

Florida International University
School of Computing and Information Sciences



Software Engineering Focus

Final Deliverable

Project Title:

eEVA Data Generation and User Results Analysis Version 2.0

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Abstract

Within this document is the information necessary to gain a good foundation of understanding for eEVA (an empathetic embodied virtual agent). This system is currently focused on administering health assessments for alcohol screening; although because of the systems flexibility due to its design, it is possible for this system to be adapted for administering different interventions with revision by an administrator. Users currently interact with this health counseling agent through the web, with the use of cameras and microphones to communicate with the avatar itself. eEVA processes the user's responses and records them on the interventions. Our focus, was to provide eEVa with several functions necessary for the revision of content and her interactions, as well as to design the means by which the user can choose their initial counselor, prior to beginning as counselling session, as well as change their counselor selection while in session.

Table of Contents

INTRODUCTION.....	5
Current System.....	5
USER STORIES	8
Implemented User Stories	8
Pending User Stories	11
PROJECT PLAN	13
Hardware and Software Resources	14
Sprints Plan	15
SYSTEM DESIGN.....	19
Architectural Patterns	19
Deployment Diagram.....	21
Design Patterns.....	21
SYSTEM VALIDATION.....	22
Unit Test	22
Integration Test	33
GLOSSARY	43
APPENDIX.....	45
Appendix A – UML Diagrams	45
Appendix B – User Interface Design.....	71
Appendix C – Sprint Review Reports.....	102
Appendix D – User Manual, Installation/Maintenance Document, Shortcomings/Wishlist Document and other documents	104
User Manual	104
Installation/Maintenance Document	104
Shortcomings/Wishlist Document and other documents	123
REFERENCES.....	124

INTRODUCTION

Most people are aware that alcoholism is a bad addiction that causes many adverse effects to life in general. But for those who aren't aware or find it hard to accept they have a problem, health advisors and counselors have been the go to; in search of a possible remedy to their issues. However, in this modern era, we can enjoy most things from the comfort of our home ,and remain in anonymity behind a computer. That is why, having virtual health counselors may help ease some of those fears many people with alcohol related problems might face.

According to research, short bursts of brief motivational interventions (BMI) have been proven to be effective at helping those that have these issues to realize the situation is out of control (Miller, Wilbourne, & Hettema, 2003). Consider the original text-based Drinker's Check-Up (DCU), which is a web based system, that has been shown to reduce drinking by 50% (Hester, Squires, & Delaney, 2005). Its downside, though? It is mostly text.

To solve that problem, the Affective Social Computing Laboratory (ASCL) 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).

This new system (eEVA), offers a web-based modern approach to counseling alcoholism, and seeks to help those in need with easy surveys, and a fun interactive experience just using your computer.

Current System

The current system makes use of five virtual health counselors, to interact with the users. These counselors have different ethnicities to appeal to different demographics. All the content for the interventions has been obtained from the original DCU developed by Dr. Reid Hester and his Research Divison staff, which can be accessed online at (<http://www.drinkerscheckup.com/>).

All the content is spoken by the counselors as well as displayed on the screen, so that the users don't feel lost during a counseling session. Each person interacting with eEVA may have multiple choices or custom answers they can provide; some of these answers being temporarily saved to be used by other surveys. Despite the current system having most of the intended basic functionality, it still lacks content from the original DCU, which needs to be added.

The current system makes use of its state machine complete intervention, to control which the main flow of events of the application. Many of the states require access to mongodb elements, which now, are used for storage of survey information as well as state machine information. Despite eEVA being able to offer a modern web-based approach to alcohol counseling, there are still a few additional key features that are needed to help improve it, and provide a more user friendly experience.

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 works as 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).

A figure depicting the system implementation can be seen in Figure 1. An administrator can edit the intervention content, and then add a state machine to integrate this to the main flow of the application. The machine then acts upon an avatar which is exported in WebGL format and then the web page can be loaded to display the unity scene as well as the newly added intervention content.

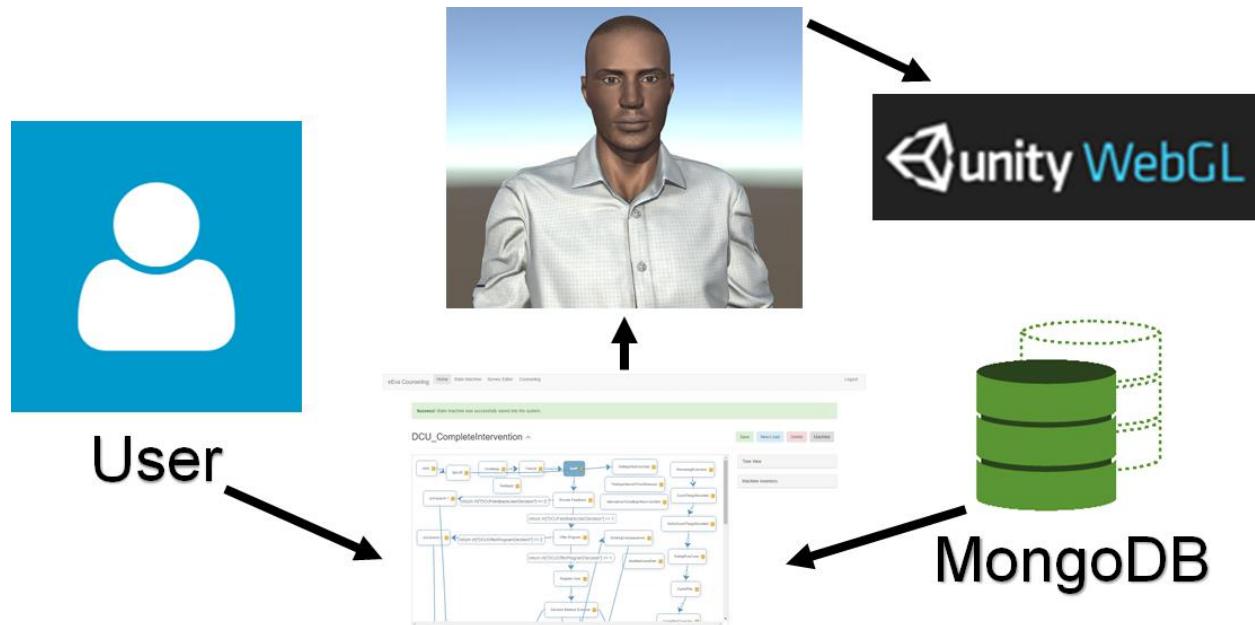


Figure 1: Intervention Engine Flow Chart for eEVA

Purpose of New System

The new system is now comprised of all the original content from the Drinker's Checkup (DCU). Furthermore, new selection menus provide the user with the ability to select whichever virtual counselor they want, both at the beginning of a counseling session or in the middle of one. Surveys content additional features, such as directional arrows to help the user understand which actions they can take, and how they should interact with the counselor.

Each intervention session makes full use of services that store users answers if needed, and the user is not only able to look at his/her progress, but for some of the surveys, they can now even print goals, questions, and answers they might want to have as a hardcopy. For the purpose of maintaining consistency, the actual content spoken and/or displayed is the same as the one from the original version, and none of it has been altered. Many of the surveys now share the same styling, and functionality, and make use of methods that help with code reusability.

In general, eEVA is now able to perform more behavioral assessments, while making the user's experience more satisfying with its new look and feel, and additional functionality added as a part of this project. The complete list of features newly implemented, as well as possible future releases can be found in the chapter below.

USER STORIES

This section contains the user stories along with their descriptions and Mingle number that were implemented during this iteration (eEVA Data Generation and User Results Analysis Version 2.0). In addition to the user stories that were implemented, this section also contains the user stories are pending and are to be considered for future iterations.

Implemented User Stories

In the below table are the user stories that were implemented during this iteration of eEVA Data Generation and User Results Analysis Version 2.0.

Implemented User Stories		
User Story Id	Mingle #	Functional Criteria
<i>Installation (User Story)</i>	332	As a Senior Project student, I would like to install all necessary programs so that I can begin working on the code to make the necessary changes to eEVA.
<i>Organization (User Story)</i>	333	As a Senior Project student, I would like to refresh on the agile process including scrum so that I can be prepared and organized to be able to start senior project.
<i>ProgrammingLanguages (User Story)</i>	334	As a Senior Project student, I would like to make sure that I am proficient in the languages necessary for the eEVA project so that I can begin working on the code to make the necessary changes to eEVA.
<i>InitialCounselorSelection (User Story)</i>	343	As a user, I would like to be able to select an initial counselor, so that I begin the session with the counselor I have chosen based on my preferences.
<i>InSessionCounselorSelection (User Story)</i>	344	As a user, I would like to be able to change my counselor during a counseling session, so that I can choose the character as my preferences change.
<i>initialLoadingIcon (User Story)</i>	360	As an administrator, I would like to see a page loader, so that the user is only shown the counseling view, when everything has successfully loaded.
<i>differentCounselorNames (User Story)</i>	361	As a user, I would like to be able to see different counselor names, so that each

		character has a different name based on my selection.
<i>EditDCU_RemainingExercises (User Story)</i>	369	As an administrator, I would like to edit the Remaining Exercises in the DCU, so that I can inform the user of the remaining exercises that are in the last section of the check-up.
<i>EditDCU_TheGoodThingsRevisited (User Story)</i>	370	As an administrator, I would like to edit The Good Things Revisited in the DCU, so that I can remind the user how they answered the section “The Good Things I Like About Drinking” earlier in the survey and give them an opportunity to reflect and make changes to these answers if necessary.
<i>EditDCU_NotSoGoodThingsRevisited (User Story)</i>	386	As an administrator, I would like to edit The Not So Good Things Revisited section in the DCU, so that I can remind the user how they answered the section “The Not So Good Things About Drinking” earlier in the survey and give them an opportunity to reflect and make changes to these answers if necessary.
<i>EditDCU_RatingProsAndCons (User Story)</i>	387	As an administrator, I would like to edit the Rating Your Pros and Cons section in the DCU, so that I can remind the user how they answered the sections “The Good Things About Drinking” and “The Not So Good Things About Drinking” earlier in the survey and give them an opportunity to reflect and rate these items in terms of importance to them.
<i>EditDCU_ImportanceOfYourReasons (User Story)</i>	388	As an administrator, I would like to edit the content of the Getting What You Want survey and state, so that the user can be reminded of the desired effects he/she wants to achieve and also print those.
<i>EditDCU_GettingWhatYouWant (User Story)</i>	389	As an administrator, I would like to edit the content of the Getting What You Want survey and state, so that the user can interact in the session, and be able to see the default desired effects and his/her own chosen desired effects of alcohol.

<i>EditDCU_Gameplan (User Story)</i>	411	As an administrator, I would like to edit the “Game Plan” section of the DCU, so that I can give the user the ability to develop a personal game plan to help improve their success with the program through a series of questions to be administered via the virtual health counselor.
<i>EditDCU_AlternativesToGetYouWhereYouWantToGo (User Story)</i>	412	As an administrator, I would like to edit the content of the Alternatives to Getting Where You Want to Go survey and state, so that the user can interact in the session, and can look at possible alternatives, add his/her own alternatives, and adjust those to achieve their desired effects with the goal of stopping drinking alcohol.
<i>EditDCU_ModifyGamePlan (User Story)</i>	418	As an eEVA administrator, I would like to modify the “GamePlan” survey in the state machine so that I can improve the clarity of this section of the survey.
<i>EditDCU_GameplanOverview (User Story)</i>	419	As an administrator, I would like to edit the “Game Plan Overview” section of the DCU, so that I can congratulate the user for reaching the conclusion of the DCU as well as providing the user with an overview of the game plan in which they previously constructed.
<i>EditDCU_GameplanPopup (User Story)</i>	424	As a user, I would like the option to print the gameplan overview results so I can have a hardcopy and keep track of my progress offline.
<i>EditDCU_AddDirectionalArrowsAndStyleChanges (User Story)</i>	425	As an administrator, I would like to change the styling of all surveys in a consistent and scalable manner, add directional arrows functionality, for the purpose having user friendly content as well as a lot of reusable code.
<i>EditDCU_Resources (User Story)</i>	436	As an administrator, I would like to edit the “Resources” section of the DCU, so that I can supply the user with various resources that will be helpful in the user reaching their goals outlined by the user in previous sections of the DCU.

Pending User Stories

The following user stories have not yet been implemented. These user stories are both from this semester (eEVA Data Generation and User Results Analysis Version 2.0) and/or the prior semester (eEVA Data Generation and User Results Analysis Version 1.0) that have not yet been implemented.

Pending User Stories		
User Story Id	Mingle #	Functional Criteria
<i>The following user stories are pending from last semester (eEVA Data Generation and User Results Analysis Version 1.0)</i>		
<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>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>TabulateBACScore (User Story)</i>	189	As a 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 a 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 a 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 a 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 a 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 a user, I would like the system to tabulate my BDP score so that I know what my score is on the assessment
<i>The following user stories are pending from the current semester (eEVA Data Generation and User Results Analysis Version 2.0)</i>		
<i>RemoveScenes(User Story)</i>	335	As an administrator, I would like to be able to remove scenes so that I can

		decrease the number of scenes available to the user.
<i>AddScenes (User Story)</i>	336	As an administrator, I would like to be able to be able to add scenes so that I can increase the number of scenes available to the user.
<i>RemoveCounselors (User Story)</i>	337	As an administrator, I would like to be able to remove counselors so that I can decrease the number of counselors available to the users
<i>AddCounselors (User Story)</i>	338	As an administrator, I would like to be able to add counselors so that I can increase the number of counselors available to the user.
<i>InitialSceneSelection (User Story)</i>	339	As a user, I would like to be able to select the initial scene in which the counselor loads so that I can begin my counseling session based on my personal preference.
<i>InSessionSceneSelection (User Story)</i>	340	As a user, I would like to be able to change the scene for the counselling session while in session so that I change the scene as my preferences change
<i>SaveUserDefaultScene (User Story)</i>	341	As a user, I would like the last scene that I have chosen to be saved to my user profile so that when I return to a counseling session that scene is automatically loaded.
<i>NavbarEnvironmentAccess (User Story)</i>	342	As a user, I would like to have access to the scene selection in the Navbar so that I can quickly and intuitively access scene selections.
<i>SaveUserDefaultCounselor (User Story)</i>	345	As a user, I want my last selected counselor to be saved as my default counselor in my user profile so that when I return to the counseling session my default counselor is automatically loaded.
<i>pullUserResultVariables (User Story)</i>	362	As a user, I would like to see my user results, so that I know how I am doing within the program.

PROJECT PLAN

To complete this iteration of eEVA Data Generation and User Results Analysis Version 2.0, we used the Agile Software Development approach. Agile is a methodology that is used to guide the management and development of software engineering products. This methodology revolves around several different ideas which include the following:

- The customer is at the center
- Self-organizing teams
- User stories
- Sound initial design
- Develop only the agreed-upon functionality
- Coding standards and egoless programming
- Short working iteration
- Frequent integration
- Accompany new code with new test.

This process is further depicted in the following image.

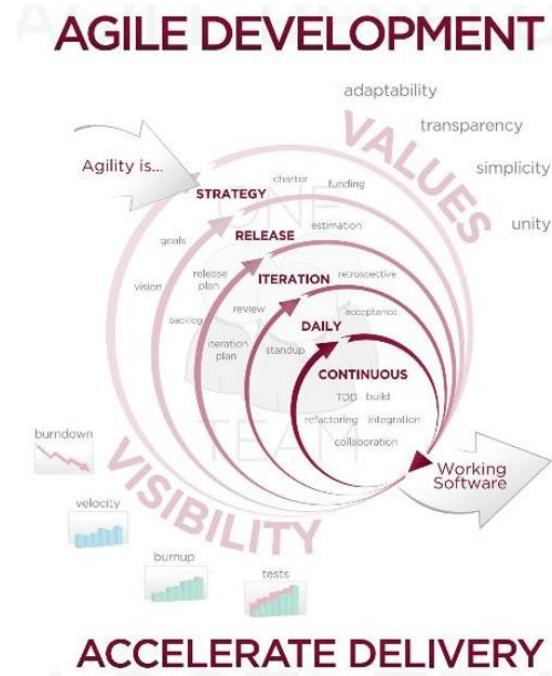


Figure 2: Agile Software Development (taken from Dr. King, T., 2016)

We organized ourselves using Scrum, an Agile method with its main focus being organization. Following the Agile method of Scrum, we held four types of meetings throughout the semester. The purpose of these meetings as well as the frequency in which these meetings were held are summarized in the following table:

Agile Scrum Meetings		
Meeting Name	Purpose of meeting	Frequency of meeting
<i>Daily scrum meeting</i>	Keep track of the progress made by each team member as well as identify and impediments that should be address at a later time	5 days a week Mon, Tue, Wed – 11:00 PM** Thurs, Fri – 1:00 PM**
<i>Sprint review meeting</i>	Meet with product owner to review what was produced by the team, the product owner either accepts or rejects the user stories that was worked on during the current sprint at this time	Biweekly at the end of each sprint: Friday – 11:30 AM
<i>Sprint planning meeting</i>	Plan the upcoming sprint with the team and product owner, at this time the product owner decides what user story will be worked on by the team and the priority of those selected user stories	Biweekly at the beginning of each sprint: Friday – 12:00 AM
<i>Sprint retrospective meeting</i>	Discuss what went well and what did not, in order to improve the process for the next sprint	Biweekly Friday – 12:30 AM

Table 1: The above table summarizes the purpose of the meetings we held that was associated with Agile's Scrum method. Included is the name of the meeting and a brief description as well as the frequency in which these meetings were held. **This is an approximate time that the meeting was held by our team. Although, we tried our best to meet at the specified time, due to conflicts with schedules all daily scrums that where not held at the specified time was rescheduled for a time later within that day. The specific times of all meetings are in the Google Drive folder or can be provided upon request.

