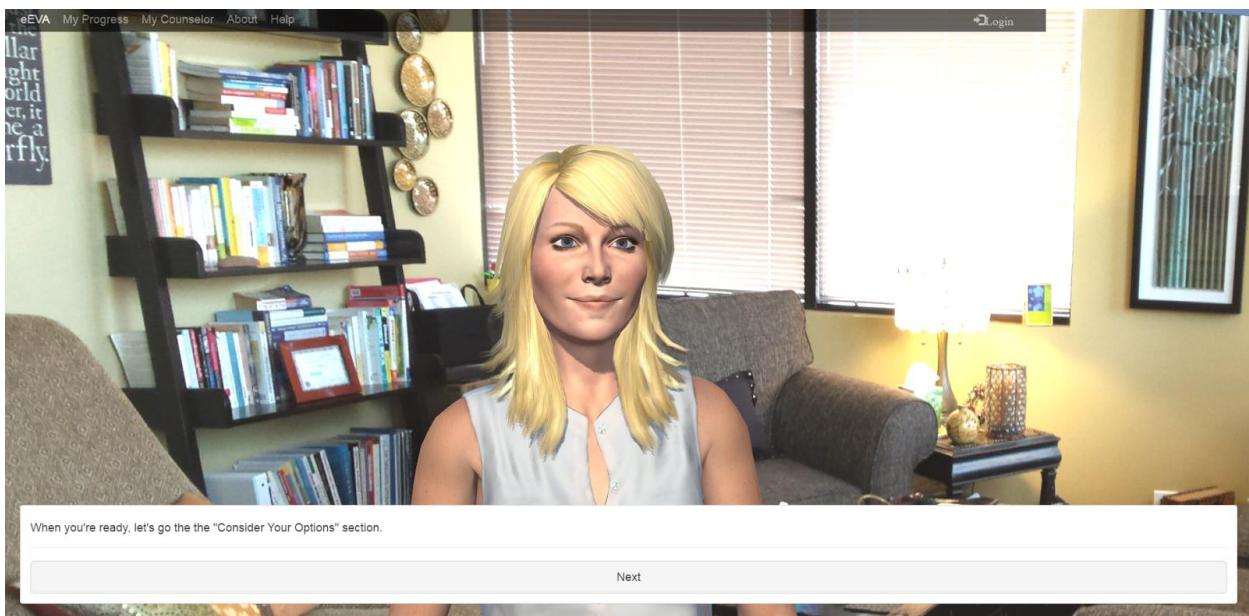
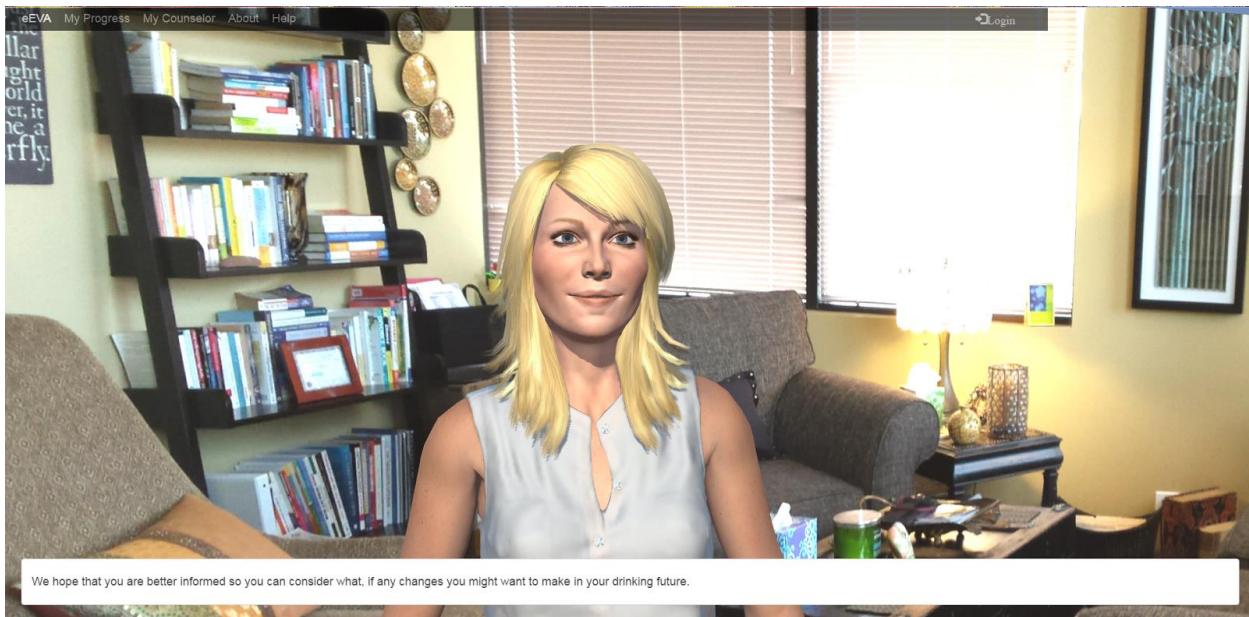
Final Deliverable

eEVA Data Generation and User Results Analysis Version 1.0

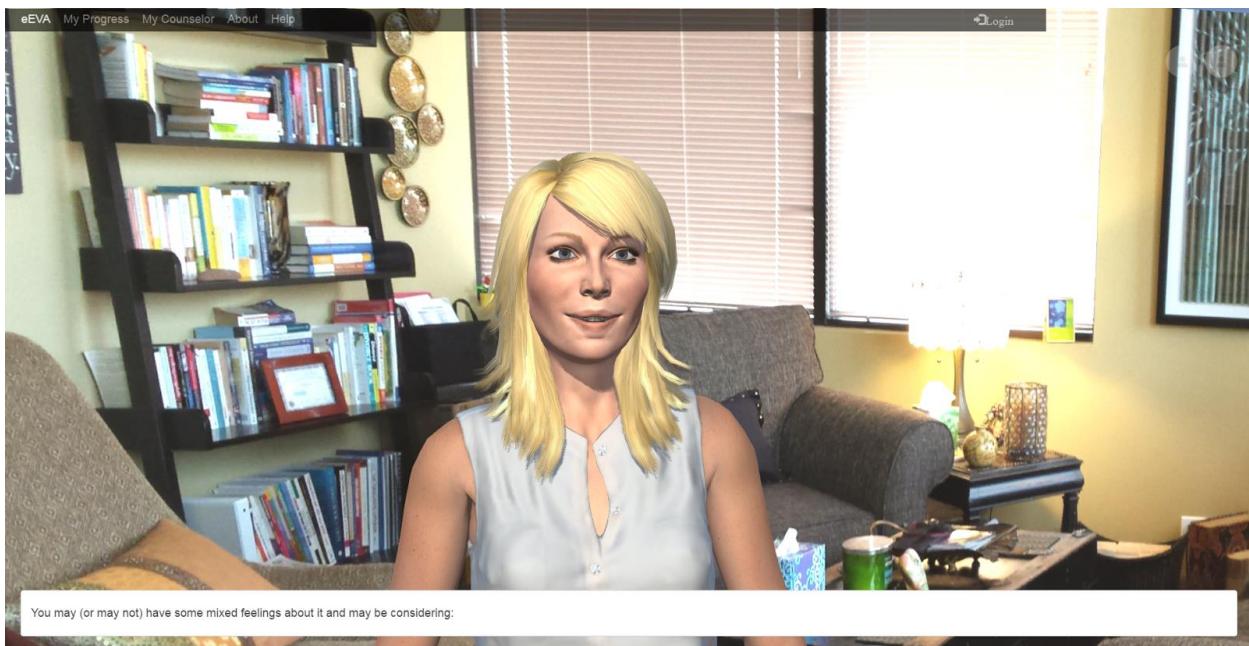
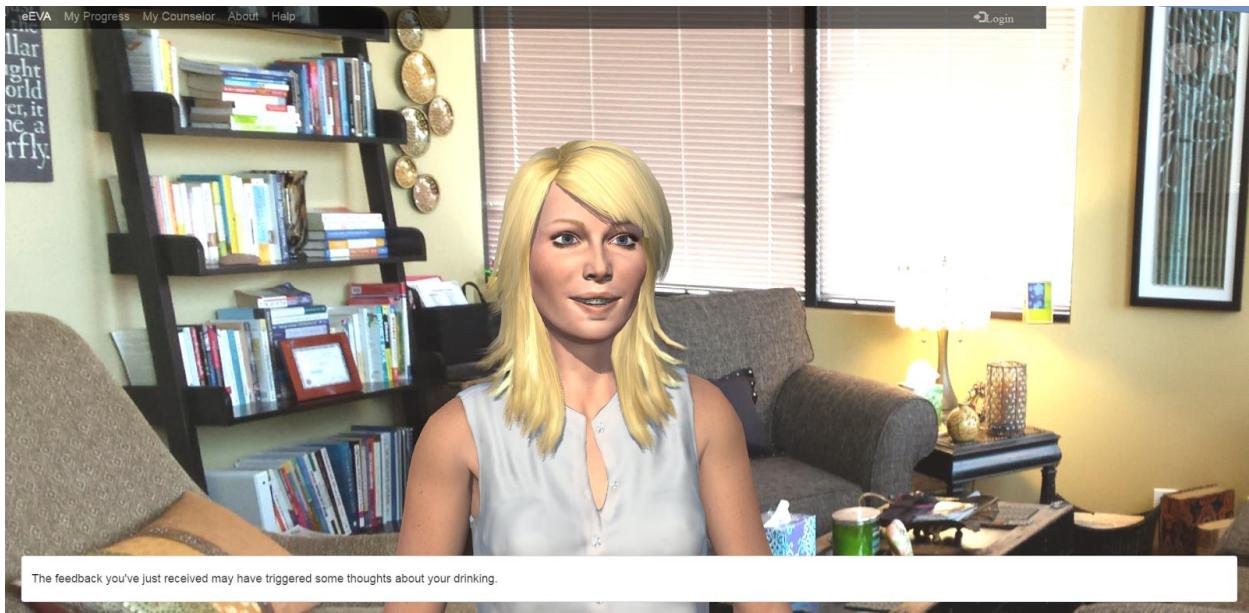


Final Deliverable

eEVA Data Generation and User Results Analysis Version 1.0

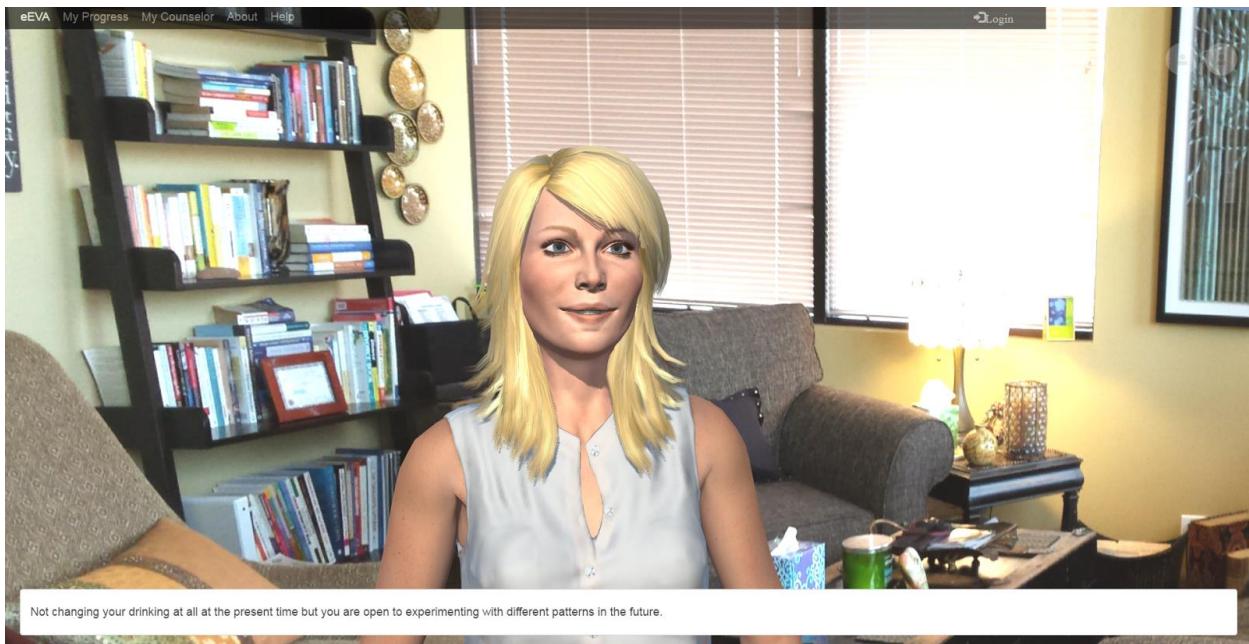
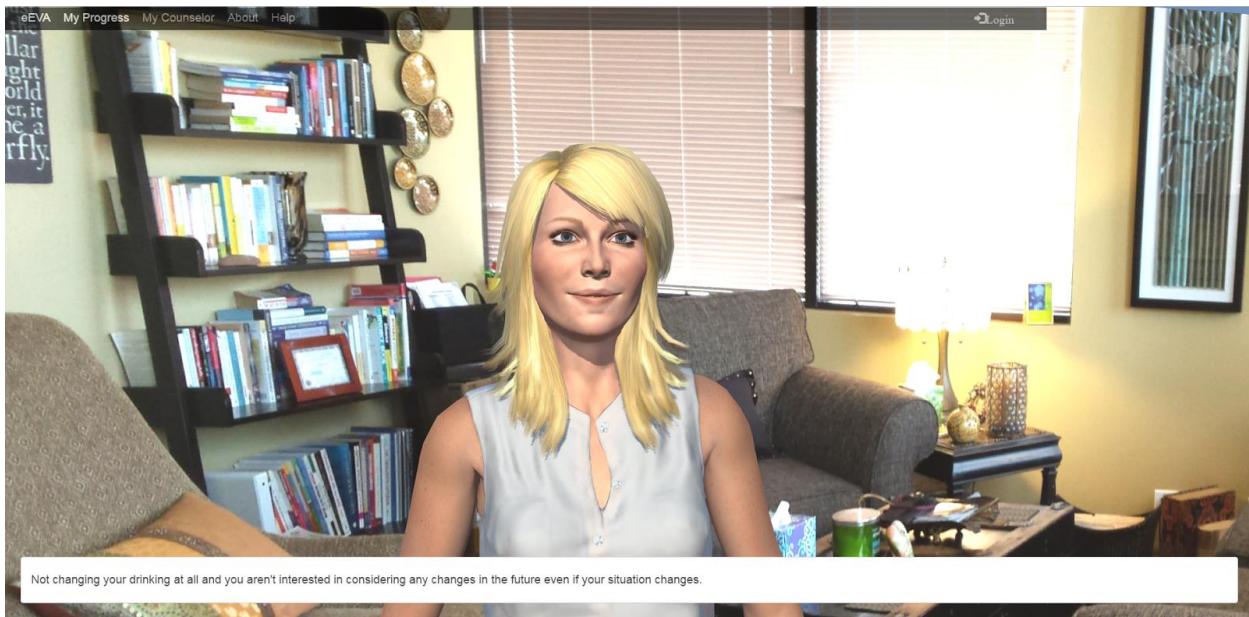