Hardware and Software Resources

The following table list all the hardware and software that was used in the completion of eEVA Data Generation and User Results Analysis Version 2.0.

Hardware and software used to complete current iteration of eEVA (eEVA Data Generation and User Results Analysis Version 2.0)	
Hardware	Software
<ul style="list-style-type: none"> • Alienware 15 R3 <ul style="list-style-type: none"> ▪ 6th Generation Intel® Core™ i7-6700HQ (Quad-Core, 6MB Cache, up to 3.5GHz w/ Turbo Boost) ▪ 16GB DDR4 at 2667MHz (2x8GB) 	<ul style="list-style-type: none"> • 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

<ul style="list-style-type: none"> ▪ 15.6 inch FHD (1920 x 1080) IPS Anti-Glare 300-nits Display ▪ 256GB PCIe SSD (Boot) + 1TB 7200RPM SATA 6Gb/s (Storage) 	<ul style="list-style-type: none"> Results 2.0.1-signed.1-signed for Firefox • Firebug version 2.0.17 for Firefox Browser • jsPlumb 2.2.6
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The following table lists the hardware and software that is necessary for the user to access the system:

Hardware and Software Necessary for User Access (eEVA Data Generation and User Results Analysis Version 2.0)	
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, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<January 13, 2016 11:30 PM>
End Time:	<January 13, 2016 12:00 PM>
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 this sprint the members of the team worked on installation of eEVA, organization of Mingle (entering user stories into backlog and learn how to use Mingle), and learn and/or review all the programming languages that are necessary to complete the project 	

Sprint 2	
Attendees:	<Christine Lisetti, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<January 27, 2016 12:30 PM>
End Time:	<January 27, 2016 1:00 PM>
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 <InitialCounselorSelection Mingle #343> ▪ User Story <inSessionCounselor Mingle #344> 	

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

<Emmanuel Henley>

- User Story <InitialCounselorSelection Mingle #343>

<Andy Regueira>

- User Story <InSessionCounselorSelection Mingle #344>

Sprint 3

Attendees:	<Christine Lisetti, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
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Start Time:	<February 10, 2017 11:30 AM>
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End Time:	<February 10, 2017 12:00 PM>
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The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.

- User Story <initialLoadingIcon Mingle #360>
- User Story <settingCounselorNameVariable Mingle #361>
- User Story <EditDcu_RemaningExercises Mingle #369>
- User Story <EditDCU_TheGoodThingsRevisite Mingle #370>

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

<Emmanuel Henley>

- User Story <EditDcu_RemaningExercises Mingle #369>
- User Story <EditDCU_TheGoodThingsRevisite Mingle #370>

<Andy Regueira>

- User Story <initialLoadingIcon Mingle #361>
- User Story <settingCounselorNameVariable Mingle #362>

Sprint 4

Attendees:	<Christine Lisetti, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
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Start Time:	<February 24, 2017 11:30 AM>
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End Time:	<February 24, 2017 12:00 PM>
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The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.

- User Story <EditDCU_NotSoGoodThings Mingle #386>
- User Story <EditDCU_RatingProsAndCons Mingle #387>
- User Story <EditDCU_ImportanceOfYourReasons Mingle #388>
- User Story <EditDCU_GettingWhatYouWant Mingle #389>

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

<Emmanuel Henley>

- User Story <EditDCU_NotSoGoodThings Mingle #386>
- User Story <EditDCU_RatingProsAndCons Mingle #387>

<Andy Regueira>

- User Story <EditDCU_ImportanceOfYourReasons Mingle #388>
- User Story <EditDCU_GettingWhatYouWant Mingle #389>

Sprint 5

Attendees:	<Dr. Christine Lisetti, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<March 10, 2017 11:30 AM>
End Time:	<March 10, 2017 12:00 PM>

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

- User Story <EditDCU_GamePlan #411>
- User Story <EditDCU_AlternativesGetYouWhereYouWantToGo Mingle #412>

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

<Emmanuel Henley>

- User Story <EditDCU_GamePlan Mingle #411>

<Andy Regueira>

- User Story <EditDCU_AlternativesGetYouWhereYouWantToGo Mingle #412>

Sprint 6

Attendees:	<Dr. Christine Lisetti, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<March 24, 2017 11:30 AM>
End Time:	<March 24, 2017 12:00 PM>

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

- User Story <EditDCU_ModifyGamePlan Mingle #418>
- User Story <EditDCU_GamePlanOverview Mingle #419>
- User Story <EditDCU_GamePlanPopUp Mingle #424>
- User Story <EditDCU_AddDirectionalArrows Mingle #425>

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

<Emmanuel Henley>

- User Story <EditDCU_ModifyGamePlan Mingle #418>
- User Story <EditDCU_GamePlanOverview Mingle #419>

<Andy Regueira>

- User Story <EditDCU_GamePlanPopUp Mingle #424>
- User Story <EditDCU_AddDirectionalArrows Mingle #425>

Sprint 7

Attendees:	<Christine Lisetti, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<April 7, 2017 11:30 AM>
End Time:	<April 7, 2017 12:00 PM>

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

- User Story <CompleteFinalDocument>
- User Story <CompletePoster>

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

<Emmanuel Henley>

- User Story <CompleteFinalDocument>
- User Story <CompletePoster>

<Andy Regueira>

- User Story <CompleteFinalDocument>
- User Story <CompletePoster>

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.

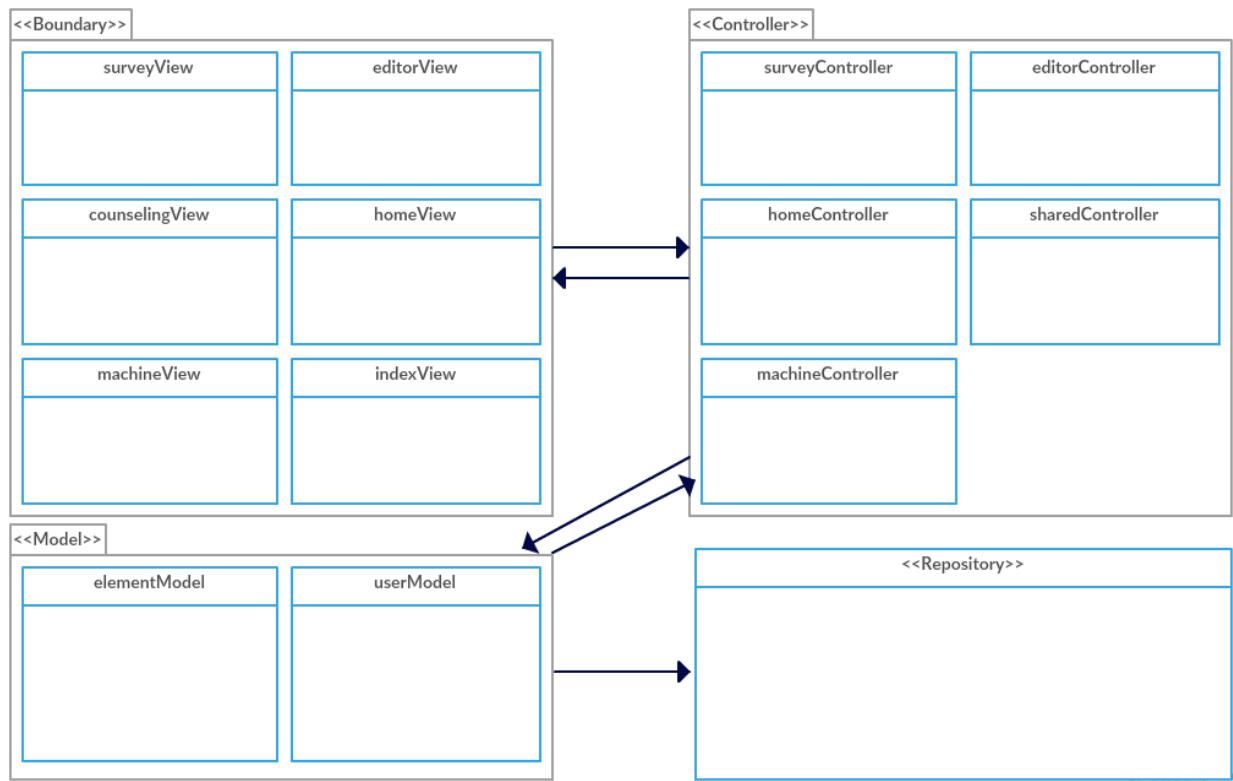


Figure 3: Class Diagram-Min-View

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.

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

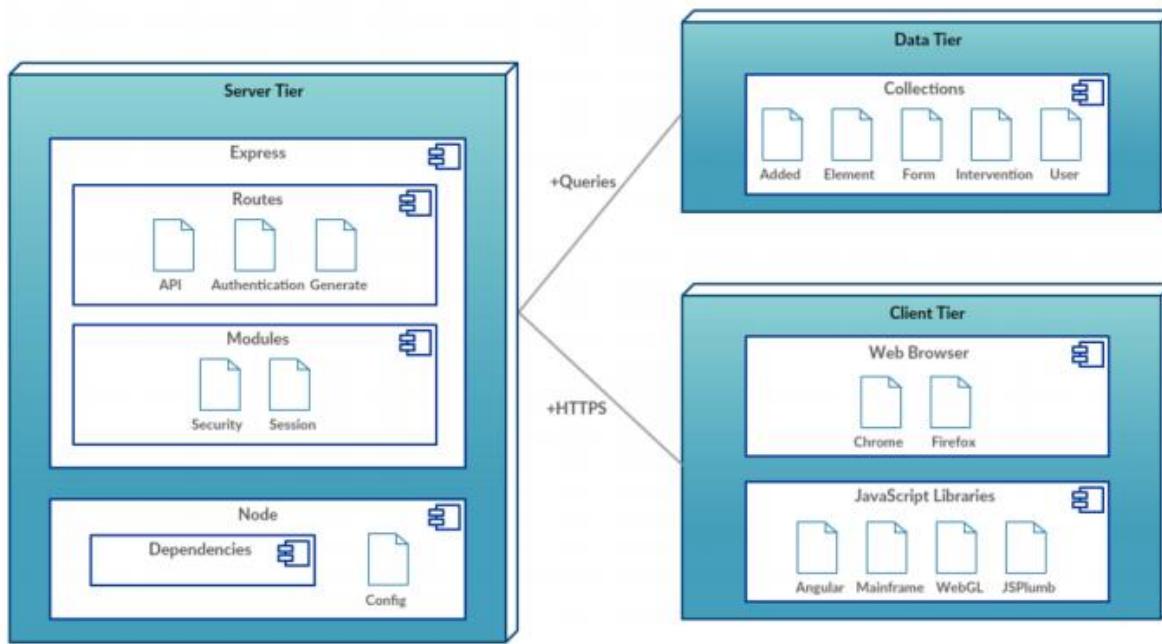


Figure 4: eEVA Deployment Diagram

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

This section of the document consists of all testing that was done with regards to this project. Utilizing the requirements that were designated in the eEVA's user stories, a non-empty test set was constructed prior to testing. The program was executed and then test cases were established using Mocha and Selenium. Both unit test as well as integration tests were performed. For all the implemented user stories.

Unit Test

Test ID: eEVA_UT_InitialCounselorSelection_01 (Sunny Day)	
Purpose	Test that when you load the initial counselor selection page the sentence “Please choose your initial counselor at this time.” is present at the top of the initial counselor selection page.
Precondition	The user has navigated to the website via the user’s browser, the user has successfully logged in, the user has clicked on the “Counseling” tab located in the user navbar
Expected Result	The initial counselor selection page the sentence “Please choose your initial counselor at this time.” is present at the top of the initial counselor selection page
Actual Result	The initial counselor selection page the sentence “Please choose your initial counselor at this time.” is present at the top of the initial counselor selection page
Status	PASSED

Test ID: eEVA_UT_InitialCounselorSelection_02 (Rainy Day)	
Purpose	Test that when you load the users “Progress” menu (found in the user’s navbar) the sentence “Please choose your initial counselor at this time.” is NOT present on the page.
Precondition	The user has navigated to the website via the user’s browser, the user has successfully logged in, the user has clicked on the “Counseling” tab located in the user navbar, the user has made a selection by clicking on the counselor’s thumbnail, the user has clicked next, the user has clicked “Progress” from the user navbar
Expected Result	The sentence, “Please choose your initial counselor at this time.”, is NOT present on the page
Actual Result	The sentence, “Please choose your initial counselor at this time.”, is NOT present on the page
Status	PASSED

Test ID: eEVA_UT_InSessionCounselorSelection_03 (Sunny Day)	
Purpose	To test that the counselor’s menu slides from the right of the screen and the entire window view displays properly as a result.

Precondition	The user must have successfully logged in, and loaded the counseling view after choosing an initial counselor.
Expected Result	The in session selection menu hidden to the right of the screen, slides 50% to the left and splits the counseling view in half, while preserving the latter's design and functionality.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_InSessionCounselorSelection_04 (Rainy Day)	
Purpose	To test that the selection menu is able to slide back and hide in a smooth transition, also keeping the original counseling view's design.
Precondition	The user must have gone through the Test Case 1 preconditions and clicked the "My Counselor" link to show the Counselors Selection Menu.
Expected Result	The menu and the left view slide to the right smoothly, ending in the selection menu being hidden and the left view going back to its default full page view.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_InitialLoadingIcon_05 (Sunny Day)	
Purpose	To test loading icon is displayed on the screen.
Precondition	User must have logged in and selected a counselor.
Expected Result	Upon clicking Next button, the loading icon appears on the middle of the screen.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_InitialLoadingIcon_06 (Rainy Day)	
Purpose	To test loading icon won't show if no counselor is selected.
Precondition	User must have logged in and not selected a counselor.
Expected Result	Upon clicking Next button, nothing will happen and no loading icon will be displayed.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_DifferentCounselorNames_07 (Sunny Day)	
Purpose	To test that the counselors change names based on user selection.
Precondition	The user must have successfully logged in, loaded the counseling view after choosing an initial counselor and having clicked My Counselor to go to the in session selection menu.
Expected Result	The counseling view should now be reloaded with the chosen counselor displaying the name as Peter.

Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_DifferentCounselorNames_08 (Rainy Day)	
Purpose	To test that loading a character doesn't load with an incorrect name.
Precondition	The user must have successfully logged in, loaded the counseling view after choosing an initial counselor and having clicked My Counselor to go to the in session selection menu.
Expected Result	The page is loaded with the counselor Sholanda displaying Sholanda as the greetings message name and not any other counselor name.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_EditDCU_RemainingExercises_09 (Sunny Day)	
Purpose	Tests that the eEVA administrator can edit the feedbackList element that is in the survey editor and add the text "There are 3 elements in the last section of the check-up, these sections are as follows: Reconsidering the "good things" and the "not so good" things about your drinking.", that will load when the user is at the "The Remaining Exercises" section of the session.
Precondition	The eEVA administrator has added the feedbacklist element in the "Remaining Exercises" form, the administrator then adds the text in the feedbackList, then the administrator creates a new state using the "Remaining Exercises" form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the "The Remaining Exercises" page
Expected Result	"The Remaining Exercises" page loads and the text "There are 3 elements in the last section of the check-up, these sections are as follows: Reconsidering the "good things" and the "not so good" things about your drinking." appears
Actual Result	"The Remaining Exercises" page loads and the text "There are 3 elements in the last section of the check-up, these sections are as follows: Reconsidering the "good things" and the "not so good" things about your drinking." appears
Status	PASSED

Test ID: eEVA_UT_EditDCU_RemainingExercises_10 (Rainy Day)	
Purpose	Tests that the eEVA administrator can edit the feedbackList element that is in the survey editor and the "The Remaining Exercises" page loads and the text "There are 3 elements in the last section of the check-up, these sections are as follows: Reconsidering the "good things" and the "not so good" things about your drinking." appears", will NOT load when the user is at the "The Remaining Exercises" section of the session.

Precondition	The eEVA administrator has added the feedbacklist element in the “The Remaining Exercises” form, the administrator then adds appropriate text in the feedbackList, then the administrator creates a new state using the “The Remaining Exercises” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “The Remaining Exercises” page
Expected Result	The text, “There are 3 elements in the last section of the check-up, these sections are as follows: Reconsidering the "good things" and the "not so good" things about your drinking.”, is NOT present on the page
Actual Result	The text, “There are 3 elements in the last section of the check-up, these sections are as follows: Reconsidering the "good things" and the "not so good" things about your drinking.”, is NOT present on the page
Status	PASSED

Test ID: eEVA_UT_EditDCU_TheGoodThingsRevisited_11 (Sunny Day)	
Purpose	Tests that the eEVA administrator can edit the feedbackList element that is in the survey editor and add the text “Here's the list of things you like about drinking that you entered earlier.”, that will load when the user is at the “The Good Things Revisited” section of the session.
Precondition	The eEVA administrator has added the feedbacklist element in the “Good Things Revisited” form, the administrator then adds the text in the feedbackList, then the administrator creates a new state using the “Good Things Revisited” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “The Good Things Revisited” page
Expected Result	“The Good Things Revisited” page loads and the text “Here's the list of things you like about your drinking that you entered earlier.” appears
Actual Result	“The Good Things Revisited” page loads and the text “Here's the list of things you like about your drinking that you entered earlier.” appears
Status	PASSED

Test ID: eEVA_UT_EditDCU_TheGoodThingsRevisited_12 (Rainy Day)	
Purpose	Tests that the eEVA administrator can edit the feedbackList element that is in the survey editor and text “Here's the list of things you like about drinking that you entered earlier.”, will not load when the user is at the “The Good Things Revisited” section of the session.
Precondition	The eEVA administrator has added the feedbacklist element in the “Good Things Revisited” form, the administrator then adds appropriate text in the feedbackList, then the administrator creates a new state using the “Good Things Revisited” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “The Good Things Revisited” page
Expected Result	The text, “Here's the list of things you like about drinking that you entered earlier.”, is NOT present on the page

Actual Result	The text, “Here's the list of things you like about drinking that you entered earlier.”, is NOT present on the page
Status	PASSED

Test ID: eEVA_UT_EditDCU_NotSoGoodThingsRevisited_13 (Sunny Day)	
Purpose	Tests that the eEVA administrator can edit the feedbackList element that is in the survey editor and add the text “Here's the list of things you don't like about drinking that you entered earlier.”, that will load when the user is at the beginning of “The Not So Good Things Revisited” section of the session.
Precondition	The eEVA administrator has added the feedbacklist element in the “Not So Good Things Revisited” form, the administrator then adds the text in the feedbackList, then the administrator creates a new state using the “Not So Good Things Revisited” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “Not So Good Things Revisited” page
Expected Result	“The Not So Good Things Revisited” page loads and the text “Here's the list of things you don't like about drinking that you entered earlier.” appears
Actual Result	“The Not So Good Things Revisited” page loads and the text “Here's the list of things you don't like about drinking that you entered earlier.” appears
Status	PASSED

Test ID: eEVA_UT_EditDCU_NotSoGoodThingsRevisited_14 (Rainy Day)	
Purpose	Tests that the eEVA administrator can edit the content element in “The Not So Good Things Revisited” survey by adding the text, “Here's the list of things you don't like about drinking that you entered earlier.”, so when the user is at the “The Not So Good Things Revisited” section of the session, the text entered into the content element will NOT load.
Precondition	The eEVA administrator has added the content element in the “The Not So Good Things Revisited” form, the administrator then adds appropriate text in the content field, then the administrator creates a new state using the “The Not So Good Things Revisited” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “The Not So Good Things Revisited” page
Expected Result	The text, “Here's the list of things you don't like about drinking that you entered earlier.”, is NOT present on the page
Actual Result	The text, “Here's the list of things you don't like about drinking that you entered earlier.”, is NOT present on the page
Status	PASSED

Test ID: eEVA_UT_EditDCU_RatingProsAndCons_15 (Sunny Day)

Purpose	Tests that the eEVA administrator can edit the feedbackList element that is in the survey editor and add the text “Now let’s think about them a bit more.”, that will load when the user is at the beginning of the “Rating Your Pros and Cons” section of the DCU.
Precondition	The eEVA administrator has added the feedbacklist element in the “RatingProsAndCons” form, the administrator then adds the text in the feedbackList, then the administrator creates a new state using the “RatingProsAndCons” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is at the “Rating Your Pros and Cons” sectioin of the DCU
Expected Result	“Rating Your Pros and Cons” section loads and the text “Now let’s think about them a bit more.” appears
Actual Result	“Rating Your Pros and Cons” section loads and the text “Now let’s think about them a bit more.” appears
Status	PASSED

Test ID: eEVA_UT_EditDCU_RatingProsAndCons_16 (Rainy Day)	
Purpose	Tests that the eEVA administrator can edit the content element in “RatingProsAndCons” survey by adding the text, “Now let’s think about them a bit more.”, so when the user is at the “Rating Your Pros And Cons” section of the DCU, the text entered into the content element will NOT load.
Precondition	The eEVA administrator has added the content element in the “RatingProsAndCons” form, the administrator then adds appropriate text in the content field, then the administrator creates a new state using the “RatingProsAndCons” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “Rating Your Pros And Cons” section of the DCU
Expected Result	The text, “Now let’s think about them a bit more.”, is NOT present on the page
Actual Result	The text, “Now let’s think about them a bit more.”, is NOT present on the page
Status	PASSED

Test ID: eEVA_UT_EditDCU_ImportanceOfYourReasons_17 (Sunny Day)	
Purpose	To test the administrator can add feedback list text to the Importance Of Your Reasons survey in the Survey Editor
Precondition	The administrator is logged in and has already created the TheImportanceOfYourReasons form in the Survey Editor. The administrator must have also clicked add feedback list button to add text description.
Expected Result	When loading the survey in the counseling view, the Hue hue message is displayed and spoken by the counselor.
Actual Result	Actual result was found to be the expected result.

Status	PASSED
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Test ID: eEVA_UT_EditDCU_ImportanceOfYourReasons_18 (Rainy Day)	
Purpose	To test that adding text information on content field will not load the survey successfully.
Precondition	The administrator is logged in and has already created the TheImportanceOfYourReasons form in the Survey Editor. The administrator must have also clicked add feedback list button to add text description.
Expected Result	When loading the survey in the counseling view, the survey will not be displayed because there is no valid html content in the content field.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_EditDCU_GettingWhatYouWant_19 (Sunny Day)	
Purpose	To test the administrator can add feedback list text to the Getting What You Want survey in the Survey Editor
Precondition	The administrator is logged in and has already created the GettingWhatYouWant form in the Survey Editor. The administrator must have also clicked add feedback list button to add text description.
Expected Result	When loading the survey in the counseling view, the Hello World message is displayed and spoken by the counselor.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_EditDCU_GettingWhatYouWant_20 (Rainy Day)	
Purpose	To test that adding text information on content field will not load the survey successfully.
Precondition	The administrator must go through Test Case 1 Preconditions and have added a content field by clicking Add Content button.
Expected Result	When loading the survey in the counseling view, the survey will not be displayed because there is no valid html content in the content field.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_EditDCU_GamePlan_21 (Sunny Day)	
Purpose	Tests that the eEVA administrator can edit the content element and add the text “Game Plan” in a header that will load at the top of the “Game Plan” page upon loading.
Precondition	The eEVA administrator has added the “Content” element in the “GamePlan” form, the administrator then adds the text “Game Plan” in a html header element within the “Content” element in the survey editor, then

	the administrator creates a new state using the “GamePlan” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “Game Plan” page
Expected Result	“Game Plan” page loads and the text “Game Plan” appears at the top of the page as a header.
Actual Result	“Game Plan” page loads and the text “Game Plan” appears at the top of the page as a header.
Status	PASSED

Test ID: eEVA_UT_EditDCU_GamePlan_22 (Rainy Day)	
Purpose	Tests that the eEVA administrator can edit a “Feedback” element and add the text “Game Plan” in a html element and that the entered text will NOT load at the top of the “Game Plan” page upon loading.
Precondition	The eEVA administrator has added the “Feedback” element in the “GamePlan” form, the administrator then adds the text “Game Plan” in a html header element within the “Feedback” element in the survey editor, then the administrator creates a new state using the “GamePlan” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “Game Plan” page
Expected Result	“Game Plan” page loads and the text “Game Plan” DOES NOT appear at the top of the page as a header.
Actual Result	“Game Plan” page loads and the text “Game Plan” DOES NOT appear at the top of the page as a header.
Status	PASSED

Test ID: eEVA_UT_EditDCU_AlternativesToGetYouWhereYouWantToGo_23 (Sunny Day)	
Purpose	To test the administrator can add feedback list text to the Alternatives To Get Where You Want To Go survey in the Survey Editor
Precondition	The administrator is logged in and has already created the Alternatives form in the Survey Editor. The administrator must have also clicked add feedback list button to add text description.
Expected Result	When loading the survey in the counseling view, the My name is what? message is displayed and spoken by the counselor.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_EditDCU_AlternativesToGetYouWhereYouWantToGo_24 (Rainy Day)	
Purpose	To test that adding text information on content field will not load the survey successfully.

Precondition	The administrator is logged in and has already created the Alternatives form in the Survey Editor. The administrator must have also clicked add feedback list button to add text description.
Expected Result	When loading the survey in the counseling view, the survey will not be displayed because there is no valid html content in the content field.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_EditDCU_ModifyGamePlan_25 (Sunny Day)	
Purpose	Tests that the eEVA administrator can edit the content element and add the text “Game Plan” in a header that will load at the top of the “Game Plan” page upon loading.
Precondition	The eEVA administrator has added the “Content” element in the “GamePlanModified” form, the administrator then adds the text “Game Plan” in a html header element within the “Content” element in the survey editor, then the administrator creates a new state using the “GamePlanModified” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “Game Plan” page
Expected Result	“Game Plan” page loads and the text “Game Plan” appears at the top of the page as a header.
Actual Result	“Game Plan” page loaded and the text “Game Plan” appeared at the top of the page as a header. Status: Passed
Status	PASSED

Test ID: eEVA_UT_EditDCU_ModifyGamePlan_26 (Rainy Day)	
Purpose	Tests that the eEVA administrator can edit a “FeedbackList” element and add the text “Game Plan” in a html element and that the entered text will NOT load at the top of the “Game Plan” page upon loading.
Precondition	The eEVA administrator has added the “FeedbackList” element in the “GamePlanModified” form, the administrator then adds the text “Game Plan” in a html header element within the “FeedbackList” element in the survey editor, then the administrator creates a new state using the “GamePlanModified” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “Resources” page
Expected Result	“Game Plan” page loads and the text “Game Plan” DOES NOT appear at the top of the page as a header.
Actual Result	“Game Plan” page loaded and the text “Game Plan” DID NOT appear at the top of the page as a header.
Status	PASSED

Test ID: eEVA_UT_EditDCU_GamePlanOverview_27 (Sunny Day)	
Purpose	Tests that the eEVA administrator can edit the content element and add the text “Your Game Plan Overview” in a header that will load at the top of the user’s game plan on “Game Plan Overview” page upon loading.
Precondition	The eEVA administrator has added the “Content” element in the “GamePlanOverview” form, the administrator then adds the text “Your Game Plan Overview” in a html header element within the “Content” element in the survey editor, then the administrator creates a new state using the “GamePlanOverview” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “Game Plan Overview” page
Expected Result	“Game Plan Overview” page loads and the text “Your Game Plan Overview” appears as a header above the user’s game plan summary.
Actual Result	“Game Plan Overview” page loaded and the text “Your Game Plan Overview” appeared as a header above the user’s game plan summary.
Status	PASSED

Test ID: eEVA_UT_EditDCU_GamePlanOverview_28 (Rainy Day)	
Purpose	Tests that the eEVA administrator can edit a “FeedbackList” element and add the text “Your Game Plan Overview” in a html element and that the entered text will NOT load above the user’s game plan summary as a html header on the “Game Plan Overview” page.
Precondition	The eEVA administrator has added the “FeedbackList” element in the “GamePlanOverview” form, the administrator then adds the text “Your Game Plan Overview” in a html header element within the “FeedbackList” element in the survey editor, then the administrator creates a new state using the “GamePlanOverview” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “Game Plan Overview” page
Expected Result	“Game Plan Overview” page loads and the text “Your Game Plan Overview” DOES NOT appear above the user’s game plan summary.
Actual Result	“Game Plan Overview” page loaded and the text “Your Game Plan Overview” DID NOT appear above the user’s game plan summary.
Status	PASSED

Test ID: eEVA_UT_EditDCU_GameplanPopup_29 (Sunny Day)	
Purpose	To test the user can print the overview displayed on the survey.
Precondition	The user is logged in and on the Gameplan Overview survey view.
Expected Result	A new window is opened and the content of the currently showing survey is displayed.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_EditDCU_GameplanPopup_30 (Rainy Day)	
Purpose	To test the user can't print overview content if he/she decides to click on mycounselor link.
Precondition	The user is logged in and on the Gameplan Overview survey view.
Expected Result	The in session menu appears and the print preview is not displayed.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_EditDCU_AddDirectionalArrowsAndStyleChanges_31 (Sunny Day)	
Purpose	To test the user can highlight an item upon clicking it.
Precondition	The user is logged in and on the Getting What You Want survey.
Expected Result	The background of the item should become green and its font white.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_EditDCU_AddDirectionalArrowsAndStyleChanges_32 (Rainy Day)	
Purpose	To test the user cannot move an item to the right list by clicking the move left arrow.
Precondition	The user is logged in and on the Getting What You Want survey.
Expected Result	Nothing happens
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_UT_EditDCU_Resources_33 (Sunny Day)	
Purpose	Tests that the eEVA administrator can edit the content element and add the text “Resources” in a header that will load at the top of the “Resources” page upon loading.
Precondition	The eEVA administrator has added the “Content” element in the “Resources” form, the administrator then adds the text “Resources” in a html header element within the “Content” element in the survey editor, then the administrator creates a new state using the “Resources” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “Resources” page
Expected Result	“Resources” page loads and the text “Resources” appears at the top of the page as a header.
Actual Result	“Resources” page loads and the text “Resources” appears at the top of the page as a header.
Status	PASSED

Test ID: eEVA_UT_EditDCU_Resources_34 (Rainy Day)

Purpose	Tests that the eEVA administrator can edit a “FeedbackList” element and add the text “Resources” in a html header and that the entered text will NOT load at the top of the “Resources” page upon loading.
Precondition	The eEVA administrator has added the “FeedbackList” element in the “Resources” form, the administrator then adds the text “Resources” in a html header within the “FeedbackList” element in the survey editor, then the administrator creates a new state using the “Resources” form, the administrator adds the newly created state to the state-machine (in correct location), the eEVA user is on the “Resources” page
Expected Result	“Resources” page loads and the text “Resources” DOES NOT appear at the top of the page as a header.
Actual Result	“Resources” page loads and the text “Resources” DID NOT appear at the top of the page as a header.
Status	PASSED

Integration Test

Test ID: eEVA_IT_InitialCounselorSelection_01 (Sunny Day)	
Purpose	To test that once the user clicks the “Next” button on the initial counselor selection page, the selected counselor will load and the counseling session will begin with a brief introduction.
Precondition	The user must have logged on, then from the current welcome page, the user has clicked the “Counseling” tab located in the navbar, the user has made a selection, and lastly the user has clicked next
Expected Result	The counseling session loads with the user’s selected counselor
Actual Result	The counseling session loaded with the user’s selected counselor
Status	PASSED

Test ID: eEVA_IT_InitialCounselorSelection_02 (Rainy Day)	
Purpose	To test that when the user clicks a counselor thumbnail on the counselor selection page, the counseling session does NOT begin, i.e., the page does not redirect and the user is kept on the initial counselor selection menu page.
Precondition	The user must have logged on, then from the current welcome page, the user has clicked counseling and then has made a selection, lastly the user must click next
Expected Result	The homepage does not load, but the counseling session loads with the user’s selected counselor
Actual Result	The homepage does not load, but the counseling session loads with the user’s selected counselor
Status	PASSED

Test ID: eEVA_IT_InSessionCounselorSelection_03 (Sunny Day)	
Purpose	To test that upon having access to the selection menu, the user is able to select any available counselors and load those on the current window.
Precondition	The user must have successfully logged in, and loaded the counseling view after choosing an initial counselor, and clicked the "My Counselor" link to show the Counselors Selection Menu.
Expected Result	The window will now load a new URL specific to the chosen counselor on the currently open tab and window.
Actual Result	Chosen character was loaded as expected.
Status	PASSED

Test ID: eEVA_IT_InSessionCounselorSelection_04 (Rainy Day)	
Purpose	To test the in session menu, does not affect the element panel answers given on the left side view where all of the page's functionality resides.
Precondition	The user must have successfully logged in, and loaded the counseling view after choosing an initial counselor, and clicked the "My Counselor" link to show the Counselors Selection Menu.
Expected Result	The menu which is in the right half of the screen remains fully responsive, while the left view interacting with the user proceeds to work as normal with the counselor processing the user's answers.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_InitialLoadingIcon_05 (Sunny Day)	
Purpose	To test the loading screen waits until the counseling view has loaded to make a transition.
Precondition	User must have logged in and selected a counselor.
Expected Result	The counseling view is displayed when the unity scene has finished loading.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_InitialLoadingIcon_06 (Rainy Day)	
Purpose	To test the loading screen fails to make transition if unity fails to load.
Precondition	User must have logged in and selected a counselor.
Expected Result	The counseling view is not displayed and the loading screen gets caught in an infinite loop, before displaying an error message.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_DifferentCounselorNames_07 (Sunny Day)	
Purpose	To test changing counselor names and loading them, not only displays the assigned name but also is able to speak it.