#236_EditDCU_ConsiderYourOptions



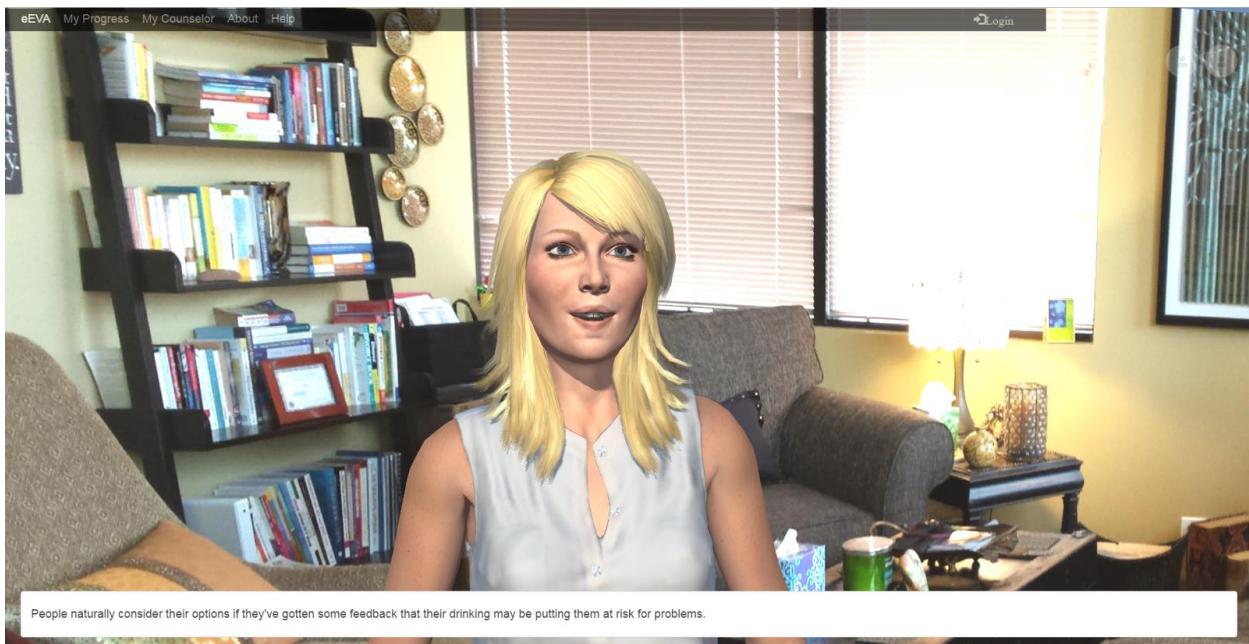
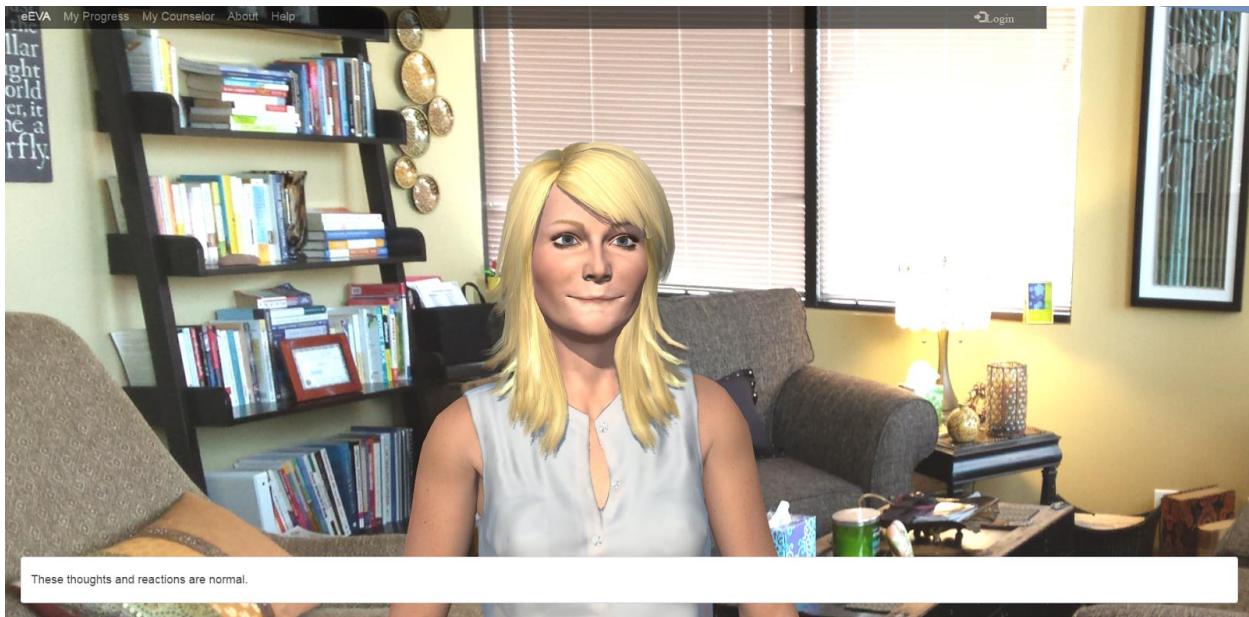
Final Deliverable

eEVA Data Generation and User Results Analysis Version 1.0



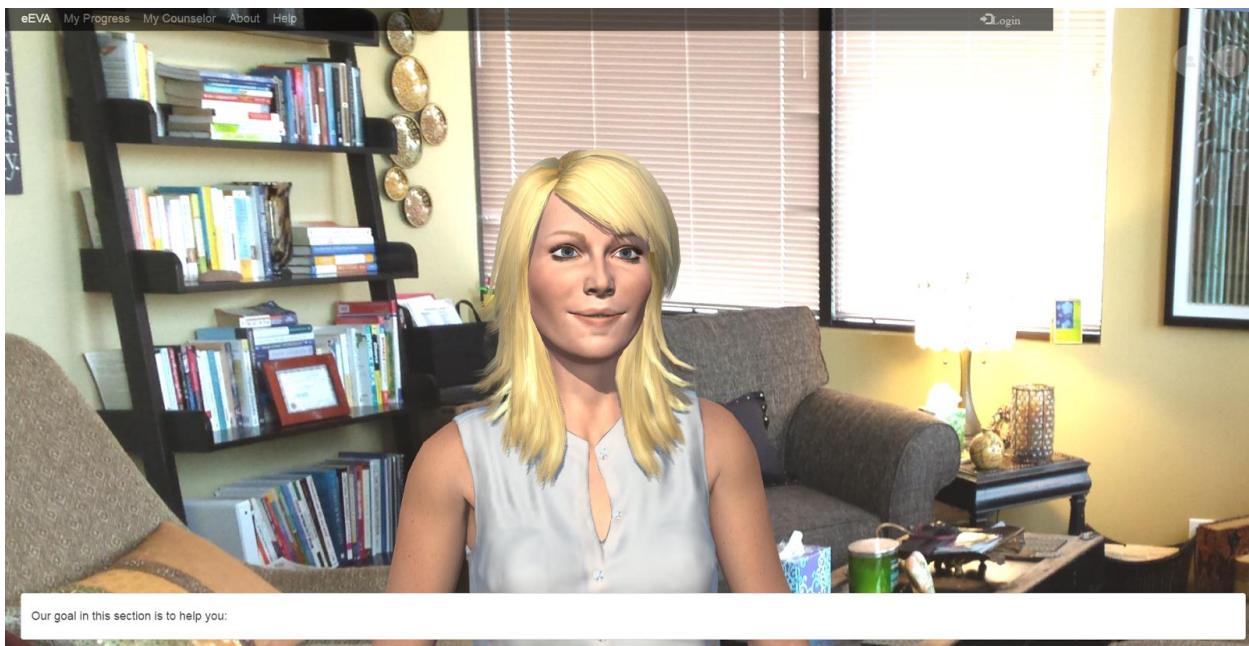
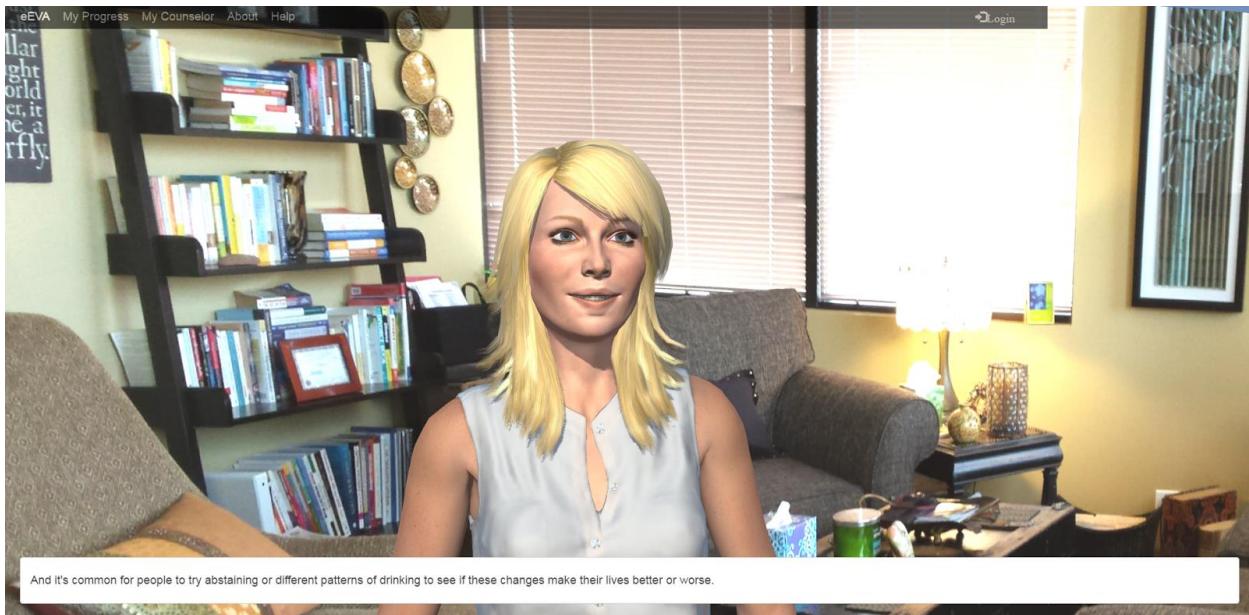
Final Deliverable