Precondition	The user must have successfully logged in, loaded the counseling view after choosing an initial counselor and having clicked My Counselor to go to the in session selection menu.
Expected Result	The page is loaded with the counselor Sholanda displaying Sholanda as the greetings message name and speaking the same message soon after.
Actual Result	Chosen character was successfully loaded and able to speak its own name.
Status	PASSED

Test ID: eEVA_IT_DifferentCounselorNames_08 (Rainy Day)	
Purpose	To test selecting the same currently loaded character doesn't affect the functionality and maintains its same name.
Precondition	The user must have successfully logged in, loaded the counseling view after choosing an initial counselor and having clicked My Counselor to go to the in session selection menu.
Expected Result	The counseling view reloads and displays "Amy" as part of the greetings message and soon after the counselor speaks the same message.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_RemainingExercises_09 (Sunny Day)	
Purpose	To test that once the user clicks "Next" button on "The Remaining Exercises" page, the next section (The Good Things Revisited) loads.
Precondition	The user must have logged on, and is currently on "The Remaining Exercises" page of the intervention
Expected Result	When the user clicks the "Next" button, "The Good Things Revisited" section loads
Actual Result	When the user clicked the "Next" button, "The Good Things Revisited" section loads
Status	PASSED

Test ID: eEVA_IT_EditDCU_RemainingExercises_10 (Rainy Day)	
Purpose	To test that once the user clicks "My Counselor" tab in the menu, while on "The Remaining Exercises" page, the next section (The Good Things Revisited) DOES NOT load.
Precondition	The user must have logged on, and is currently on "The Remaining Exercises" page of the intervention
Expected Result	When the "My Counselor" tab in the menu is clicked the next section DOES NOT load and remains on "The Remaining Exercises" page
Actual Result	When the "My Counselor" tab in the menu is clicked the next section DOES NOT load and remains on "The Remaining Exercises" page
Status	PASSED

Test ID: eEVA_IT_EditDCU_TheGoodThingsRevisited_11 (Sunny Day)	
Purpose	To test that once the user clicks an item in “The Good Things List”, that item will move from “The Good Things List” to the “What I Like About Drinking” list.
Precondition	The user must have logged on, and is currently on “The Good Things Revisited” page of the intervention
Expected Result	The item that is clicked in “The Good Things List” is moved to the “What I Like About Drinking” list and is no longer in “The Good Things List”
Actual Result	The item that is clicked in “The Good Things List” is moved to the “What I Like About Drinking” list and is no longer in “The Good Things List”
Status	PASSED

Test ID: eEVA_IT_EditDCU_TheGoodThingsRevisited_12 (Rainy Day)	
Purpose	To test that when the user clicks the “Add” button, all items that are in “The Good Things List” remains in “The Good Things List” (i.e., when the user clicks the “Add” button, this action does not delete any content from “The Good Things List”).
Precondition	The user must have logged on, and is currently on “The Good Things Revisited” page of the intervention
Expected Result	When the “Add” button is clicked all items in “The Good Things List” remain in “The Good Things List”
Actual Result	When the “Add” button is clicked all items in “The Good Things List” remain in “The Good Things List”
Status	PASSED

Test ID: eEVA_IT_EditDCU_NotSoGoodThingsRevisited_13 (Sunny Day)	
Purpose	To test that once the user clicks “Next” button on “The Not So Good Things Revisited” page, the next section (Rating Your Pros and Cons) loads.
Precondition	The user must have logged on, and is currently on “The Not So Good Things Revisited” page of the intervention
Expected Result	When the user clicks the “Next” button, the “Rating Your Pros and Cons” section loads
Actual Result	When the user clicked the “Next” button, the “Rating Your Pros and Cons” section loaded
Status	PASSED

Test ID: eEVA_IT_EditDCU_NotSoGoodThingsRevisited_14 (Rainy Day)	
Purpose	To test that once the user clicks the “My Progress” tab in the menu, while on “The Not So Good Things Revisited” page, the next section (Rating Your Pros and Cons) DOES NOT load.
Precondition	The user must have logged on, and is currently on “The Not So Good Things Revisited” page of the intervention

Expected Result	When the “My Progress” tab in the menu is clicked, the next section DOES NOT load and remains on “The Remaining Exercises” page
Actual Result	When the “My Progress” tab in the menu is clicked, the next section DOES NOT load and remains on “The Remaining Exercises” page
Status	PASSED

Test ID: eEVA_IT_EditDCU_RatingProsAndCons_15 (Sunny Day)	
Purpose	To test that once the user clicks “Next” button in “The Not So Good Things Revisited” section of the DCU, the next section (Rating Your Pros and Cons) loads.
Precondition	The user must have logged on, and is currently on “The Not So Good Things Revisited” page of the intervention
Expected Result	When the user clicks the “Next” button, the “Rating Your Pros and Cons” section loads
Actual Result	When the user clicks the “Next” button, the “Rating Your Pros and Cons” section loads
Status	PASSED

Test ID: eEVA_IT_EditDCU_RatingProsAndCons_16 (Rainy Day)	
Purpose	To test that once the user clicks the “My Counselor” tab in the menu, while on “The Not So Good Things Revisited” page, the next section (Rating Your Pros and Cons) DOES NOT load.
Precondition	The user must have logged on, and is currently on “The Not So Good Things Revisited” page of the intervention
Expected Result	When the “My Counselor” tab in the menu is clicked, the next section DOES NOT load and remains on “The Remaining Exercises” page
Actual Result	When the “My Counselor” tab in the menu is clicked, the next section DOES NOT load and remains on “The Remaining Exercises” page
Status	PASSED

Test ID: eEVA_IT_EditDCU_ImportanceOfYourReasons_17 (Sunny Day)	
Purpose	To test the user can click on link to show print friendly version.
Precondition	The user must be logged in and on the counseling view with the TheImportanceOfYourReasons survey loaded.
Expected Result	A popup window appears with the content to be printed.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_ImportanceOfYourReasons_18 (Rainy Day)	
Purpose	To test that no content will be printed if the user chooses to click logout button.

Precondition	The user must be logged in and on the counseling view with the TheImportanceOfYourReasons survey loaded.
Expected Result	User logs out and it's unable to print the survey content.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_GettingWhatYouWant_19 (Sunny Day)	
Purpose	To test the user would be able to move things from one list to another.
Precondition	The user must be logged in and on the counseling view with the GettingWhatYouWant survey loaded.
Expected Result	The clicked element in the list moves to the My Desired Effects
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_GettingWhatYouWant_20 (Rainy Day)	
Purpose	To test that if the user leaves the add text field blank and clicks the Add button, nothing happens.
Precondition	The user must be logged in and on the counseling view with the GettingWhatYouWant survey loaded.
Expected Result	Nothing happens. The malicious user is disappointed.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_GamePlan_21 (Sunny Day)	
Purpose	To test that once the user clicks the “Next” button on the “Game Plan” page, the next question loads.
Precondition	The user must have logged on, and is currently on “Game Plan” page of the intervention
Expected Result	When the user clicks the “Next” button, the next question loads
Actual Result	When the user clicks the “Next” button, the next question loads
Status	PASSED

Test ID: eEVA_IT_EditDCU_GamePlan_22 (Rainy Day)	
Purpose	To test that once the user clicks the “Save Answer” button on the “Game Plan” page of the intervention, the next question DOES NOT load.
Precondition	The user must have logged on, and is currently on “Game Plan” page of the intervention
Expected Result	When the “Save Answer” button on the “Game Plan” page of the intervention is clicked, the next question DOES NOT load and remains on current question
Actual Result	When the “Save Answer” button on the “Game Plan” page of the intervention is clicked, the next question DOES NOT load

Status	PASSED
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Test ID: eEVA_IT_EditDCU_AlternativesToGetYouWhereYouWantToGo_23 (Sunny Day)	
Purpose	To test the user would be able to move things from one list to another.
Precondition	The user must be logged in and on the counseling view with the Alternatives survey loaded.
Expected Result	The clicked element in the list moves to the My Alternatives List.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_AlternativesToGetYouWhereYouWantToGo_24 (Rainy Day)	
Purpose	To test that if the user leaves the add text field blank and clicks the Add button, nothing happens.
Precondition	The user must be logged in and on the counseling view with the Alternatives survey loaded.
Expected Result	Nothing happens. The malicious user is disappointed.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_ModifyGamePlan_25 (Sunny Day)	
Purpose	To test that once the user clicks the “Next” button on the “Game Plan” page, the next question loads on the screen.
Precondition	The user must have logged on, and is currently on “Game Plan” page of the intervention
Expected Result	When the user clicks the “Next” button on the “Game Plan” page, the next question will load
Actual Result	When the user clicked the “Next” button on the “Game Plan” page, the next question did load
Status	PASSED

Test ID: eEVA_IT_EditDCU_ModifyGamePlan_26 (Rainy Day)	
Purpose	To test that once the user clicks the “Save” button on the “Game Plan” page of the intervention, the next question DOES NOT load.
Precondition	The user must have logged on, and is currently on “Game Plan” page of the intervention
Expected Result	When the “Save” button on the “Game Plan” page of the intervention is clicked; the next question DOES NOT load
Actual Result	When the “Save” button on the “Game Plan” page of the intervention was clicked; the next question DID NOT load
Status	PASSED

Test ID: eEVA_IT_EditDCU_GamePlanOverview_27 (Sunny Day)	
Purpose	To test that once the user clicks the “ModerateDrinking.com” button on the “Game Plan Overview” page, the “ModeratingDrinking.com” website opens in a new.
Precondition	The user must have logged on, and is currently on “Game Plan Overview” page of the intervention and has clicked the “Next” button
Expected Result	When the user clicks the “Game Plan Overview” button, the “ModeratingDrinking.com” website opens in a new tab.
Actual Result	When the user clicked the “Game Plan Overview” button, the “ModeratingDrinking.com” website opened in a new tab. Status: Passed
Status	PASSED

Test ID: eEVA_IT_EditDCU_GamePlanOverview_28 (Rainy Day)	
Purpose	To test that once the user clicks the “View Resources” button on the “Game Plan Overview” page of the intervention, the “ModeratingDrinking.com” website DOES NOT open.
Precondition	The user must have logged on, and is currently on “Game Plan Overview” page of the intervention, and has clicked the “Next” button
Expected Result	When the “View Resources” button on the “Game Plan Overview” page of the intervention is clicked; the “ModerateDrinking.com” website DOES NOT open
Actual Result	When the “View Resources” button on the “Game Plan Overview” page of the intervention was clicked; the “ModerateDrinking.com” website DID NOT open
Status	PASSED

Test ID: eEVA_IT_EditDCU_GameplanPopup_29 (Sunny Day)	
Purpose	To test print button prints content from GettingWhatYouWant service.
Precondition	The user must have logged on, and is currently on “Game Plan Overview” page of the intervention.
Expected Result	The content printed is the same as the one stored in the Getting What You Want service.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_GameplanPopup_30 (Rainy Day)	
Purpose	To test the print button doesn't print if GettingWhatYouWantService fails to load.
Precondition	The user must have logged on, and is currently on “Game Plan Overview” page of the intervention.

Expected Result	Nothing happens. No content is showed and nothing can be printed.
Actual Result	Actual result was found to be the same as expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_AddDirectionalArrowsAndStyleChanges_31 (Sunny Day)	
Purpose	To test the Alternatives to Get You Where You Want to Go survey successfully fetches the My Desired Effects list data from the Getting What You Want user answers.
Precondition	The user is logged in and on the counselor selection menu and the state machine set up so it goes straight to the Alternatives survey upon loading a counselor
Expected Result	The My Desired Effects list in the Alternative Survey should have the user answers from the Getting What You Want survey.
Actual Result	Actual result was found to be the expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_AddDirectionalArrowsAndStyleChanges_32 (Rainy Day)	
Purpose	To test the Good Things Revisited right arrow won't move items to the left list from the right list.
Precondition	The user is logged in and on The Good Things Revisited survey.
Expected Result	Nothing happens.
Actual Result	Actual result was found to be expected result.
Status	PASSED

Test ID: eEVA_IT_EditDCU_Resources_33 (Sunny Day)	
Purpose	To test that once the user clicks the “All Resources” button on the “Resources” page, the “All Resources” modal opens with the text “This is the last section of the web course. You're done! Click the HOME link above to see your home page and review or re-do any exercises.” present in the popup.
Precondition	The user must have logged on, and is currently on “Resources” page of the intervention
Expected Result	When the user clicks the “All Resources” button, the “All Resources” modal opens with the text “This is the last section of the web course. You're done! Click the HOME link above to see your home page and review or re-do any exercises.” present in the popup.
Actual Result	When the user clicked the “All Resources” button, the “All Resources” modal opened with the text “This is the last section of the web course. You're done! Click the HOME link above to see your home page and review or re-do any exercises.” present in the popup.
Status	PASSED

Test ID: eEVA_IT_EditDCU_Resources_34 (Rainy Day)	
Purpose	To test that once the user clicks the “Urges and Cravings” button on the “Resources” page of the intervention, the “All Resources” modal DOES NOT open with the text “This is the last section of the web course. You're done! Click the HOME link above to see your home page and review or re-do any exercises.” present in the popup.
Precondition	The user must have logged on, and is currently on “Resources” page of the intervention
Expected Result	When the “Urges and Cravings” button on the “Resources” page of the intervention is clicked; the “All Resources” modal DOES NOT open with the text “This is the last section of the web course. You're done! Click the HOME link above to see your home page and review or re-do any exercises.” present in the popup.
Actual Result	When the “Urges and Cravings” button on the “Resources” page of the intervention was clicked; the “All Resources” modal DID NOT open with the text “This is the last section of the web course. You're done! Click the HOME link above to see your home page and review or re-do any exercises.” present in the popup.
Status	PASSED

GLOSSARY

The following terms are necessary for understanding the domain of this document and/or the eEVA 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

Integration testing: the phase in software testing in which individual software modules are combined and tested as a group. It occurs after unit testing and before validation testing.

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 a tool 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

Unit Testing: is a level of software testing where individual units/ components of a software are tested. The purpose is to validate that each unit of the software performs as designed.

Unit: the smallest testable part of software. It usually has one or a few inputs and usually a single output

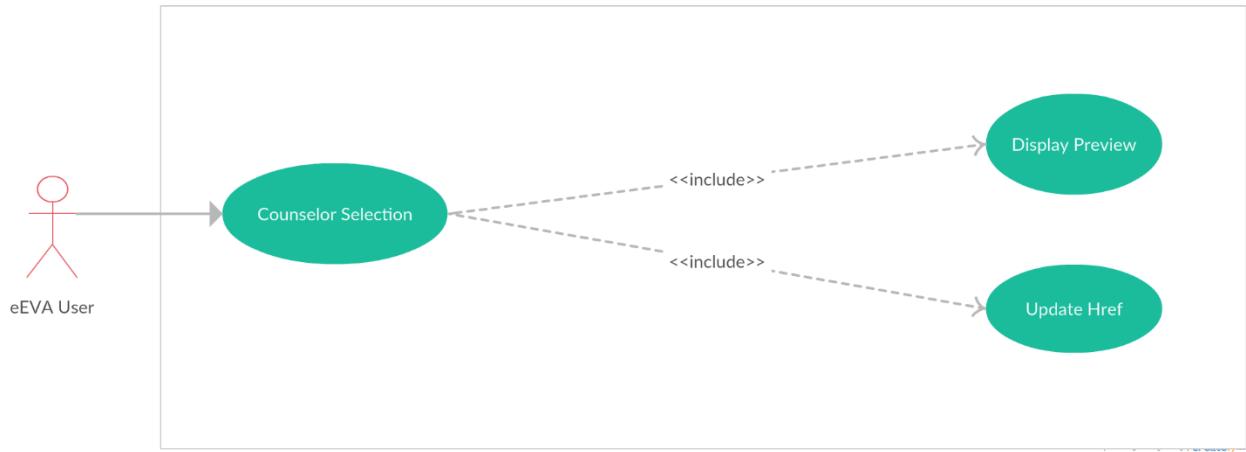
APPENDIX

Appendix A – UML Diagrams

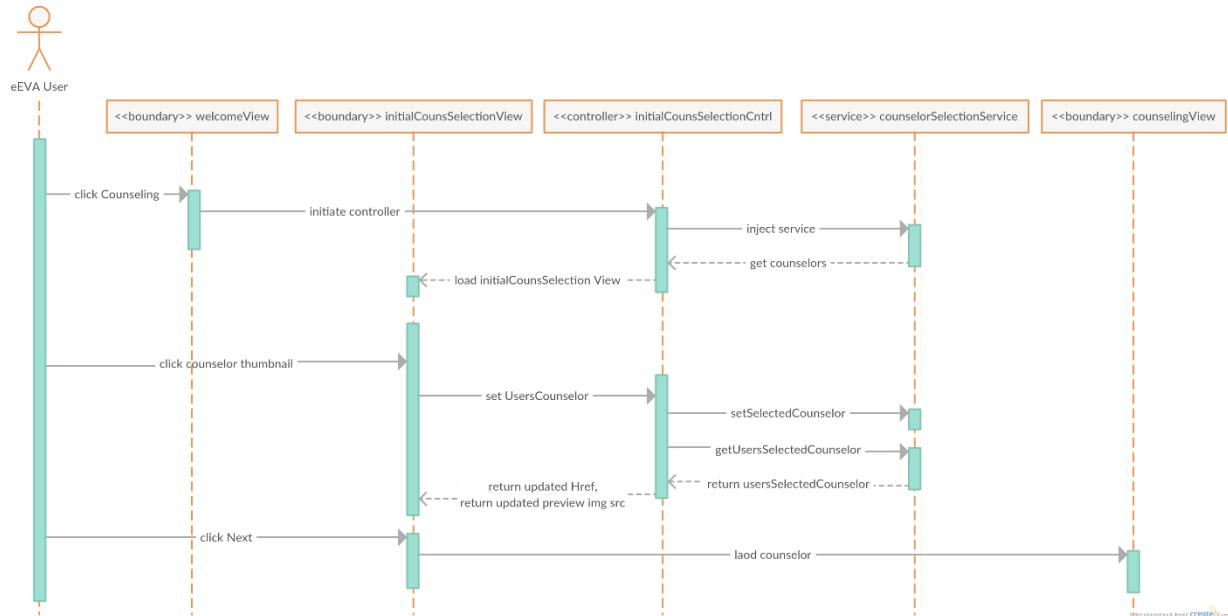
Appendix A contains all the UML diagrams produced for this iteration of eEVA Data Generation and User Results Analysis Version 2.0. This section is organized by user story. Each user story has an associated use case diagram, sequence diagram, and class diagram.

InitialCounselorSelection (Mingle #343)

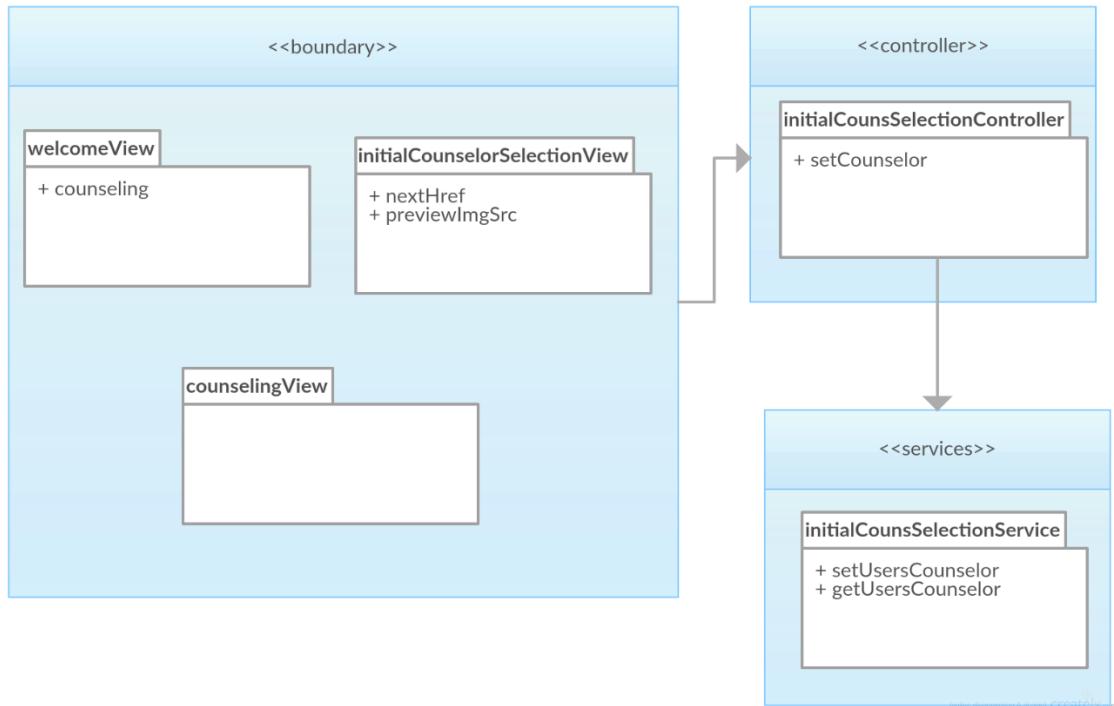
Use Case Diagram (#343)



Sequence Diagram (#343)

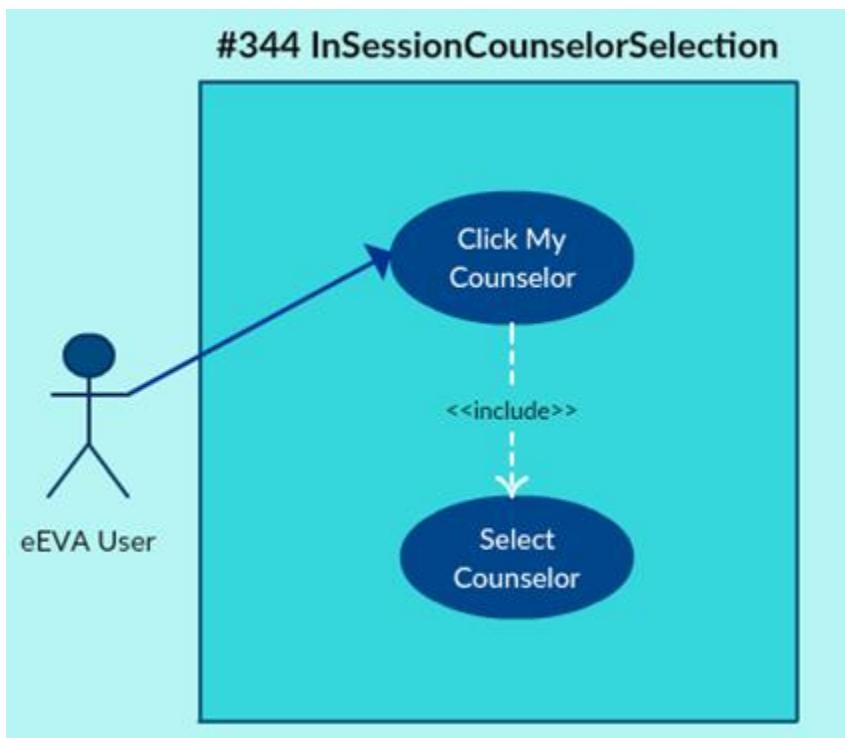


Class Diagram (#343)

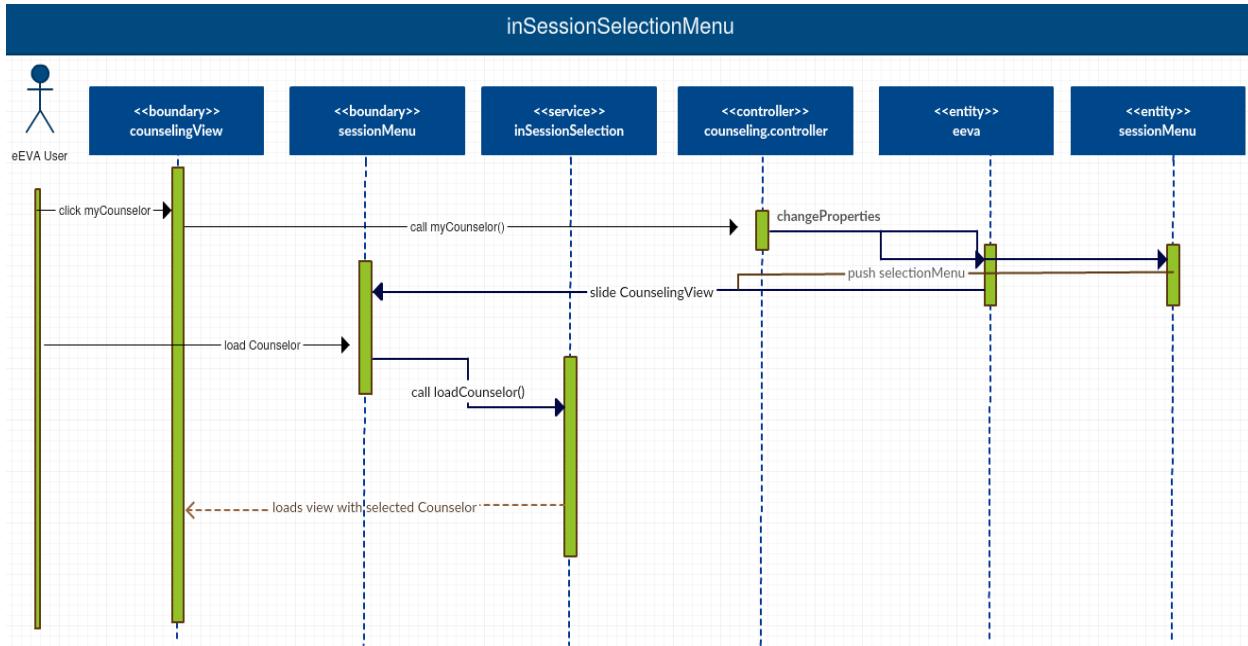


User Story (Mingle #344)

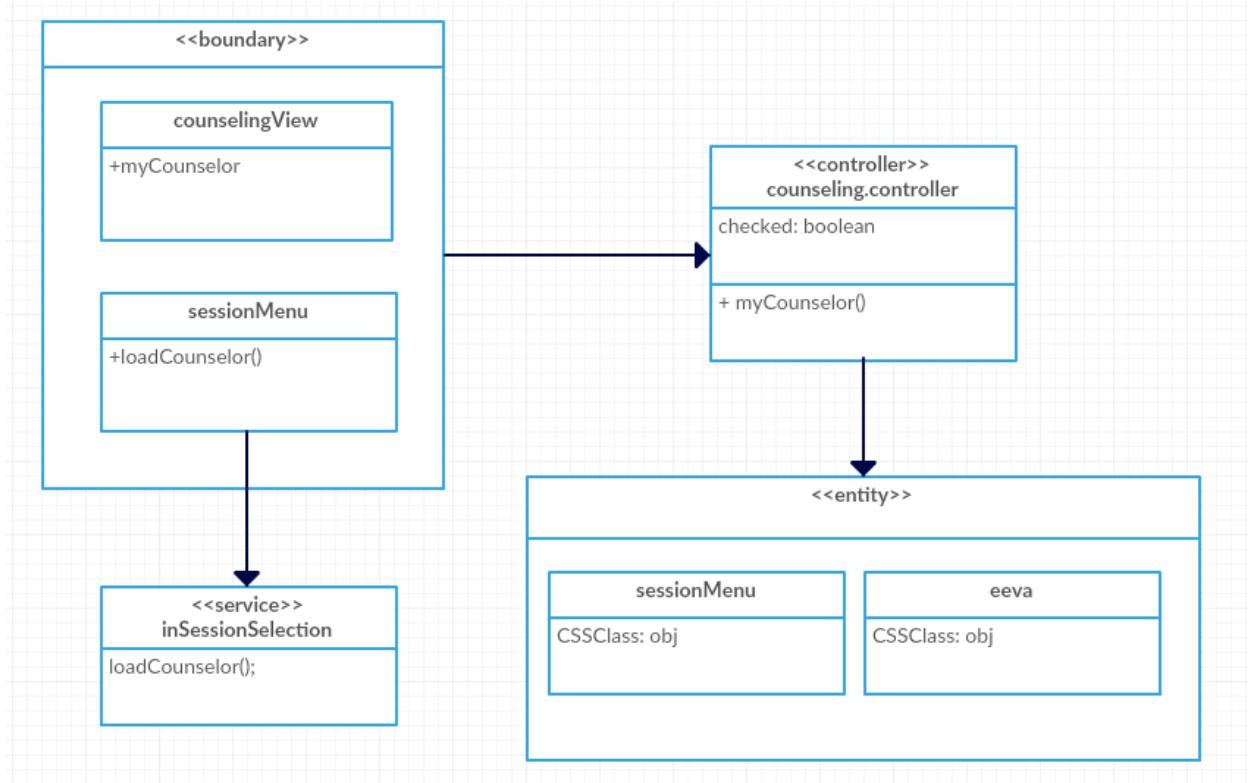
Use Case Diagram (#344)



Sequence Diagram (#344)

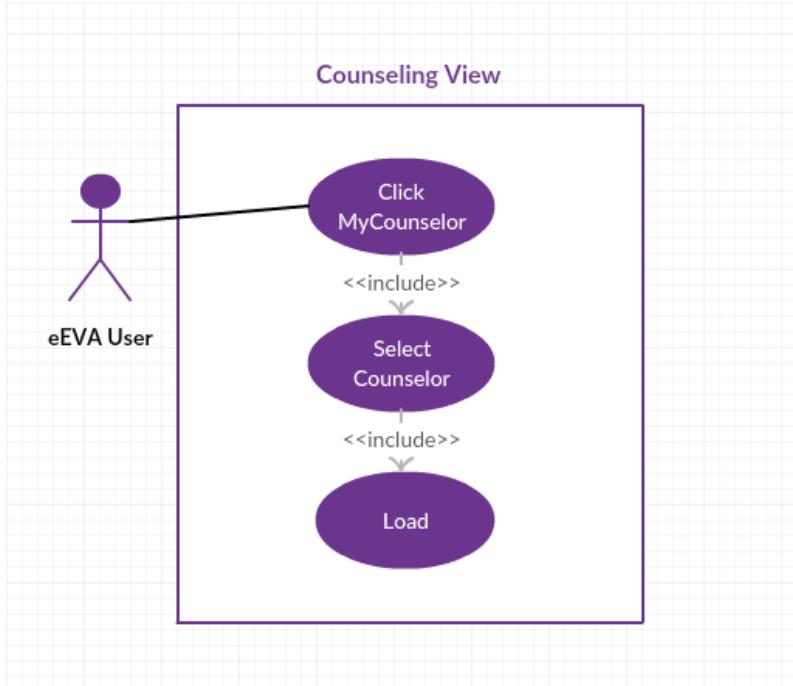


Class Diagram (#344)

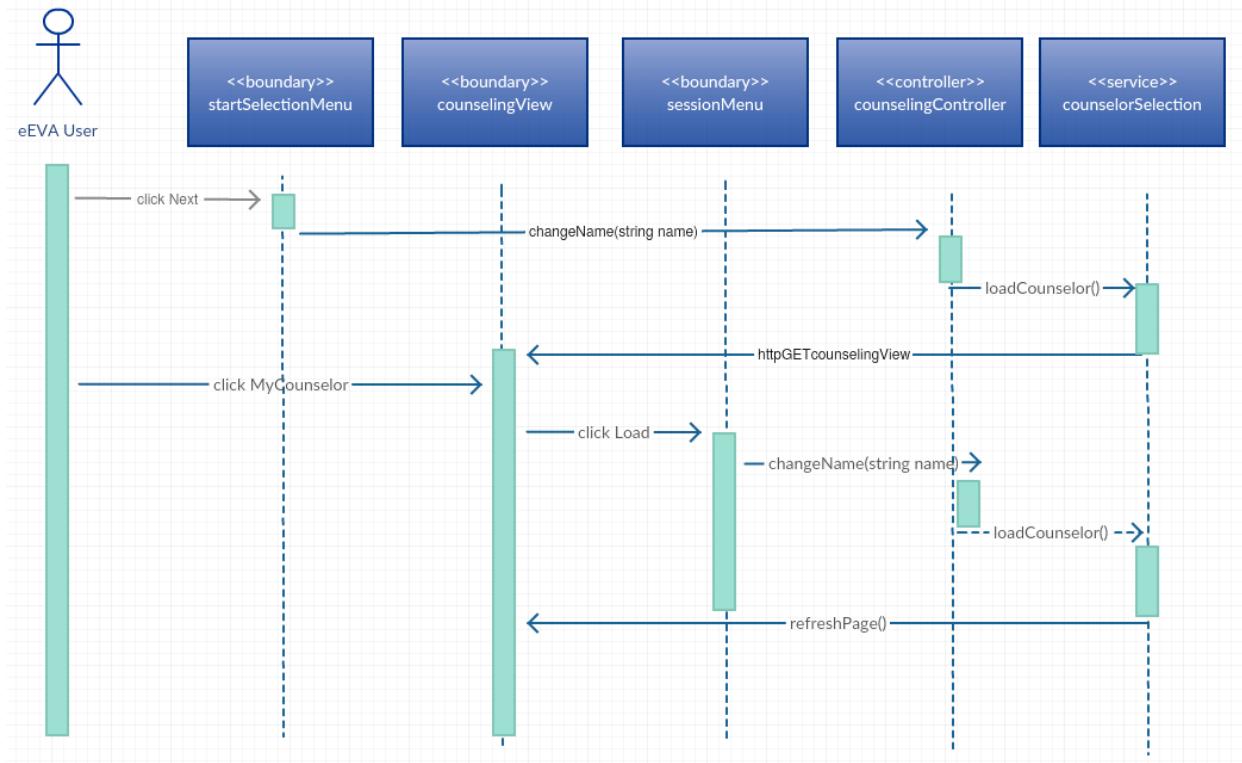


User Story (Mingle #361)

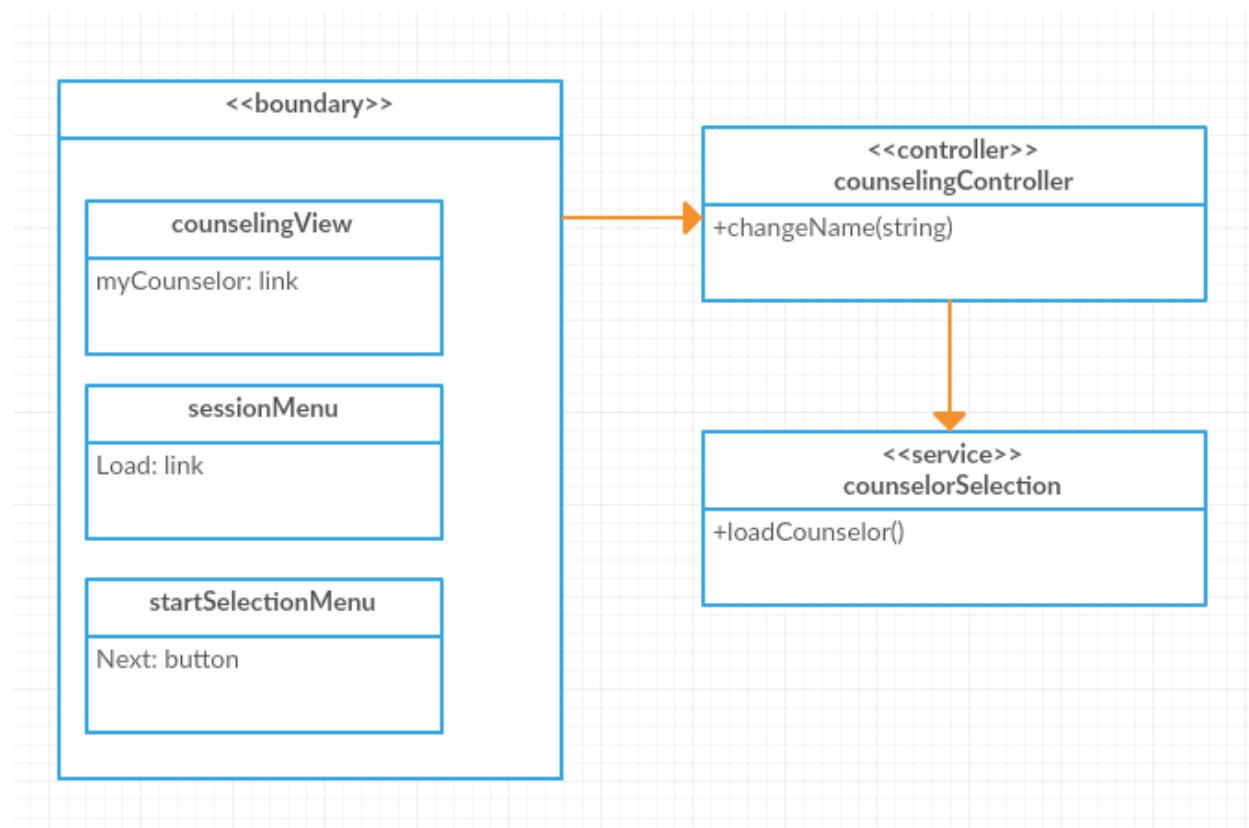
Use Case Diagram (#361)