eEVA Data Generation and User Results Analysis Version 1.0



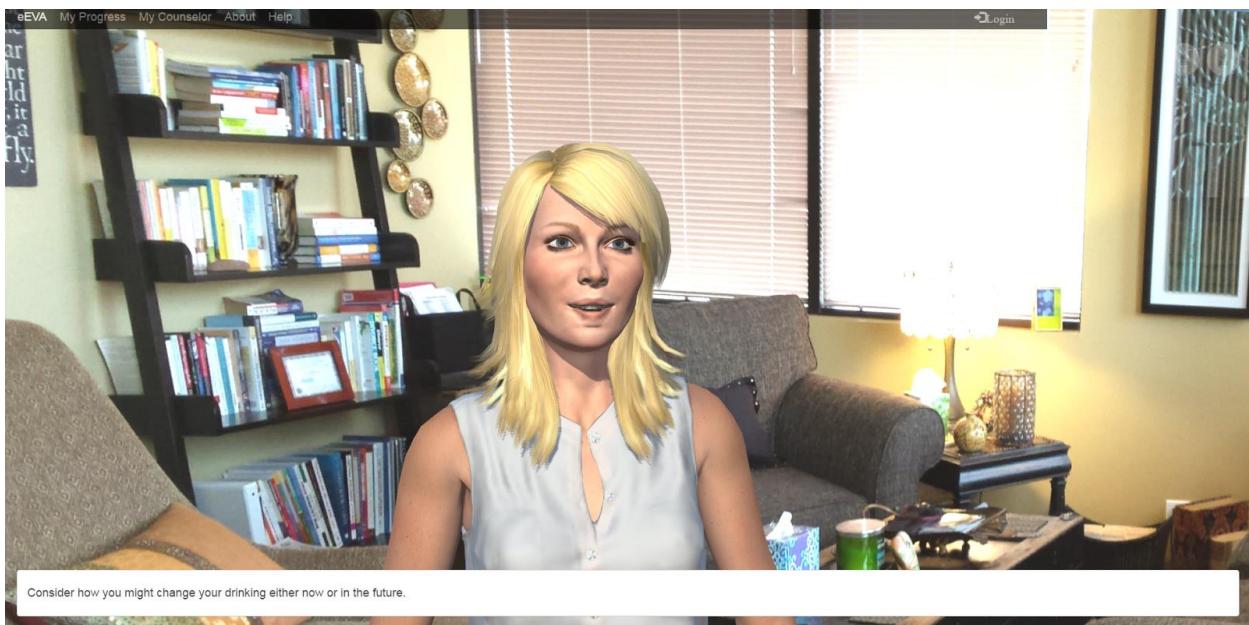
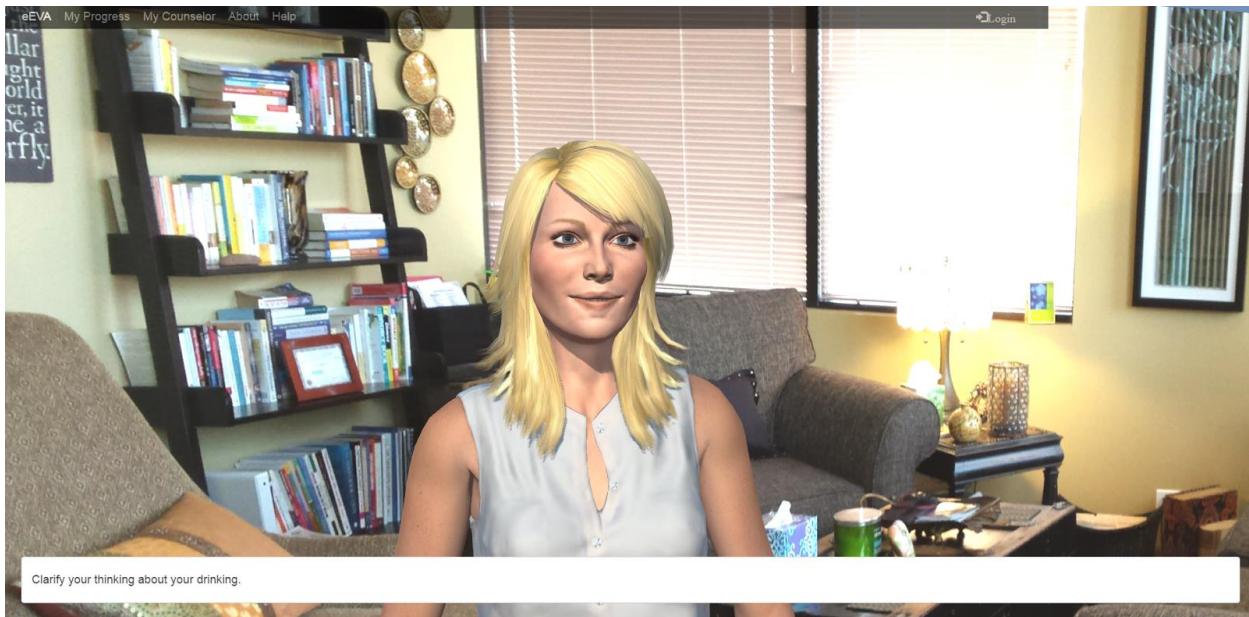
Final Deliverable