Sequence Diagram (#361)

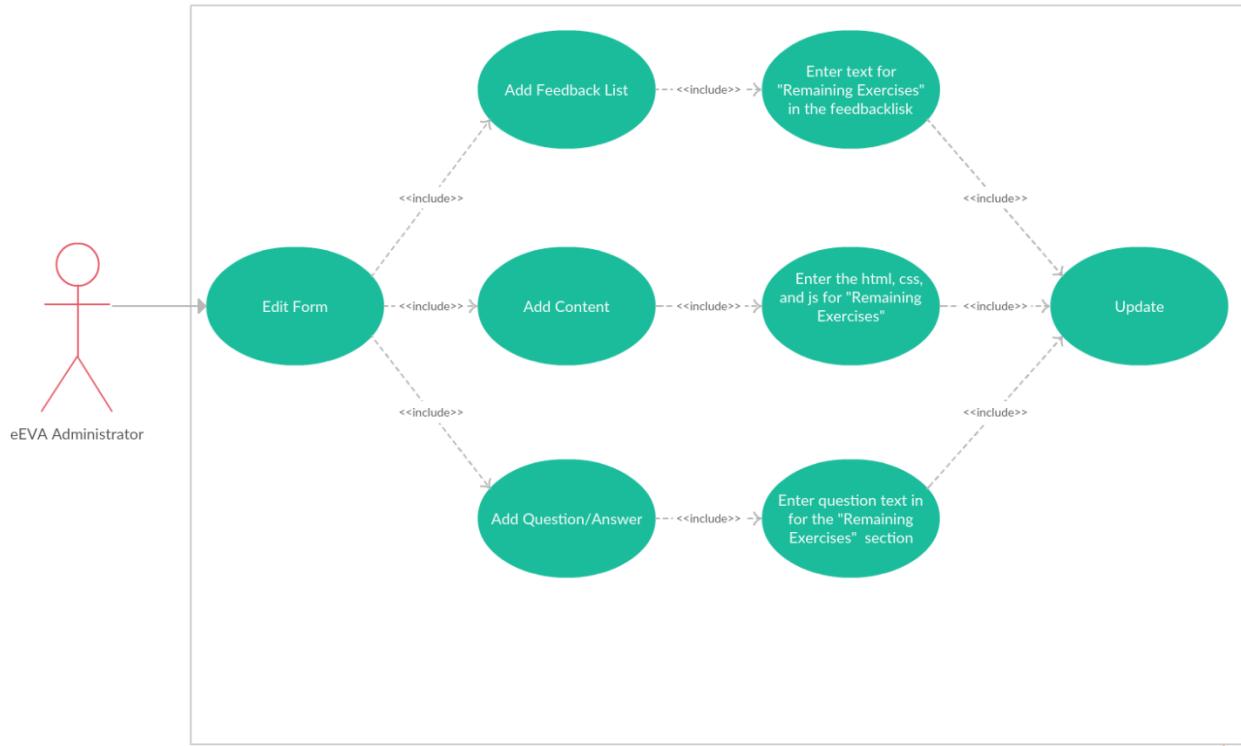


Class Diagram (#361)

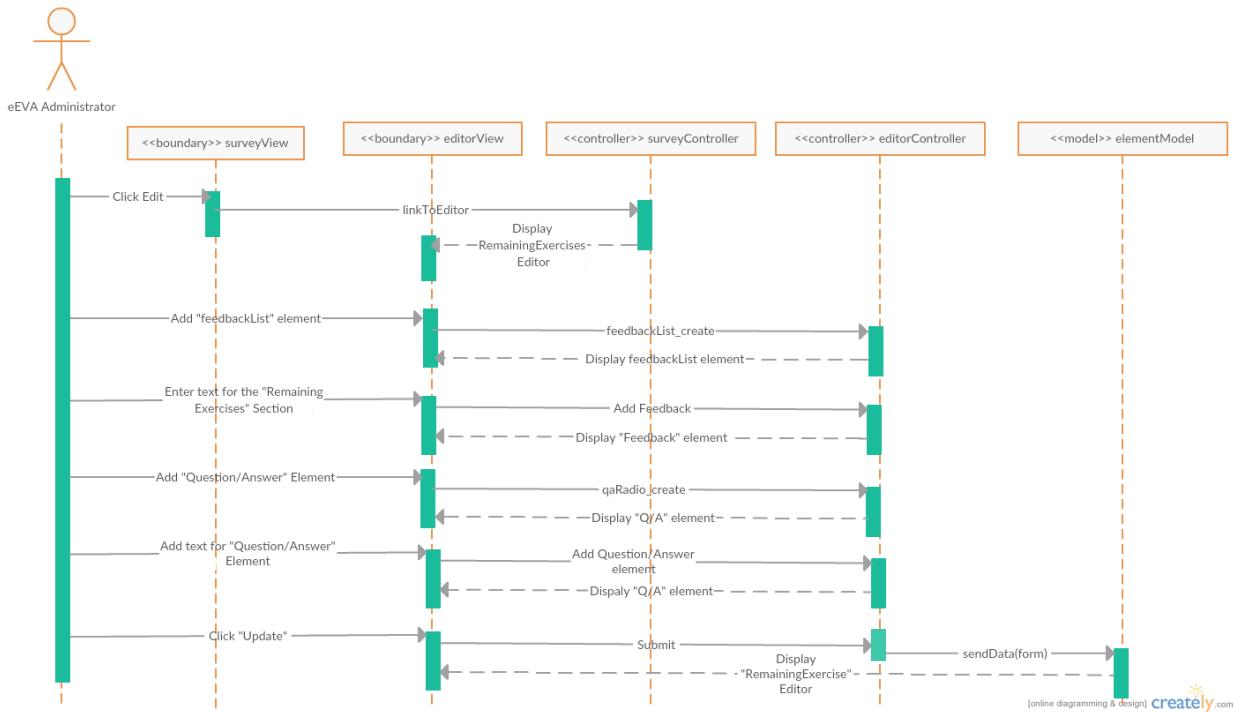


EditDCU_RemainingExercises (Mingle #369)

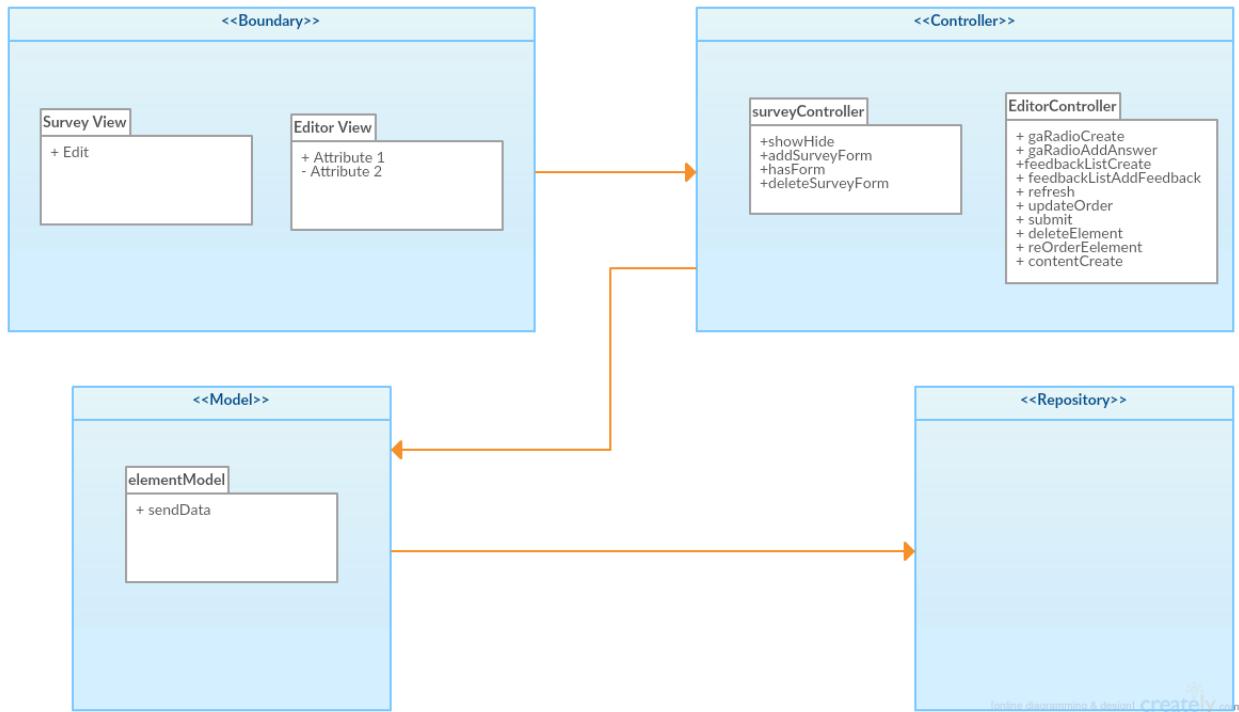
Use Case Diagram (#369)



Sequence Diagram (#369)

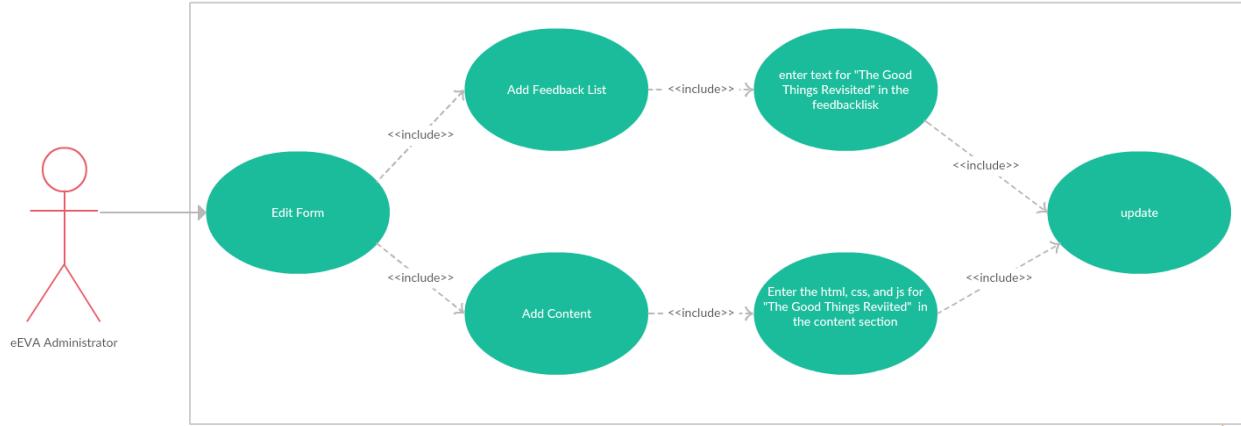


Class Diagram (#369)

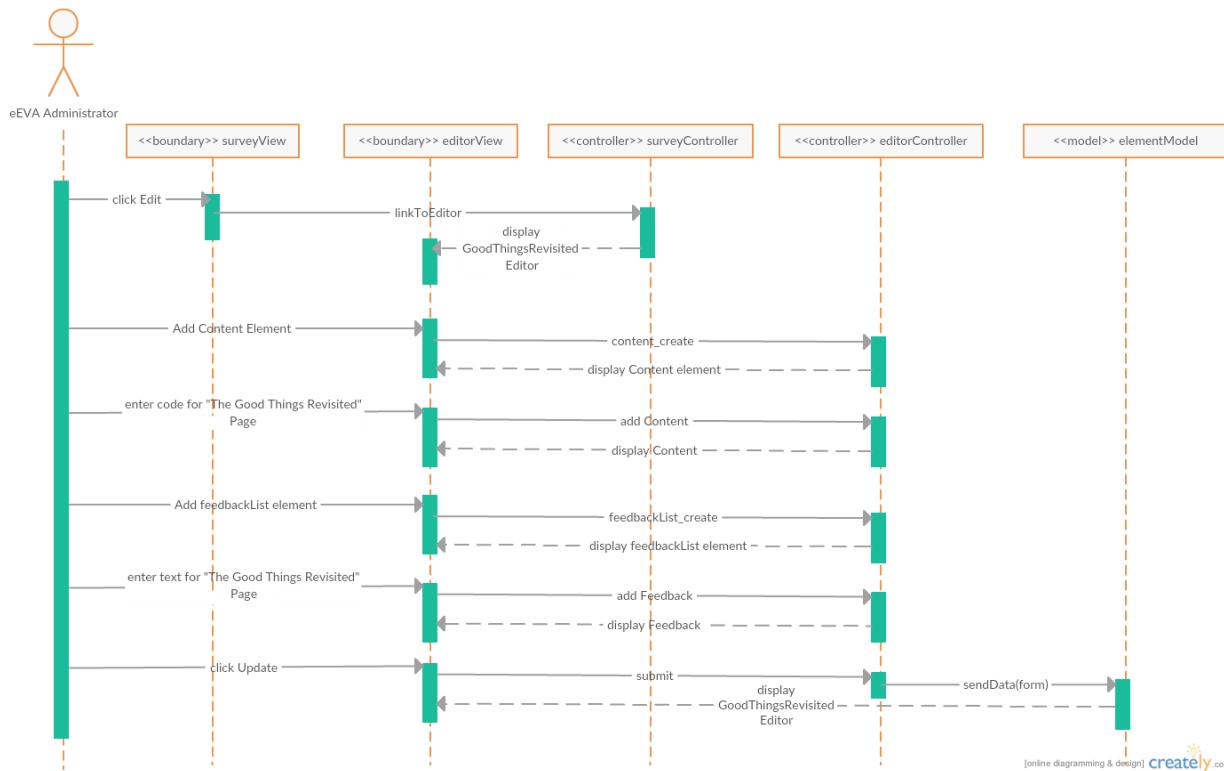


EditDCU_TheGoodThingsRevisited (Mingle #370)

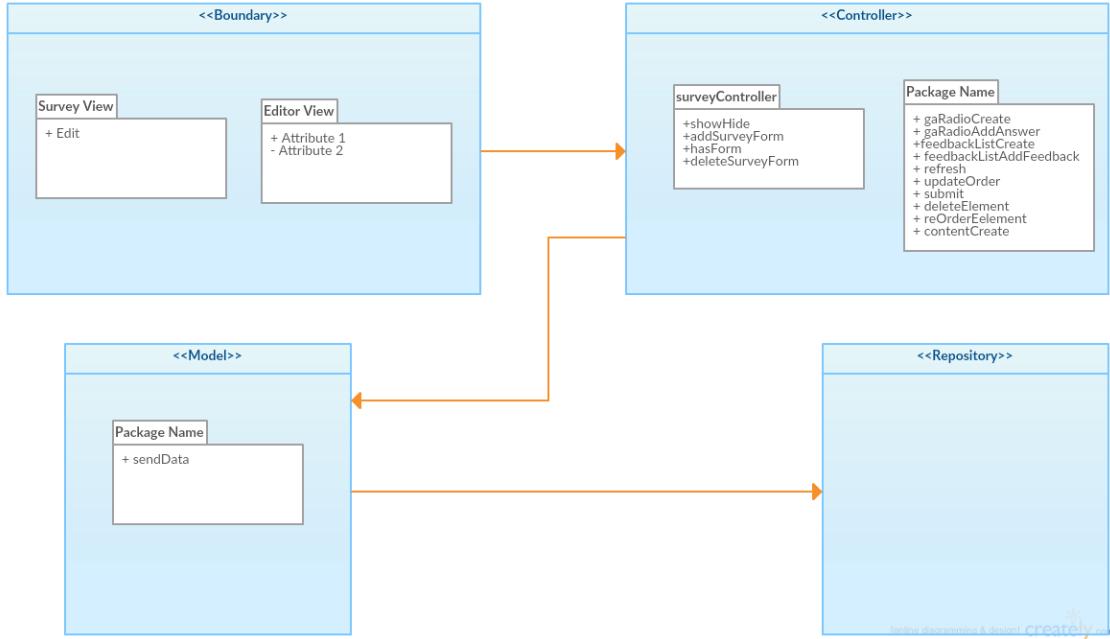
Use Case Diagram (#370)



Sequence Diagram (#370)



Class Diagram (#370)

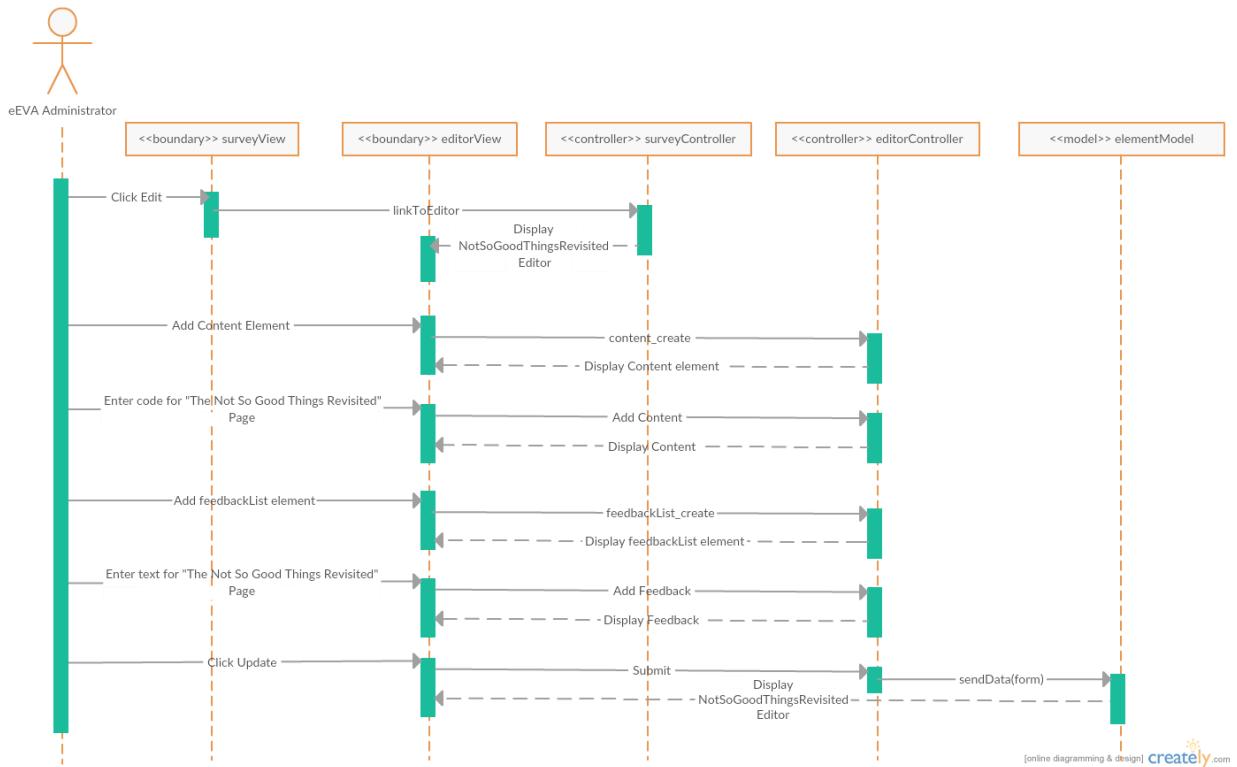


EditDCU_NotSoGoodThingsRevisited (Mingle #386)

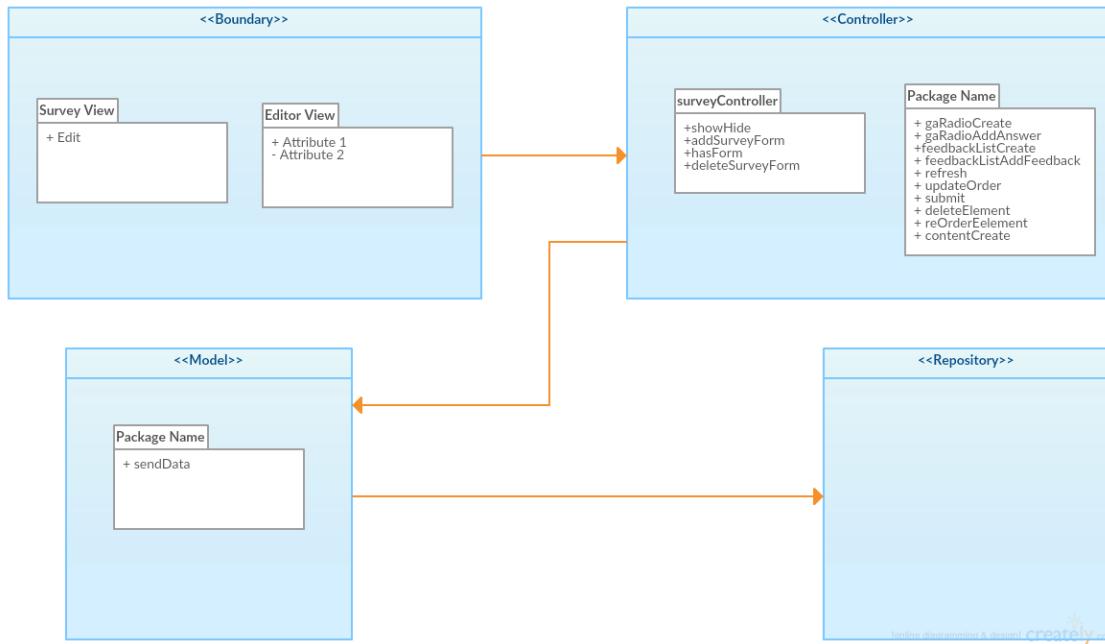
Use Case Diagram (#386)



Sequence Diagram (#386)

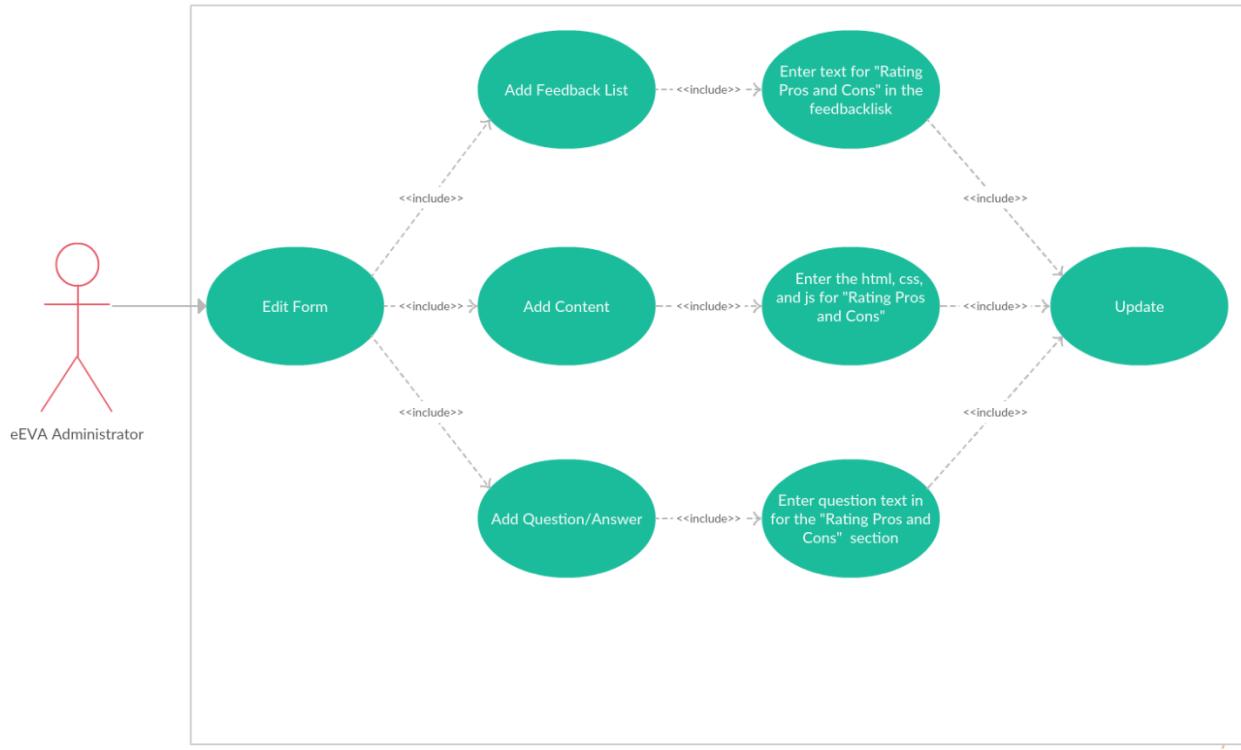


Class Diagram (#386)

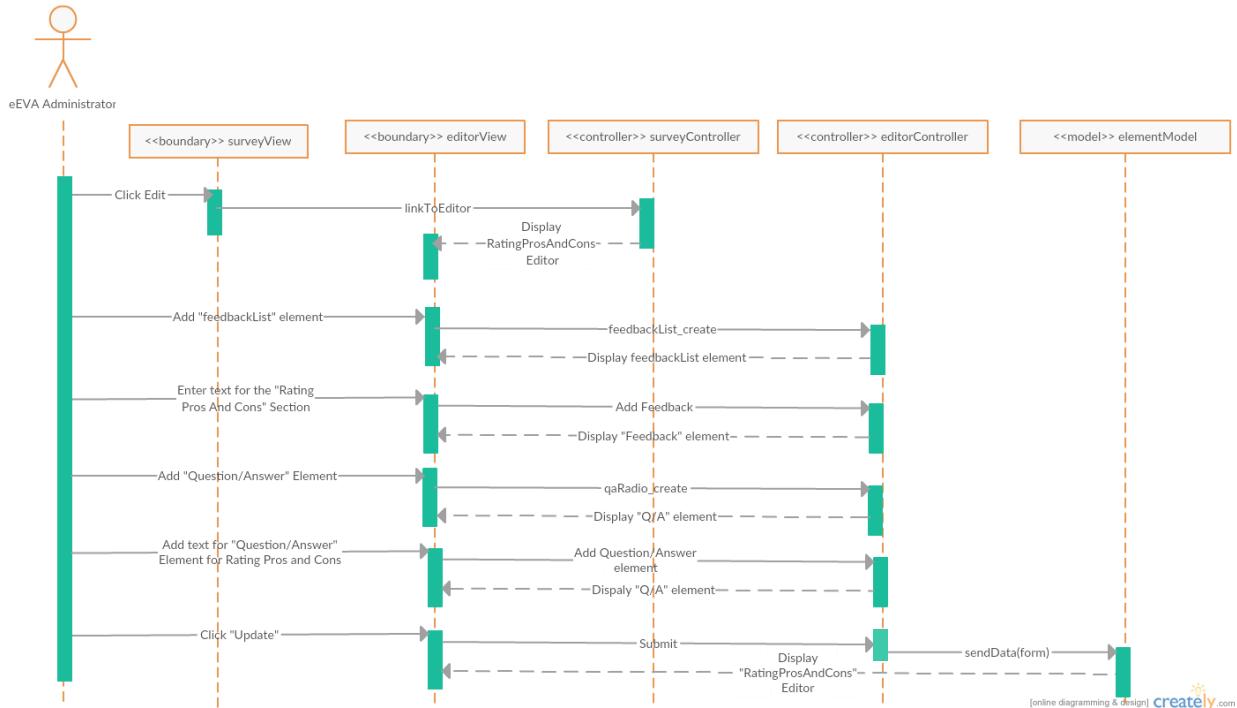


EditDCU_RatingProsAndCons (Mingle #387)

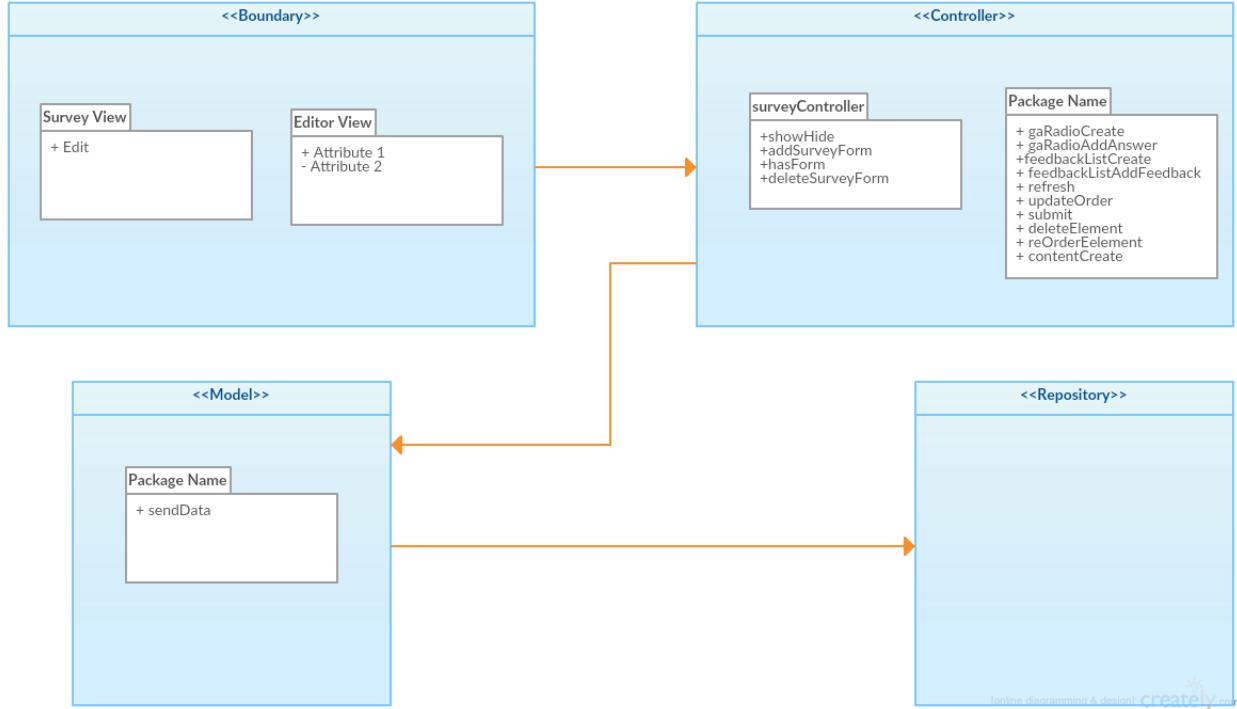
Use Case Diagram (#387)



Sequence Diagram (#387)

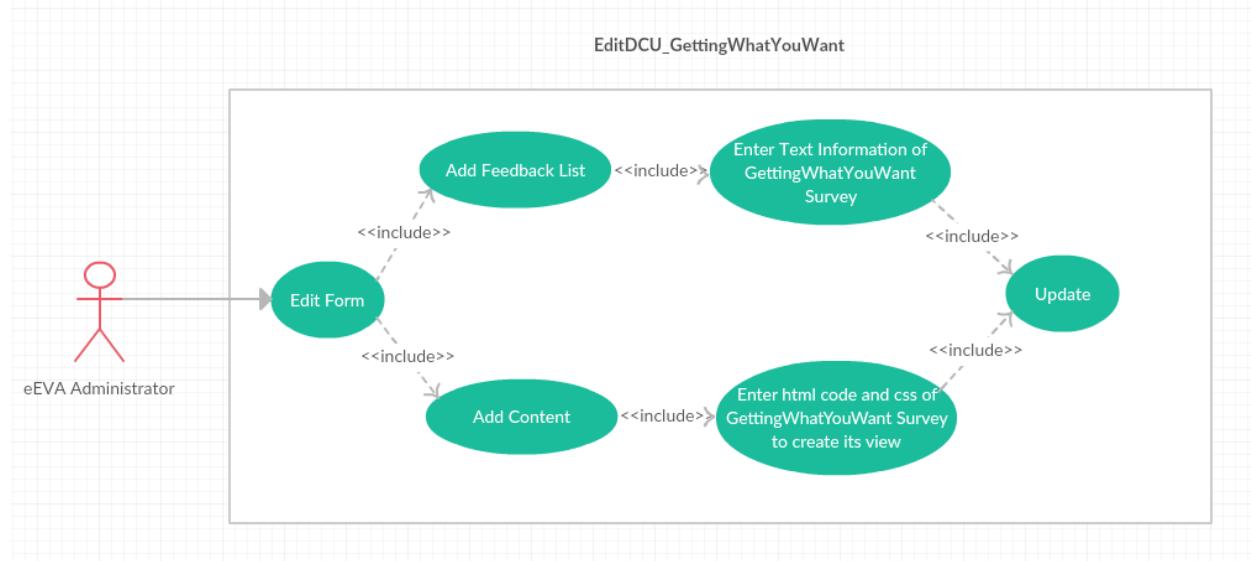


Class Diagram (#387)

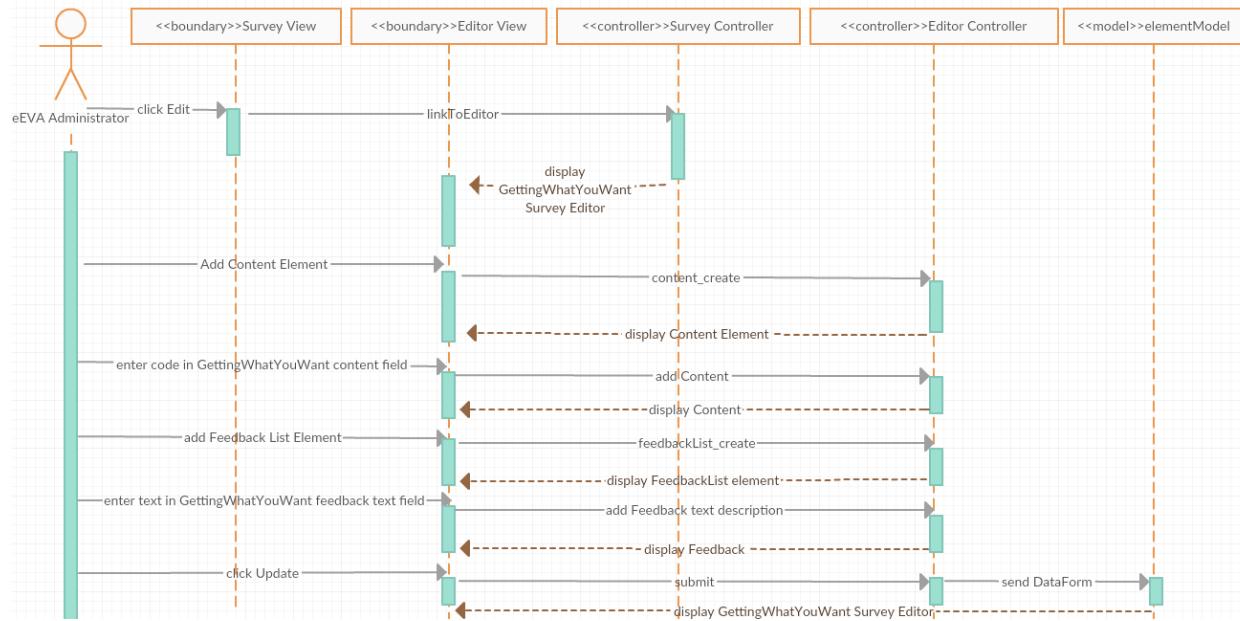


User Story (Mingle #389)