eEVA Data Generation and
User Results Analysis Version 1.0



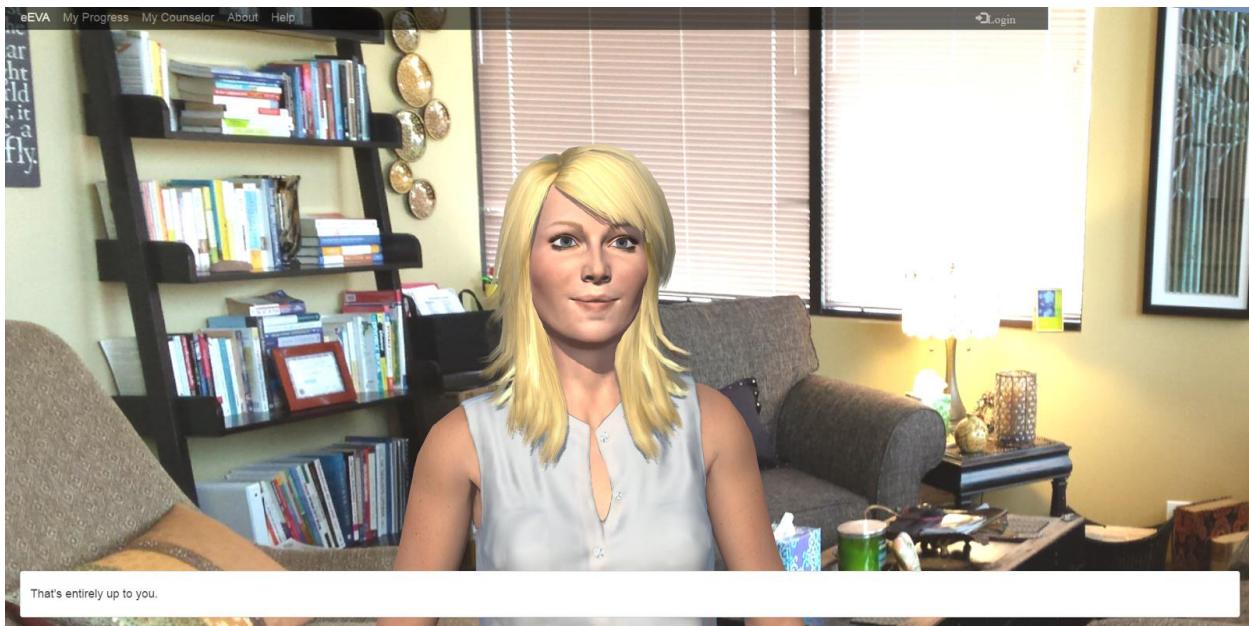
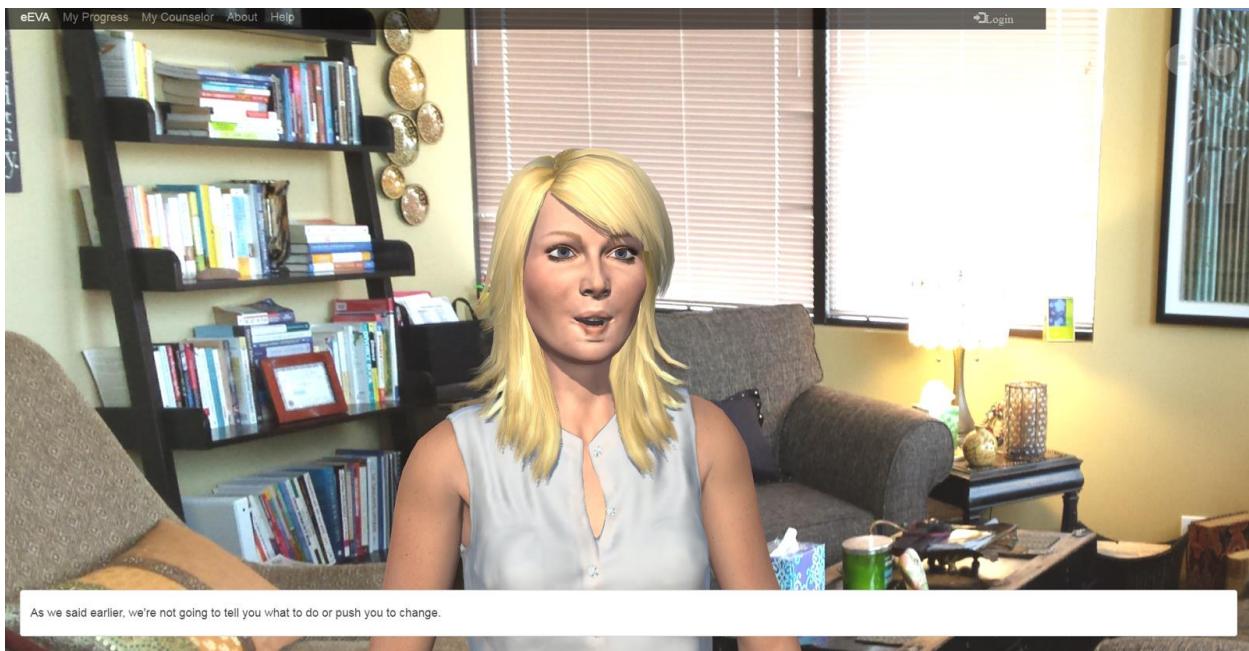
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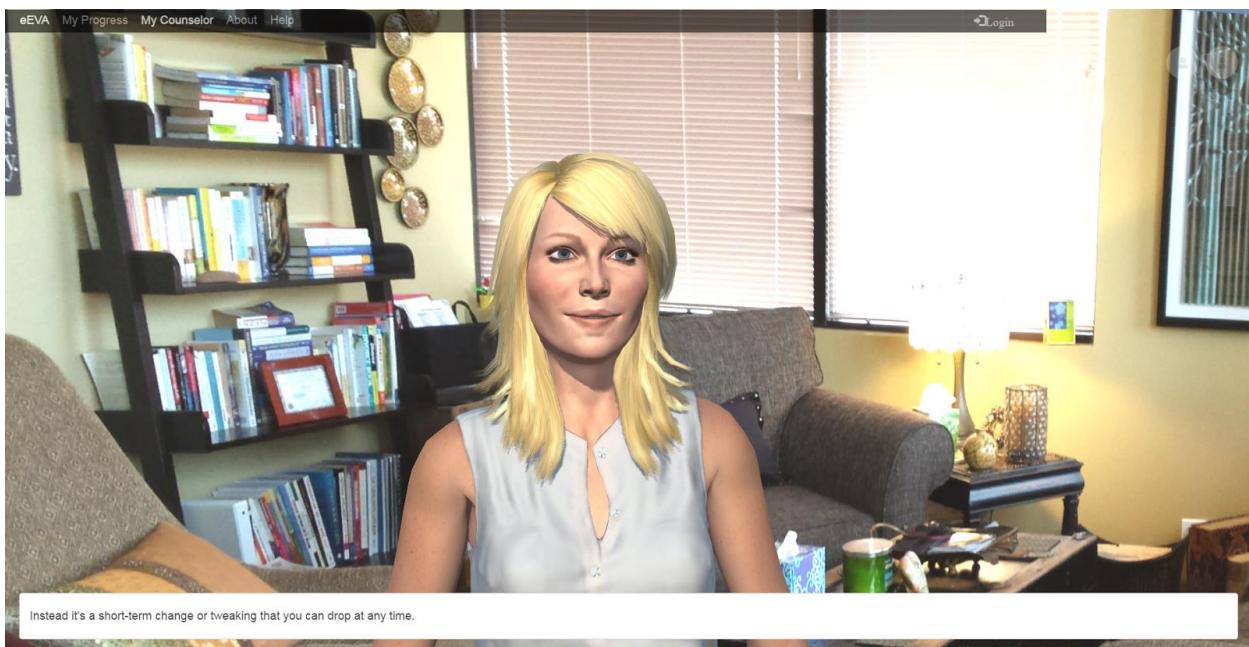
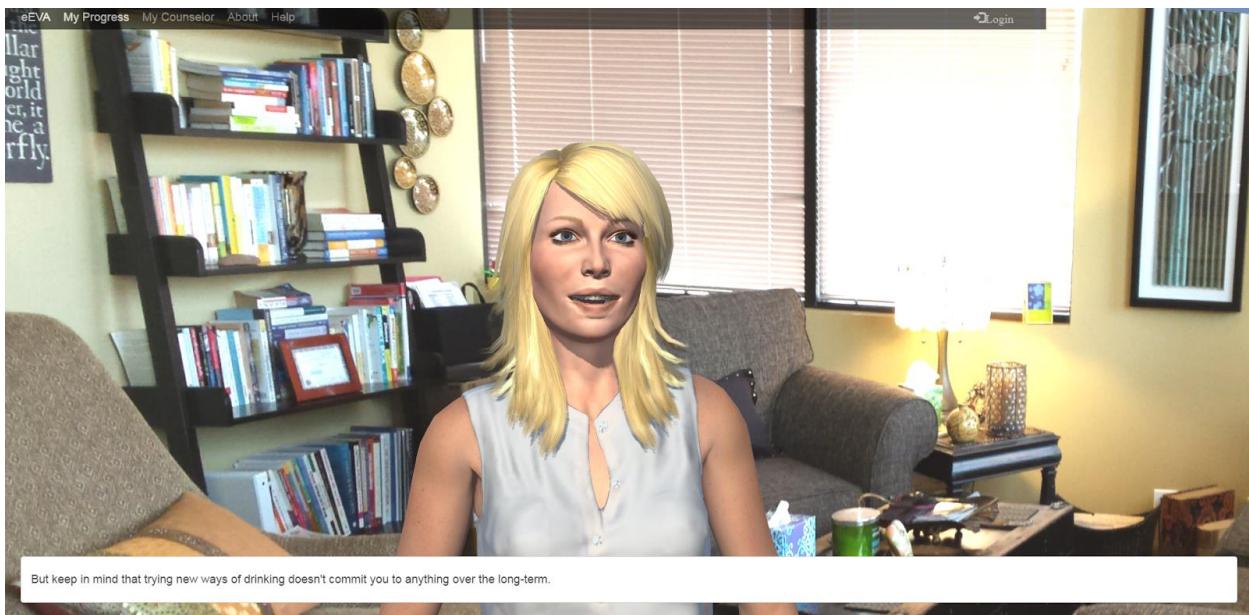
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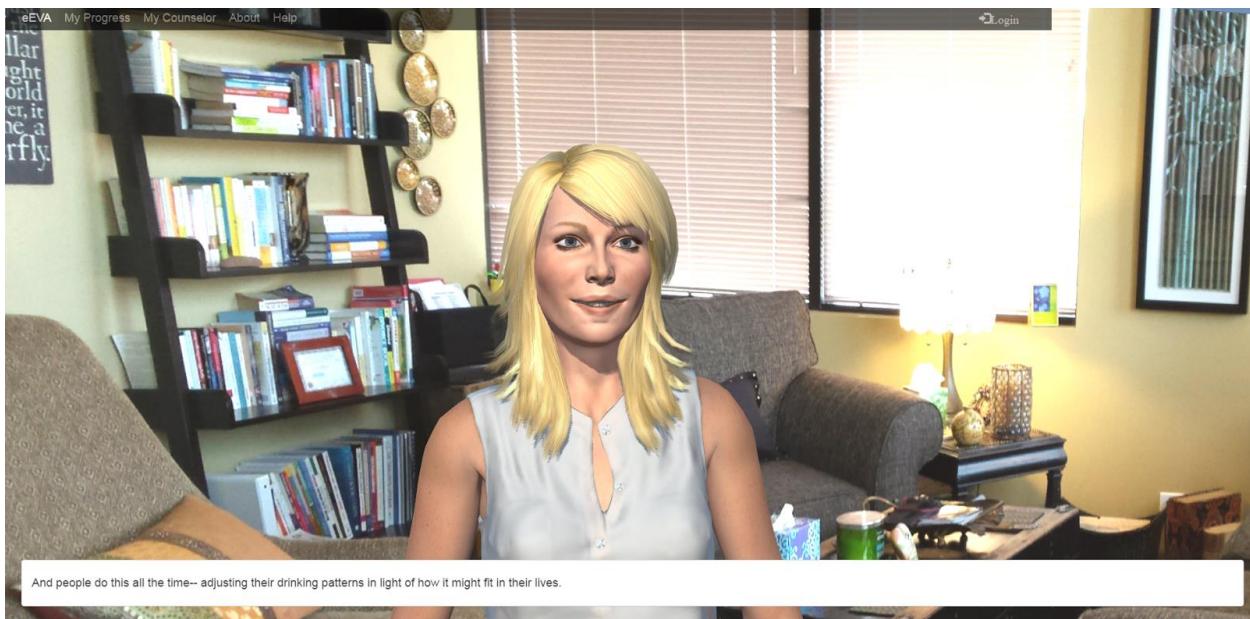
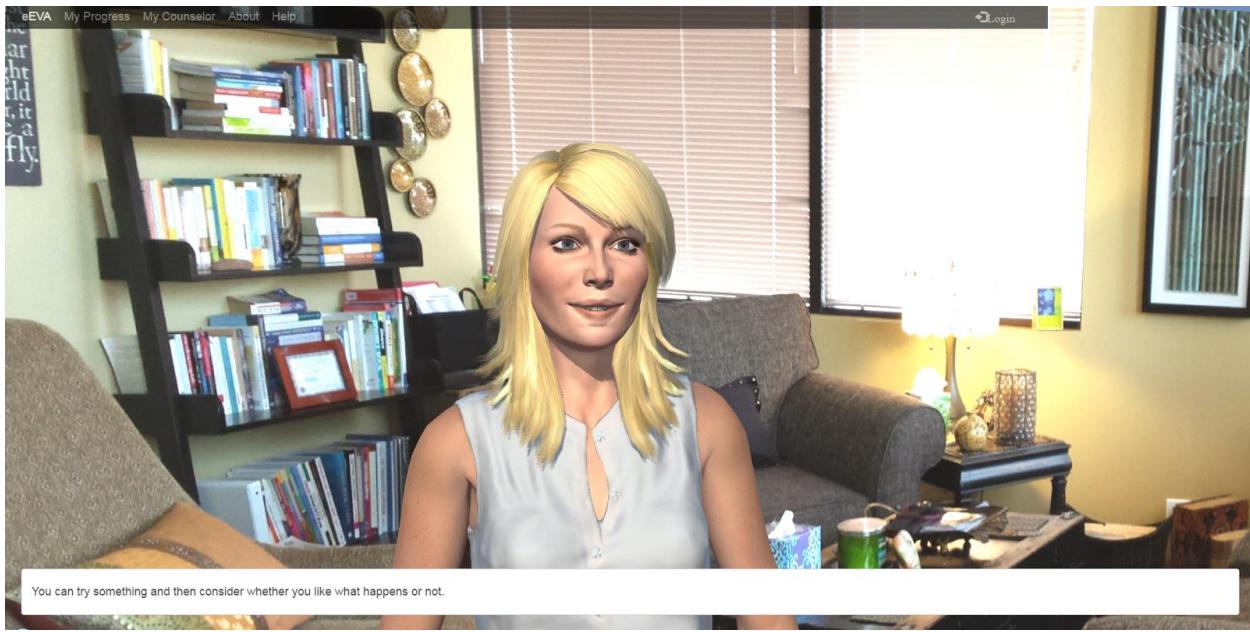
Final Deliverable

eEVA Data Generation and User Results Analysis Version 1.0



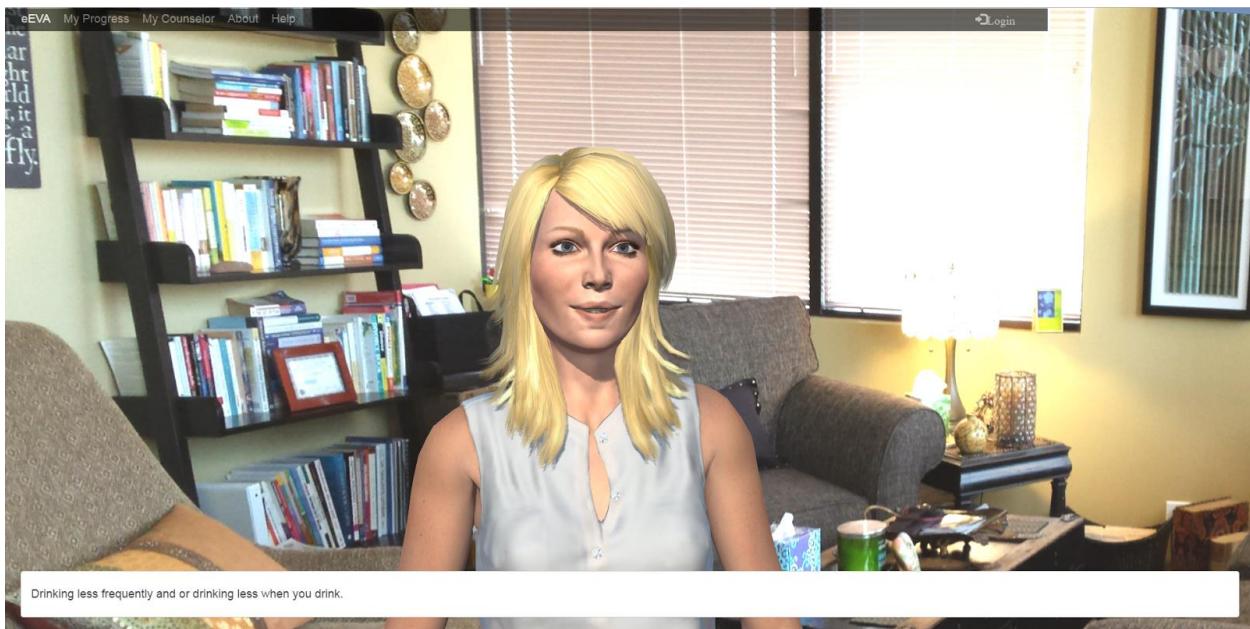
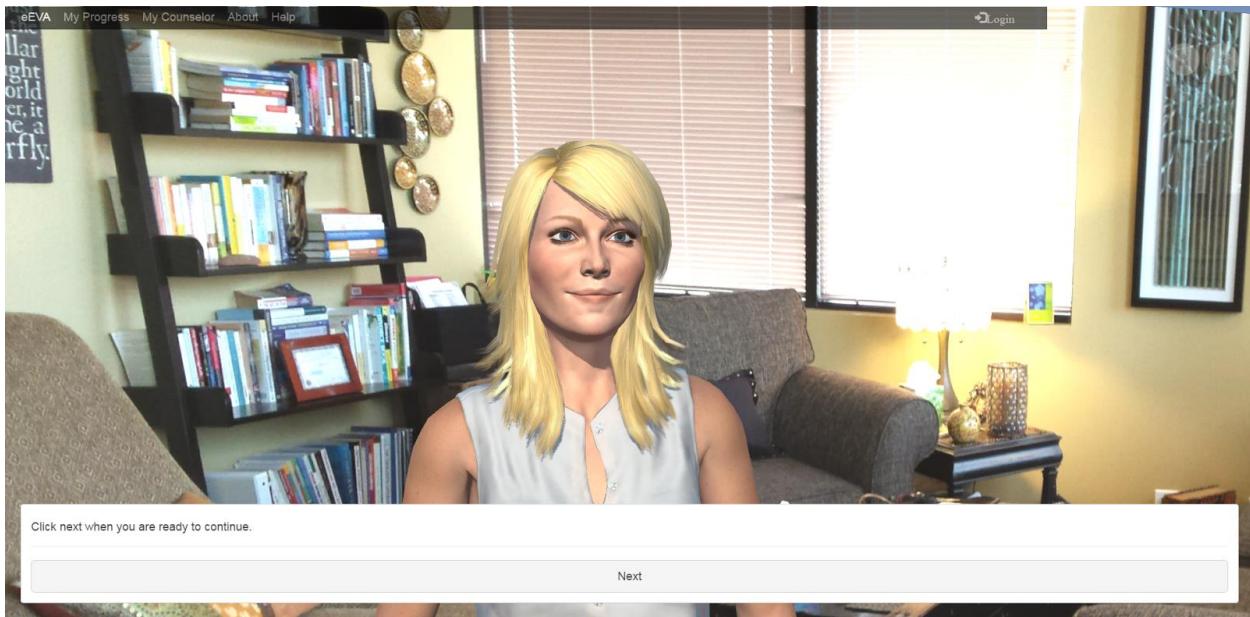
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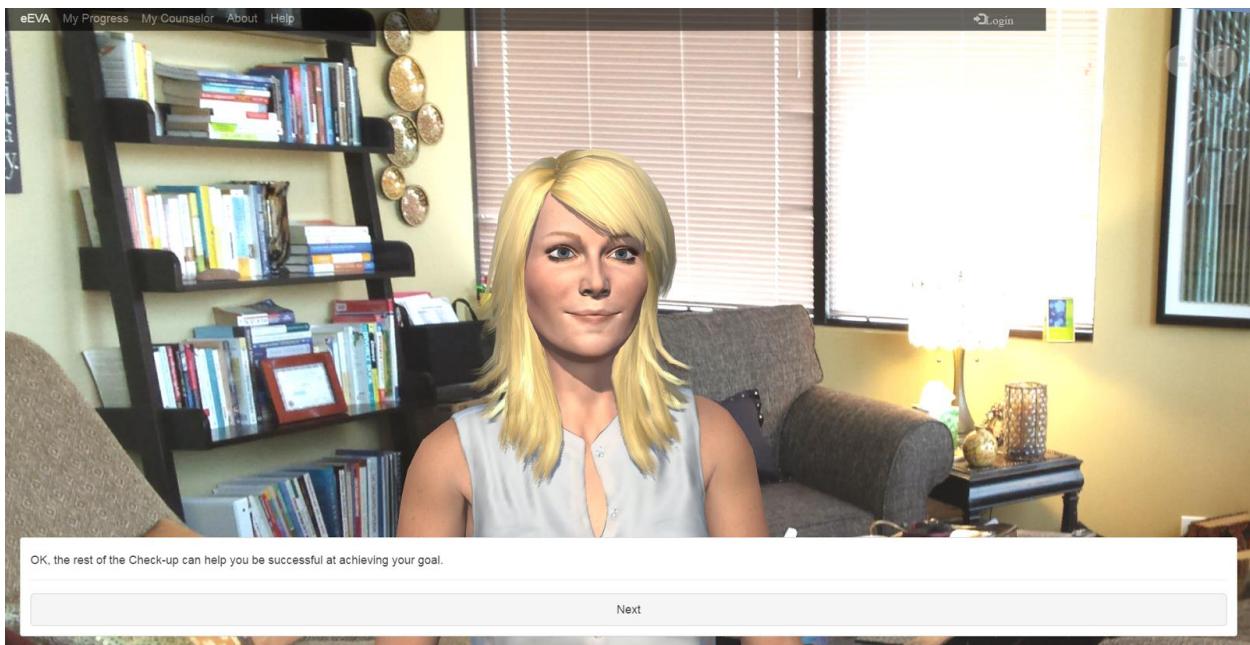
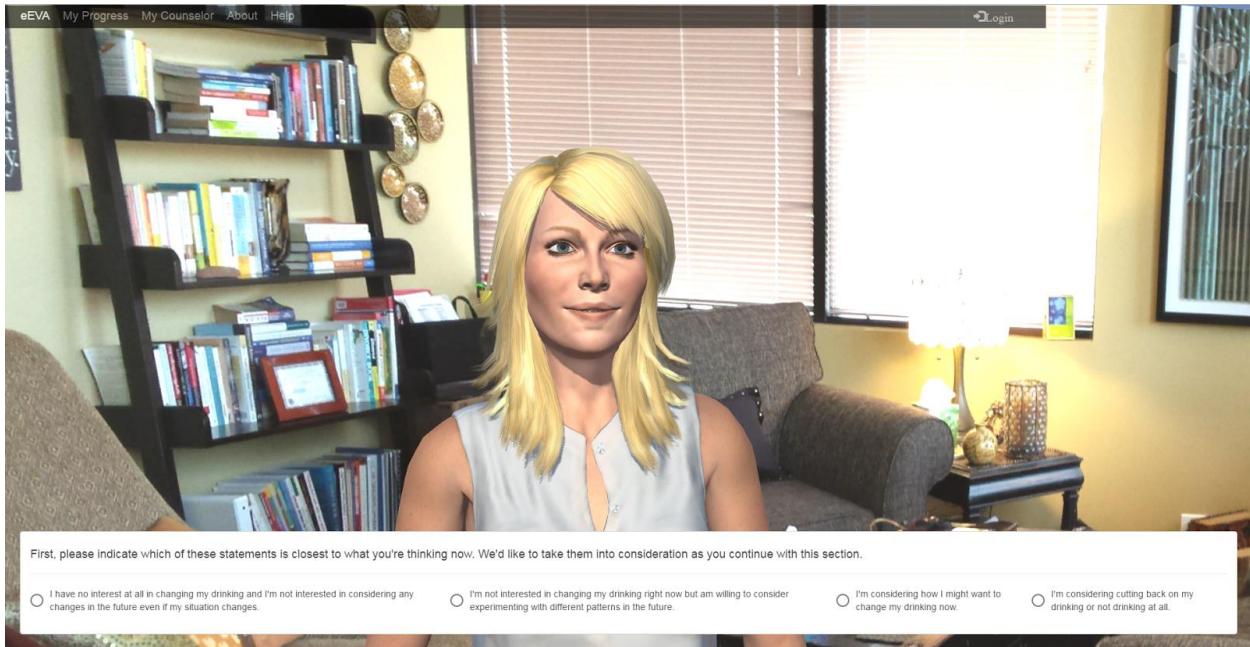


Final Deliverable

eEVA Data Generation and User Results Analysis Version 1.0



#237_EditDCU_YourCurrentThinking



Appendix C – Sprint Review Reports

Sprint 1	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<09/09/2016 11:20AM>
End time:	<09/09/2016 12:09PM>
Technical Aspect: MongoDB, Webstorm, Node.js, learning JavaScript	
<p>After a show and tell presentation, the implementation of the following user stories were accepted by the product owners:</p> <ul style="list-style-type: none"> • All approved to begin implementation 	
<p>The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Spring Planning meeting.</p> <ul style="list-style-type: none"> • N/A 	

Sprint 2	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<09/23/2016 12:25PM>
End time:	<09/23/2016 2:04PM>
<p>After a show and tell presentation, the implementation of the following user stories were accepted by the product owners:</p> <ul style="list-style-type: none"> • Per meeting with the product owner, the structure of the epics and user stories will need to change to reflect the major features of the entire system. As such, for the next meeting the students should revise the currently created epics/user stories 	
<p>The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Spring Planning meeting.</p> <ul style="list-style-type: none"> • See above (the content is correct but will need to reorganize) 	

Sprint 3	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<10/10/2016 4:30PM>
End time:	<10/10/2016 5:30PM>
<p>After a show and tell presentation, the implementation of the following user stories were accepted by the product owners: All.</p> <ul style="list-style-type: none"> • User Story #117 EditDCU_Feedback_Home • User Story #124 EditDCU_GetFeedback • User Story #166 EditDCU_BAC • User Story #133 AddElement_Next 	
<p>The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Spring Planning meeting.</p> <ul style="list-style-type: none"> • N/A 	

Sprint 4	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<10/21/2016 11:11AM>
End time:	<10/21/2016 11:53AM>
<p>After a show and tell presentation, the implementation of the following user stories were accepted by the product owners: All.</p> <ul style="list-style-type: none"> • User Story #197 EditDCU_HowMuch • User Story #198 EditDCU_RiskFutureProblems 	
<p>The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Spring Planning meeting.</p> <ul style="list-style-type: none"> • N/A 	

Sprint 5	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<11/04/2016 1:11PM>
End time:	<11/04/2016 2:04PM>
<p>After a show and tell presentation, the implementation of the following user stories were accepted by the product owners:</p> <ul style="list-style-type: none"> • User Story #199 <i>EditDCU_Consequences</i> • User Story #200 <i>EditDCU_Dependence</i> • User Story #201 <i>EditDCU_Motivation</i> 	
<p>However, due to discussions with the product owner, and potential adjustments suggested by the domain experts, we will need to make revisions to previously styled/created items</p> <p>The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Spring Planning meeting.</p> <p><i>Possible Items above.</i></p> <ul style="list-style-type: none"> • User Story <TBD> <ul style="list-style-type: none"> • How this should be reflected on the user story definition in Mingle: <ul style="list-style-type: none"> ◦ Styling revisions to all previously accepted items as a separate story ◦ Application of a new gauge graphic 	

Sprint 6	
Attendees:	<Christine Lisetti, Carlos Mestre, Stephanie Lunn>
Start time:	<11/18/2016 11:05AM>
End time:	<11/18/2016 11:58AM>
<p>After a show and tell presentation, the implementation of the following user stories were accepted by the product owners: All.</p> <ul style="list-style-type: none"> • User Story 235 <i>EditDCU_Congratulations</i> • User Story 236 <i>EditDCU_ConsiderYourOptions</i> • User Story 237 <i>EditDCU_YourCurrentThoughts</i> • User Story 233 <i>EnlargedToggledCounselor (User Story)</i> • User Story 234 <i>ModifyContentStyling (User Story)</i> 	

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Spring Planning meeting.

- Approve for Desktop computer, future versions will need to adapt to smaller screen sizes since counselor in machine is embedded and when items such as (*EnlargedToggledCounselor*) are used, they work with the specifications but only for desktop size or she (the counselor) blocks content

Sprint 7

Attendees: <N/A>

Start time: <N/A>

End time: <N/A>

The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.

- None, work on documentation

The team members indicated their willingness to work on the following user stories.

- Work on documentation

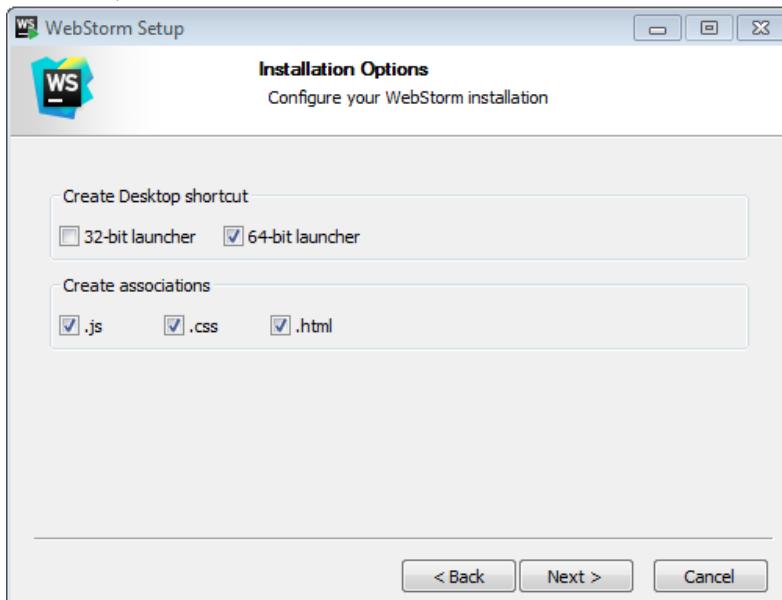
Appendix D – User Manuals, Installation/Maintenance Document, Shortcomings/Wishlist Document and other documents**User Manuals**

Although presently the site has restricted access until it is complete, in the future a user of eEVA can go to <https://virtualhealthcounseling.com/> to interact with our virtual health agent. The initial AUDIT can be taken without creating an account but further access will necessitate doing so before the user can take further interventions or access their results.

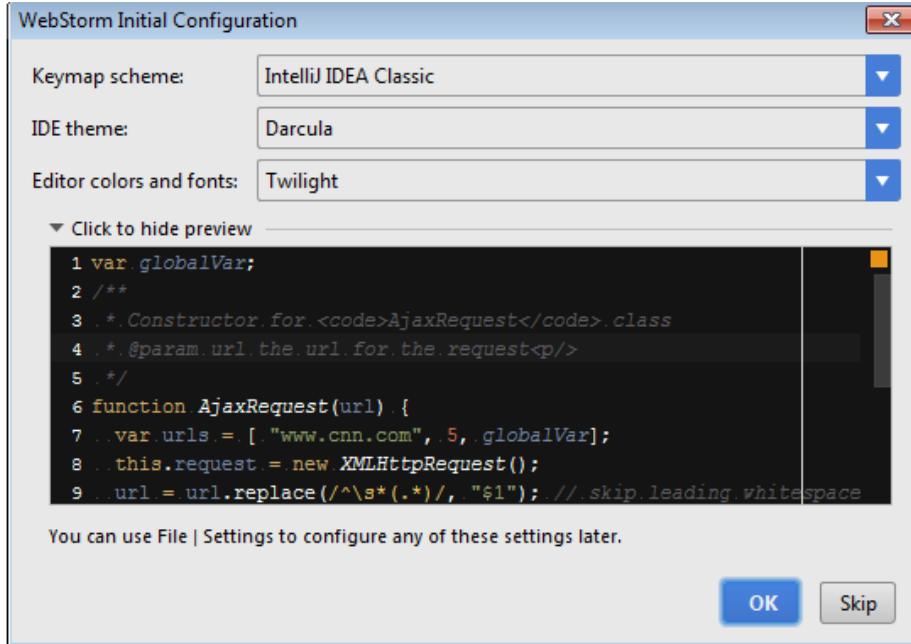
Installation/Maintenance Document

Will Require: Webstorm, eEVA code from Repository (on C drive, not personal drive),
mongoDB

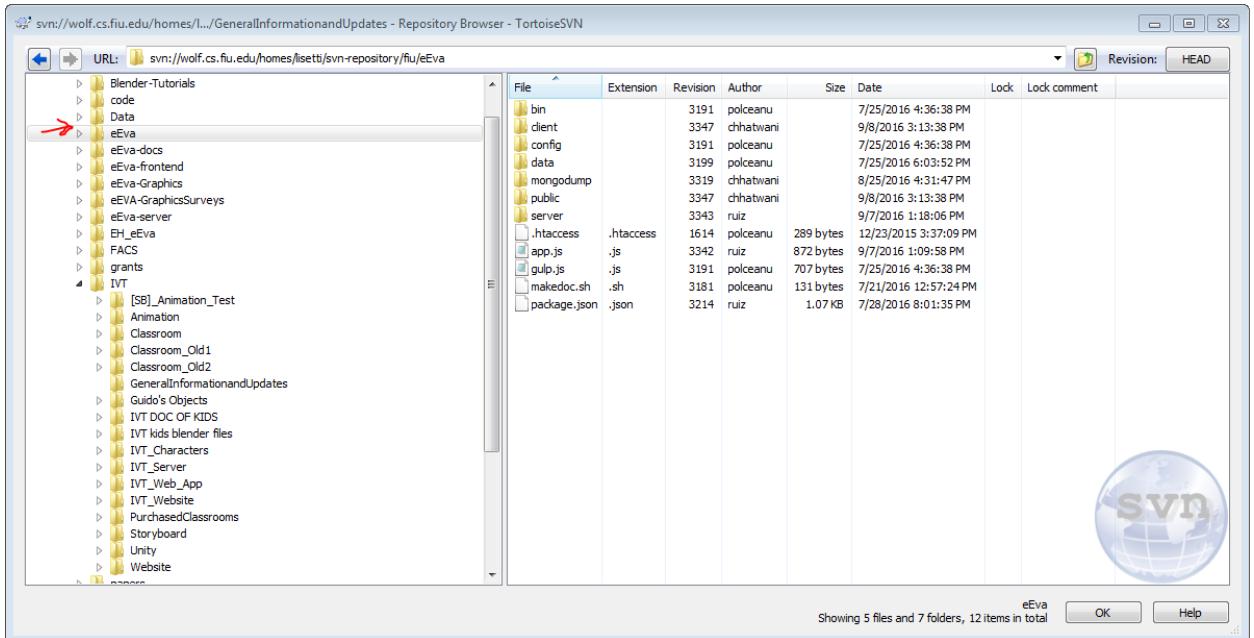
1. Must first get Webstorm IDE, first registering for student account:
<https://www.jetbrains.com/shop/eform/students>
2. After they will send a confirmation link, open and obtain Webstorm
3. Run installation tool and select the options pertaining to your system (32 or 64 bit launcher) and create the associations as shown below:



4. Then set up Webstorm using IntelliJ and can configure with color preferences and theme based on personal preference as shown below:

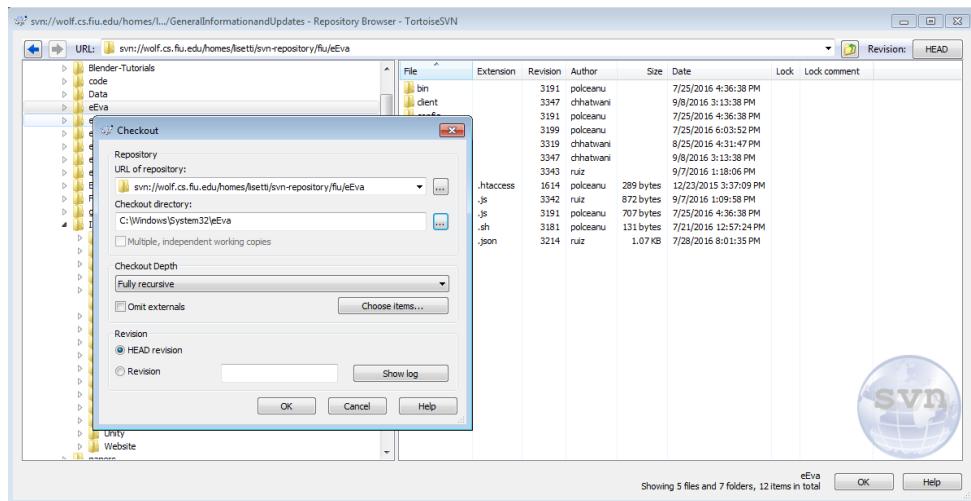


5. If you don't have eEVA already, will need to obtain from the lab repository from svn://wolf.cs.fiu.edu/homes/lisetti/svn-repository/fiu/eEva as shown below:



However, access to the repository must be granted.

6. Then checkout the folder from the repository and place it into a folder on the C drive:



7. Once folder is on computer, open “eEVA” with Webstorm
8. Then, in Webstorm, select eEVA, and then View>>Tool Windows>>Project and if node not present must open the terminal (View>>Tool Windows>>Terminal). In terminal, try:

```
Terminal
+ Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

U:\Desktop\eEVA>npm install . --save
```

9. PLEASE NOTE IF NOT WORKING WILL NEED TO PERFORM STEPS 9-11, OTHERWISE CAN OMIT: However, if you get an error message like the below, must then open npm

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

U:\Desktop\eEVA>npm install . --save
'npm' is not recognized as an internal or external command,
operable program or batch file.

U:\Desktop\eEVA>
```

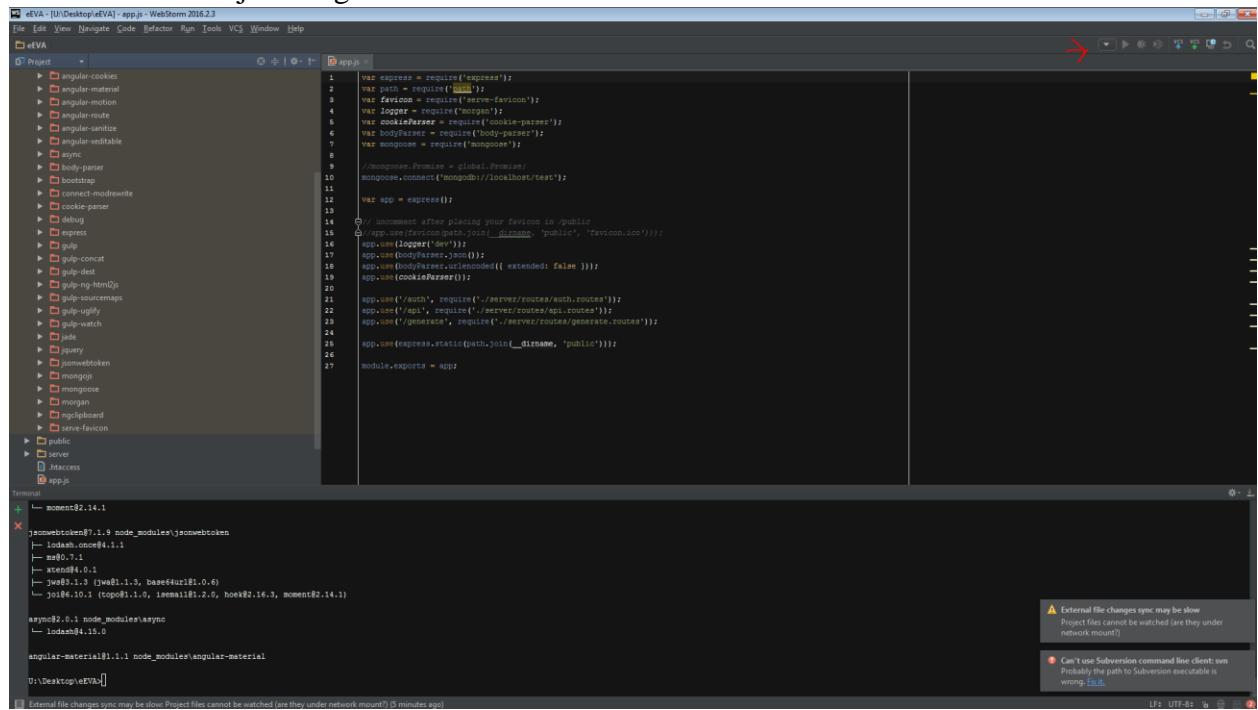
10. Then if that occurs, download nodejs and make sure webstorm is closed: <https://nodejs.org/en/download/> and get the .msi installer
11. Relaunch Webstorm and type npm in Terminal to confirm presence
12. Then try again:

```
Specify configs in the ini-formatted file:
  C:\Users\slunn002.AD.002\.npmrc
or on the command line via: npm <command> --key value
Config info can be viewed via: npm help config

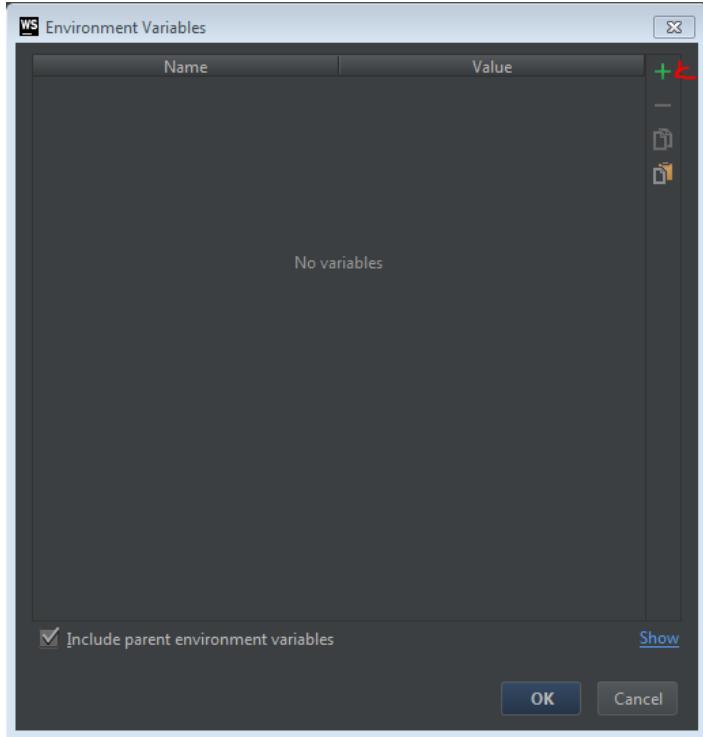
npm@2.15.9 C:\Program Files\nodejs\node_modules\npm

U:\Desktop\eEVA>npm install . --save
```

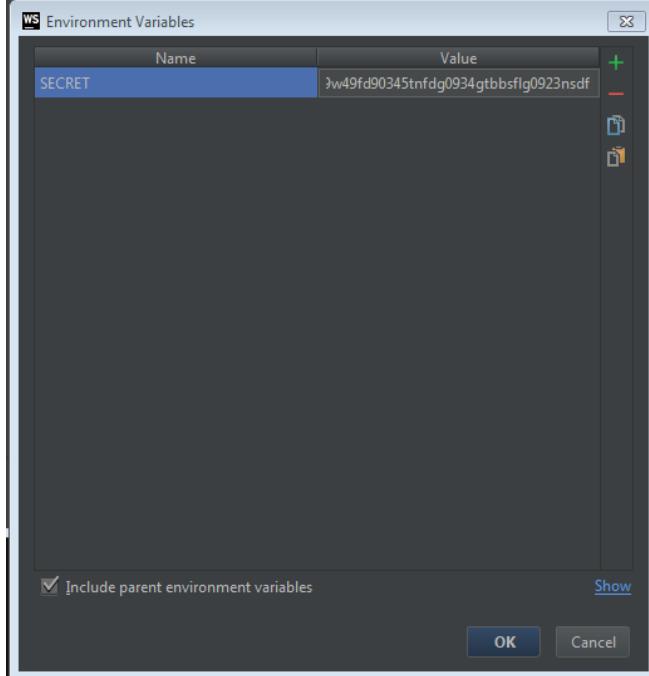
13. Then go to the dropdown indicated by the red arrow and select “Edit configuration” to first add the Nodejs configuration



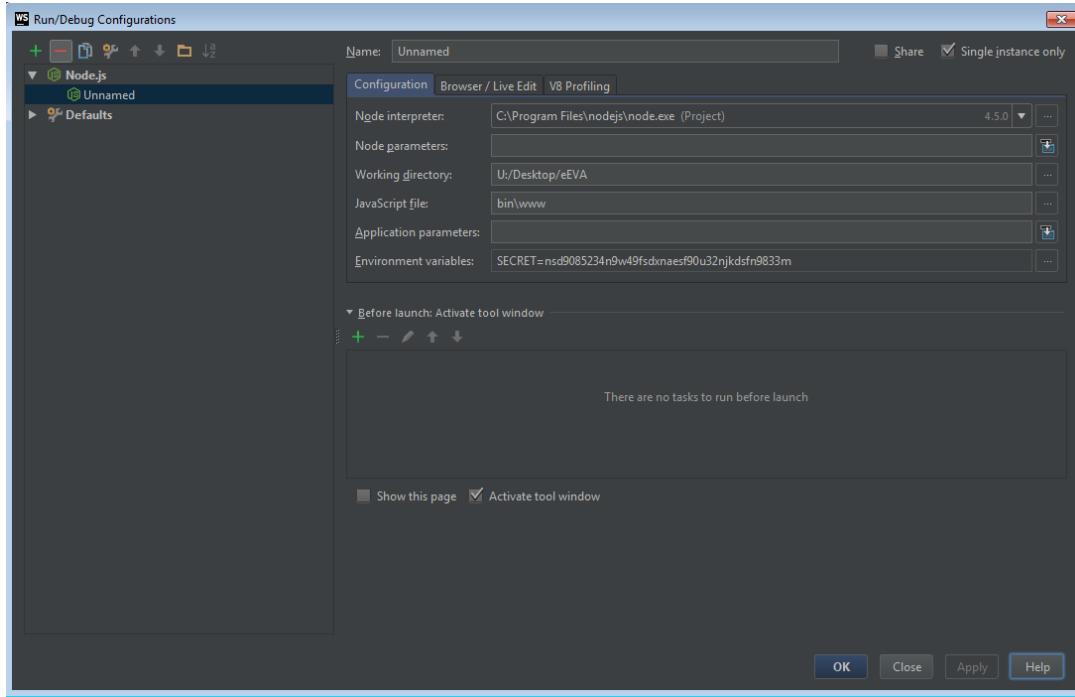
14. Click plus sign, the node.js then in JavaScript file: type bin\www and then must add a new secret environmental variable by clicking ... and then the plus sign as shown below:



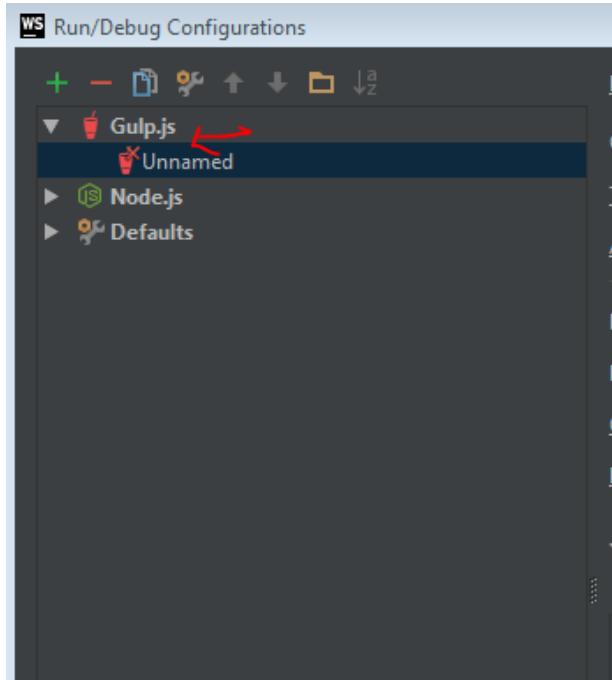
In Name field enter SECRET all in caps, and then in value field, must “spam the keyboard” (entering whatever you want). Then press “OK” :



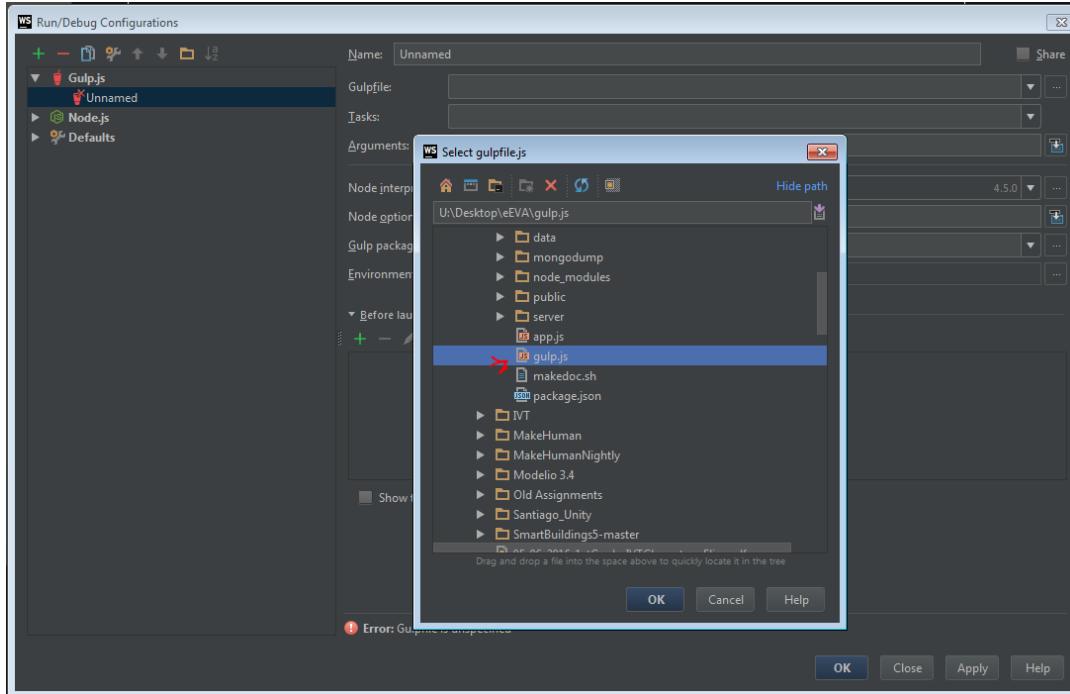
15. Then should look like:



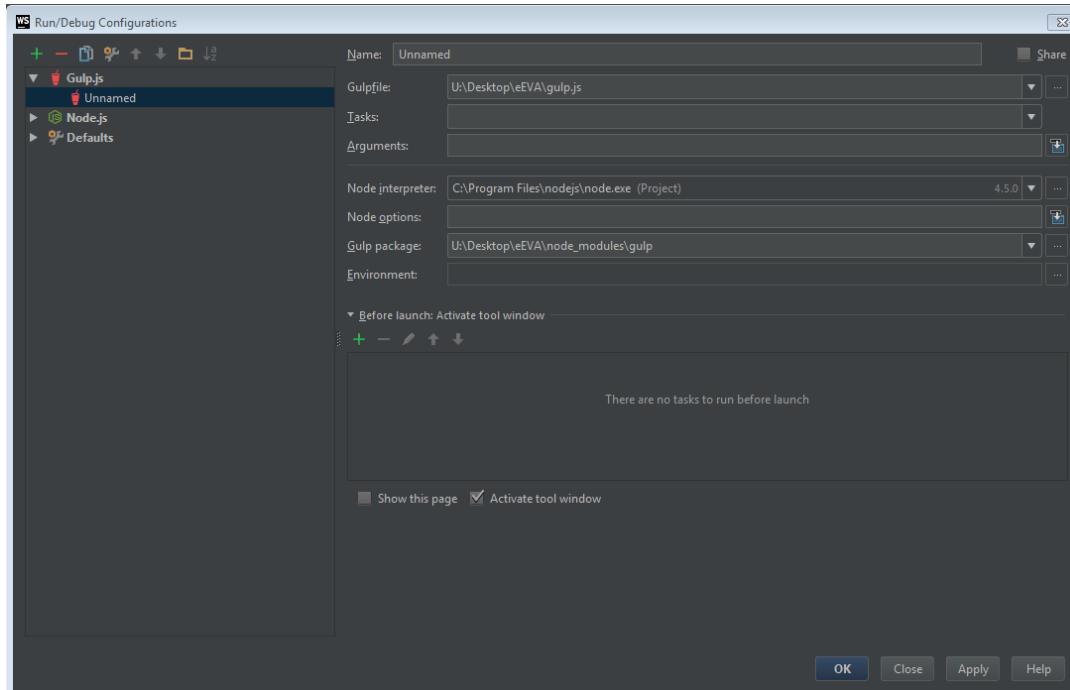
16. After which, will need to make another to set up the Gulp run configuration, so press green plus sign and select gulp to add it as shown below:



17. Next, must locate the gulp file in the folder, so press ... next to the Gulpfile, then there will be a gulp.js



18. Hit okay and then should look like:

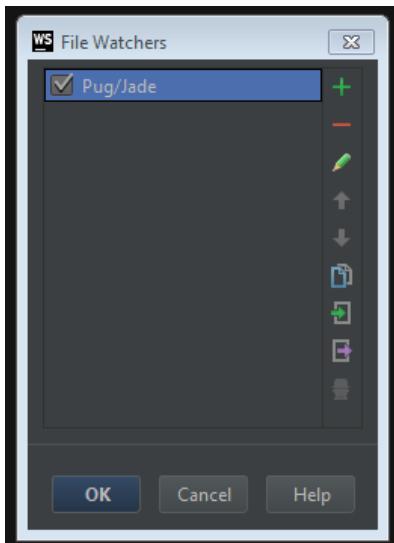


19. Press okay

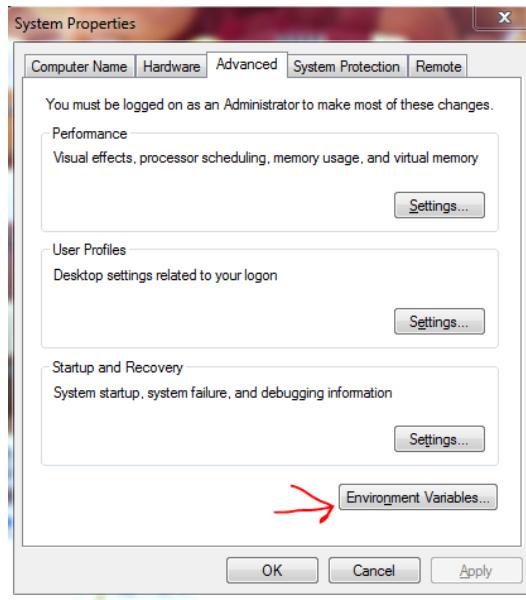
20. Next go to File>>Settings>>and select “File Watchers.” Click the plus sign to add and choose Pug/Jade then hit apply and okay
21. Then if issues saving in jade may need to enter the following in the terminal

```
U:\Desktop\eEVA>npm install jade -g
npm WARN deprecated jade@1.11.0: Jade has been renamed to pug, please install the latest version of pug instead of jade
npm WARN deprecated transformers@2.1.0: Deprecated, use jstransformer
C:\Users\slunn002.AD.002\AppData\Roaming\npm\jade -> C:\Users\slunn002.AD.002\AppData\Roaming\npm\node_modules\jade\bin\jade.js
jade@1.11.0 C:\Users\slunn002.AD.002\AppData\Roaming\npm\jade
|__ commander@2.6.0
|__ character-parser@1.2.1
|__ void-elements@2.0.1
|__ jstransformer@0.0.2 (is-promise@2.1.0, promise@6.1.0)
|__ mkdirp@0.5.1 (minimist@0.0.8)
|__ constantinople@3.0.2 (acorn@2.7.0)
|__ with@4.0.3 (acorn@1.2.2, acorn-globals@1.0.9)
  \__ clear-code@1.1.0 (commander@2.8.1, source-map@0.4.1)
```

22. Can open event log and choose fix it, then make sure Pug/Jade is selected as shown below:



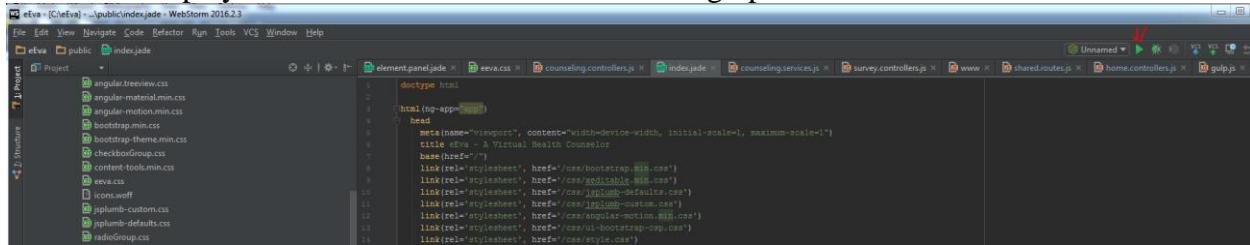
23. Then run the gulp by pressing the play button on the top right
24. Download mongoDB from <https://www.mongodb.com/download-center#community>
25. Create a “data” folder in the C drive, and a “db” folder inside of that. Then on local computer, must add Mongo to the Environmental Variables>>Path>>edit then add a semicolon to end and paste path with executable files (I.E. C:\Program Files\MongoDB\Server\3.2\bin) in the system properties



26. Then need to access mongo folder, opening command line and mongorestore.exe --drop -d test then paste directory where stored from eEVA>>mongodump>>select folder with most recent date and then test . I.E.

```
C:\Windows\system32\cmd.exe
C:\Program Files\MongoDB\Server\3.2\bin>mongorestore.exe --drop -d test \\bear-ad.cs.fiu.edu\homes\Desktop\eEVA\mongodump\mongodump-2016-08-25_16-24\test
```

27. Then want to run the website to start using, go into Webstorm, and choose Nodejs, then select play button to run. Then do the same for gulp:



28. To make sure Mongo is running, open command terminal in C drive and type "mongod" to run

29. Then can open web browser and go to:

<http://localhost:3010/#/>

NOTE: if it doesn't work, may need to check that port number is correct. Can access value in eEva>>bin>>www file in the var port as shown:

```

1  /**
2   * Module dependencies.
3  */
4
5  var app = require('../app');
6  var debug = require('debug')('eEvalNode:server');
7  var http = require('http');
8
9  /**
10  * Get port from environment and store in Express.
11  */
12
13  var port = normalizePort(process.env.PORT || '3010');
14
15  /**
16  * Create HTTP server.
17  */
18
19  var server = http.createServer(app);
20
21
22  /**
23  * Listen on provided port, on all network interfaces.
24  */
25
26
27  server.listen(port);
28  server.on('error', onError);
29  server.on('listening', onListening);
30
31

```

30. Then log in as administrator and can begin working on state machine and survey editor

For ongoing maintenance, can edit code in Webstorm. Also, for intervention content, can add and edit new/existing forms in the Survey Editor.

Name	Actions
Audit	Rename Edit Delete
Drinc	Rename Edit Delete
SADQ-C (1994)	Rename Edit Delete
SADQ-C (2006) Section A	Rename Edit Delete
SADQ-C (2006) Section B	Rename Edit Delete
SADQ-C (2006) Section C	Rename Edit Delete
SOCRATES	Rename Edit Delete
Brief Drinker Profile (BDP)	Rename Edit Delete
Greetings	Rename Edit Delete
Provide-Feedback(MATCH)	Rename Edit Delete
Offer Programs	Rename Edit Delete
Register User	Rename Edit Delete
Home	Rename Edit Delete
Feedback Module Home	Rename Edit Delete

A new form can be added by clicked the button indicated below:

The screenshot shows a web-based application titled "eEVA Data Generation and User Results Analysis Version 1.0". At the top, there is a navigation bar with links: "eEva Counseling", "Home", "State Machine", "Survey Editor", and "Counseling". On the far right of the top bar is a "Logout" link. Below the navigation bar, the main content area has a title "List of Surveys" centered above a table. The table has a header row labeled "DCU". The data rows list various survey names, each with three buttons on the right: "Rename" (blue), "Edit" (orange), and "Delete" (red). A red arrow points from the text "Desired elements can be selected to complete form, and then administrator must select ‘Update’ button:" to the "Update" button in the screenshot.

DCU	
Audit	Rename Edit Delete
DrInc	Rename Edit Delete
SADQ-C (1984)	Rename Edit Delete
SADQ-C (2006) Section A	Rename Edit Delete
SADQ-C (2006) Section B	Rename Edit Delete
SADQ-C (2006) Section C	Rename Edit Delete
SOCRATES	Rename Edit Delete
Brief Drinker Profile (BDP)	Rename Edit Delete
Greetings	Rename Edit Delete
Provide-Feedback(MATCH)	Rename Edit Delete
Offer Programs	Rename Edit Delete
Register User	Rename Edit Delete
Home	Rename Edit Delete
Feedback Module Home	Rename Edit Delete

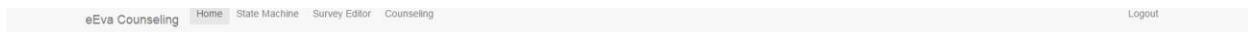
Desired elements can be selected to complete form, and then administrator must select “Update” button:

The screenshot shows a "Survey Editor" interface with a title "Sample". Below the title is a horizontal menu bar with several buttons: "Add Question/Answer", "Add Checkbox", "Add TextArea", "Add Feedback", "Add FeedbackList", and "Add Content". The "Add Content" button is highlighted with a yellow background. Below the menu bar is a large orange button labeled "Update".

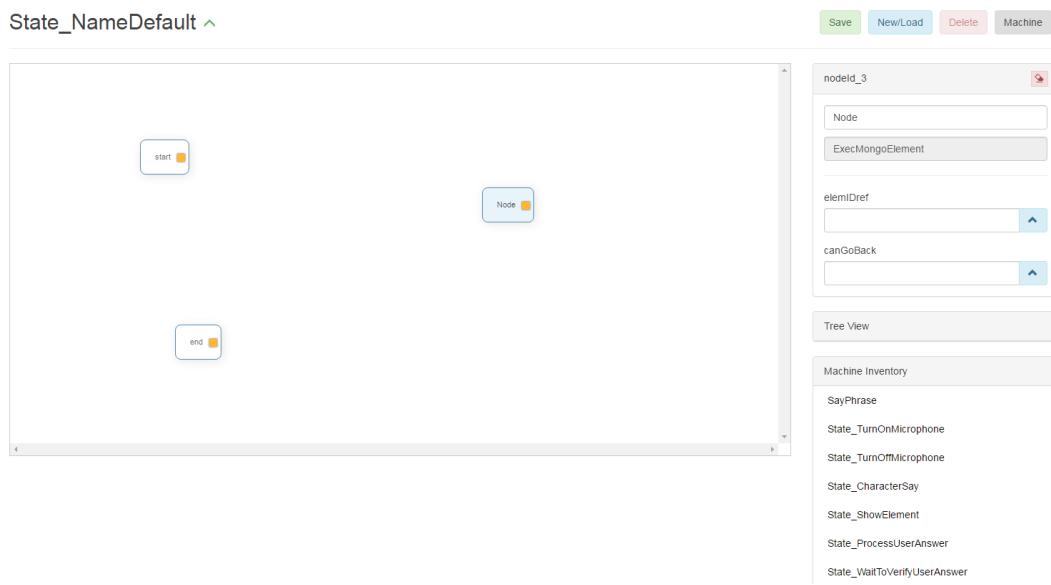
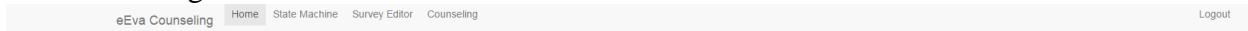
Adding a single answer line into a Question/Answer element creates a button, which can be used to create “Next” buttons. With additional answer choices, the counselor will read the question and display multiple choice bubbles for the user to select from.

The content box is used for html content. Any content that will need to be displayed, gets injected into a webpage so only the page’s “body” should be coded and placed into that box.

Then elements can be placed into the State Machine. First must create a new state if none exists:



In order to create a new state machine, must create empty states denoting the start and end, and then execMongoElements can be added to be filled with the content created in the form.



State_Sample ▾

Save
New/Load
Delete
Machine

Name: State_Sample

Description:

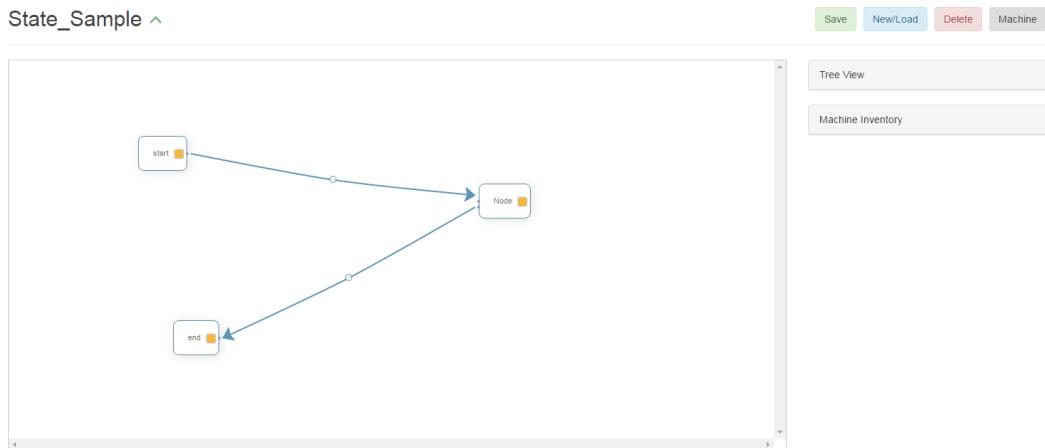
Initialization Extra Code:
Currently empty...

Before Extra Code:
Currently empty...

```
{
  "name": "state_Sample",
  "desc": "",
  "primitive": false,
  "before": "",
  "execute": "",
  "init": {
    "params": []
  },
  "during": "",
  "states": [
    {
      "name": "end",
      "id": "nodeId_1",
      "plumbleft": "231px",
      "plumbtop": "365px",
      "class": "578556a24bb955321046043d",
      "params": []
    },
    {
      "name": "start",
      "id": "nodeId_2",
      "plumbleft": "182px",
      "plumbtop": "166px",
      "class": "578556a24bb955321046043d",
      "params": []
    },
    {
      "name": "Node"
    }
  ]
}
```

Finally these can be connected to create a complete state by dragging the yellow box of one item to the next, creating an arrow.

eEva Counseling Home State Machine Survey Editor Counseling Logout



The new state must be saved once this is complete. Then the local host page can be loaded.

Shortcomings/Wishlist Document and Other Documents

While we managed to accomplish quite a lot, there is still plenty more work to be done on eEVA. Once all of the assessments scoring has been implemented, the variables will need to be referenced in the appropriate places. Also, there are still more pages in the original DCU results that will need to be implemented. Moreover, there are a lot of items that are not strictly necessary, but that would greatly enhance the user experience, such as a pause button to halt the counselor during her longer speeches, or the option to verbally go back in the results like can be done elsewhere during the DCU intervention. Finally, the lab is working to add avatars of

different sexes and ethnicities, and the system will need a way for the user to choose which one they would like to administer the intervention.

REFERENCES

- Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G. (2001). Audit. *The Alcohol Use Disorders Identification Test (AUDIT): Guidelines for use in primary care.*
- Bruegge, B., & Dutoit, A. H. (2010). *Object-Oriented Software Engineering Using UML, Patterns and Java-(Required)*. Prentice Hall.
- Haviv, A. Q. (2014). *MEAN Web Development*. Packt Publishing Ltd.
- Hester, R. K., Squires, D. D., & Delaney, H. D. (2005). The Drinker's Check-up: 12-month outcomes of a controlled clinical trial of a stand-alone software program for problem drinkers. *Journal of substance abuse treatment*, 28(2), 159-169.
- King, T. (2016). CEN 4010 Software Engineering 1: Class 1 [PowerPoint slides]. Retrieved from <https://moodle.cis.fiu.edu/v3.0/course/view.php?id=1257>
- King, T. (2016). CEN 4010 Software Engineering 1: System Design [PowerPoint slides]. Retrieved from <https://moodle.cis.fiu.edu/v3.0/course/view.php?id=1257>
- Mathur, A. P. (2008). *Foundations of Software Testing, 2/e*. Pearson Education India.
- Miller, W. R., & Marlatt, G. A. (1984). Brief Drinker Profile. *Psychological Assessment Resources, Odessa, FL*.
- Miller, W. R., & Hester, R. K. (1986). Matching problem drinkers with optimal treatments. In *Treating addictive behaviors* (pp. 175-203). Springer US.
- Miller, W. R., Tonigan, J. S., & Longabaugh, R. (1995). The drinker inventory of consequences (DrInC). *Project MATCH monograph series*, 4.
- Miller, W. R., & Tonigan, J. S. (1996). Assessing drinkers' motivation for change: the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES). *Psychology of Addictive Behaviors*, 10(2), 81.
- Miller, W. R., Wilbourne, P. L., & Hettema, J. E. (2003). What works? A summary of alcohol treatment outcome research. *Handbook of alcoholism treatment approaches: Effective alternatives*, 3, 13-63.
- Stockwell, T., Murphy, D., & Hodgson, R. (1983). The severity of alcohol dependence questionnaire: its use, reliability and validity. *British journal of addiction*, 78(2), 145-155.