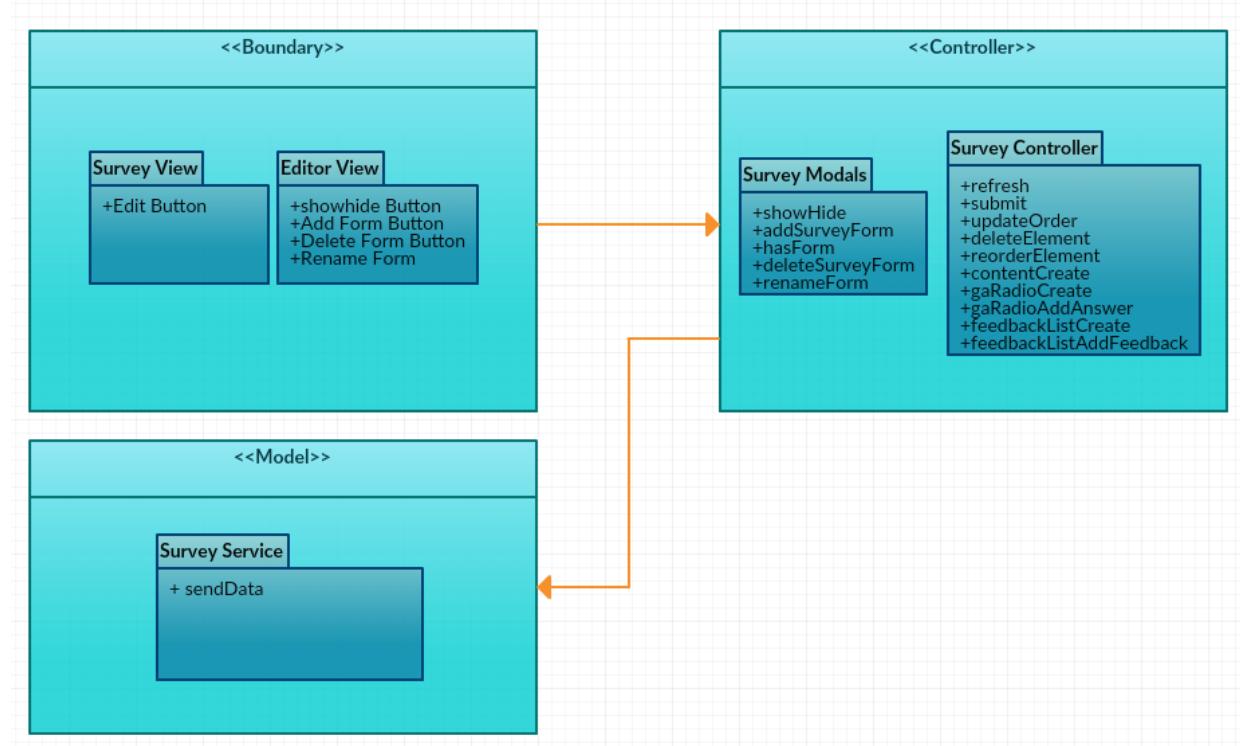
Use Case Diagram (#389)



Sequence Diagram (#389)

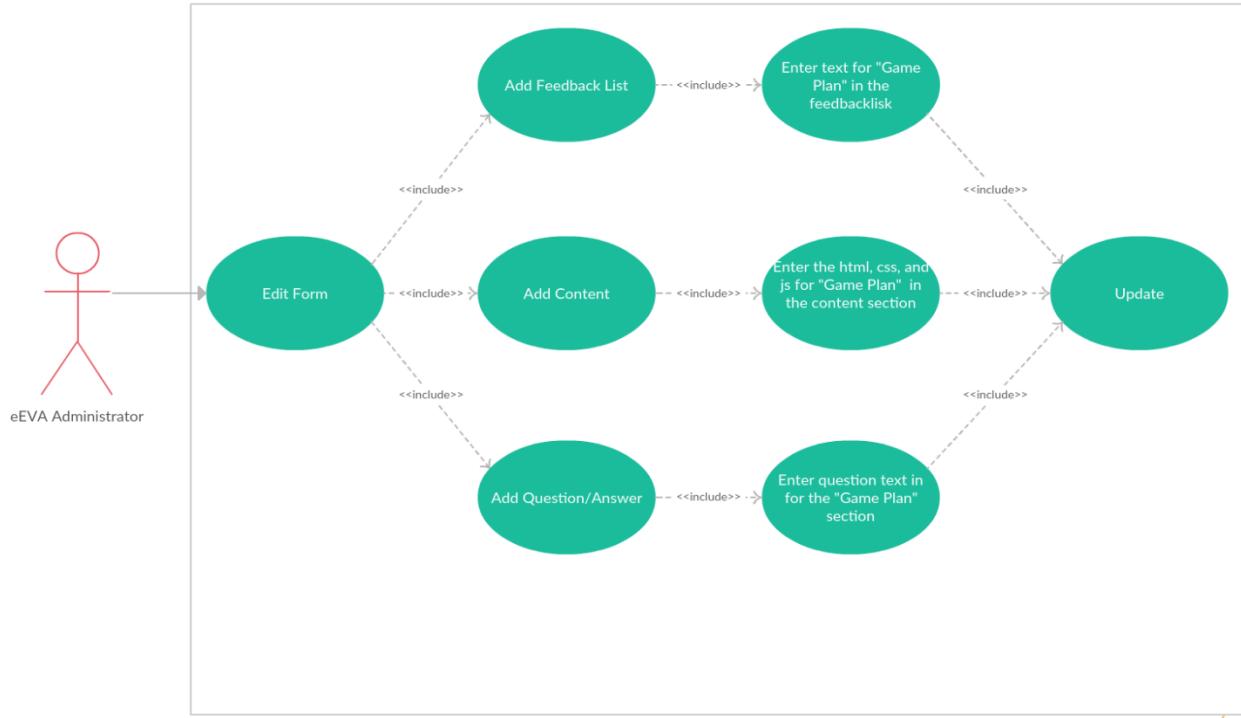


Class Diagram (#389)

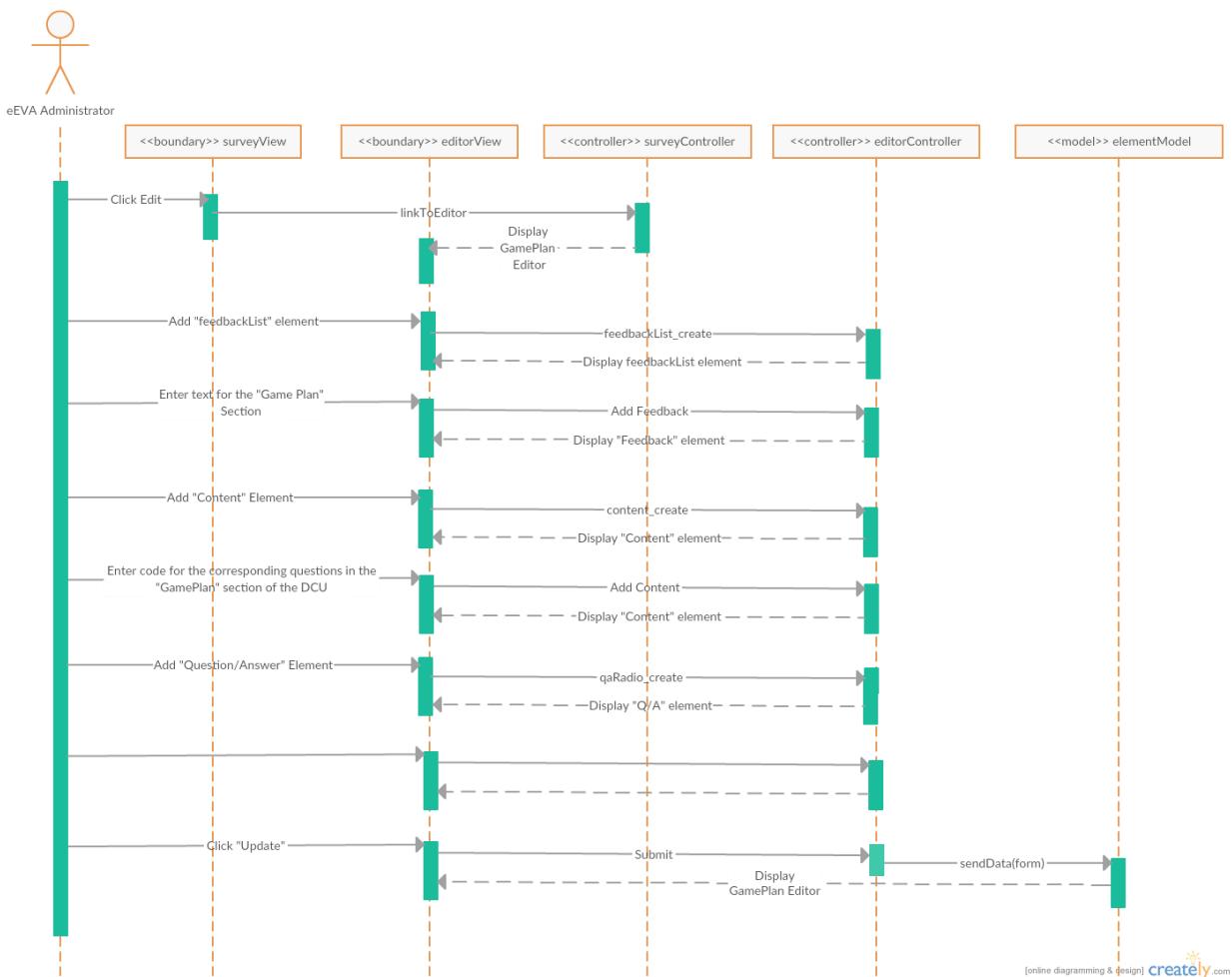


EditDCU_Gameplan (Mingle #411)

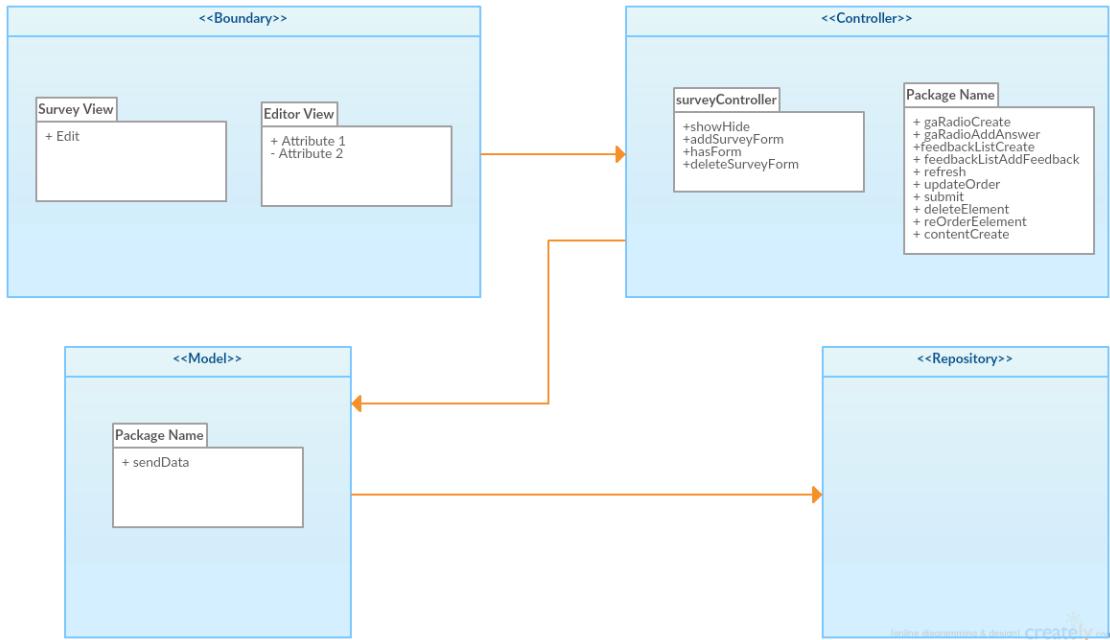
Use Case Diagram (#411)



Sequence Diagram (#411)

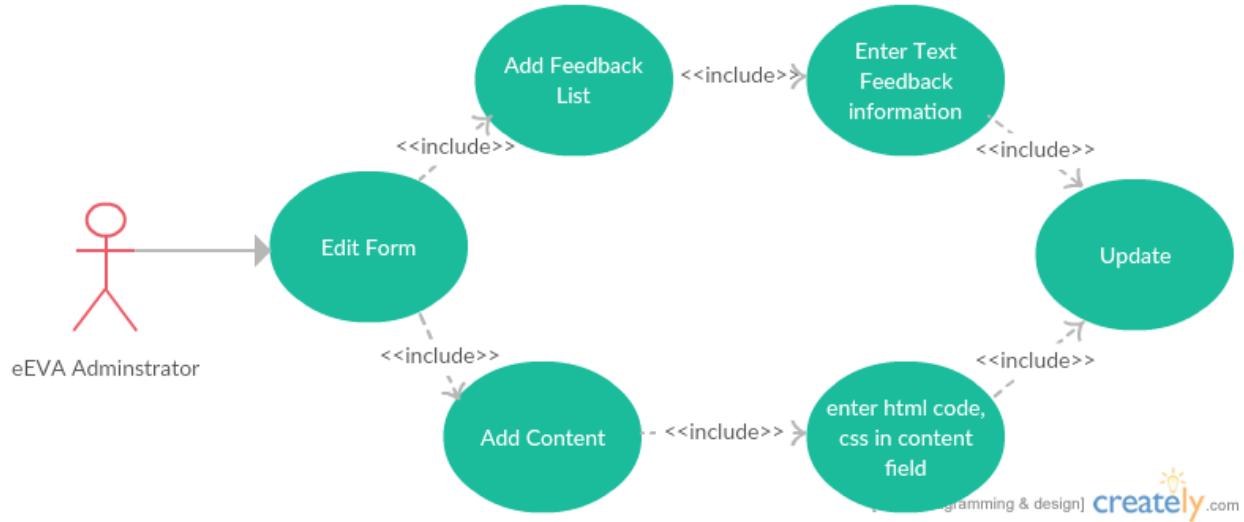


Class Diagram (#411)

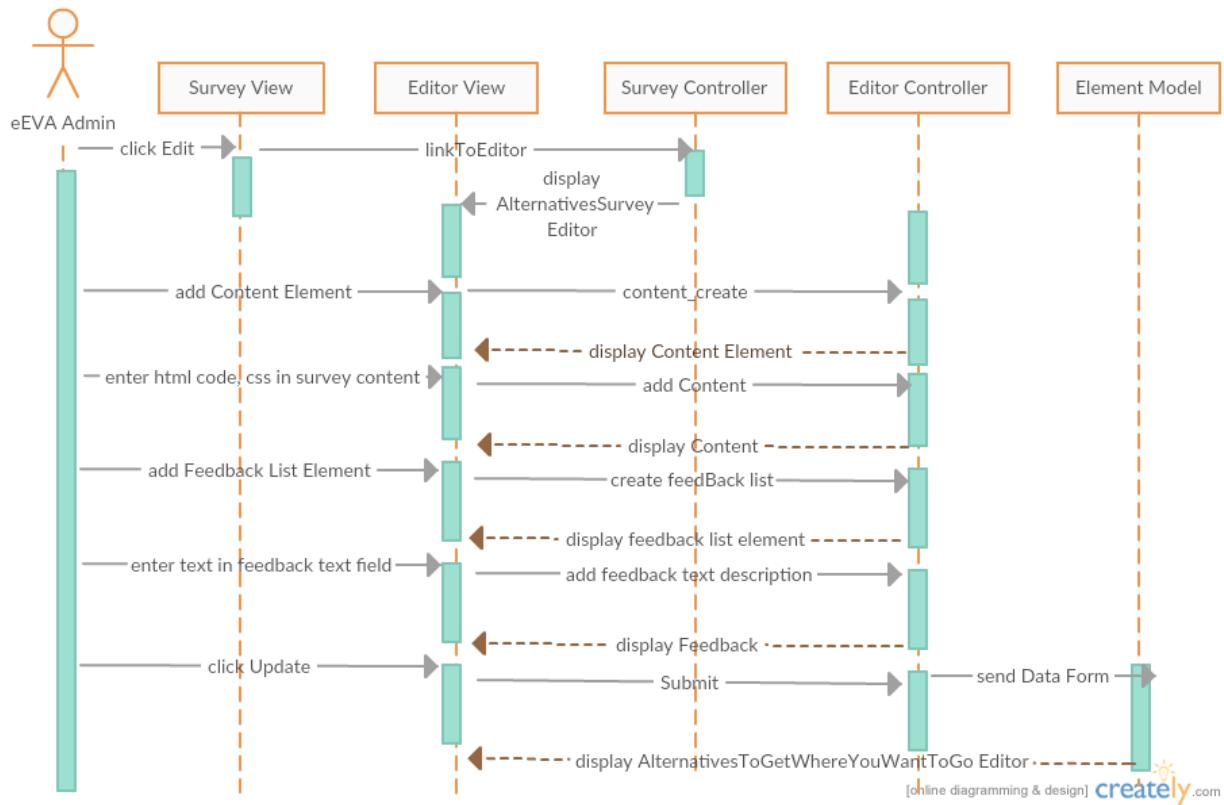


User Story (Mingle #412)

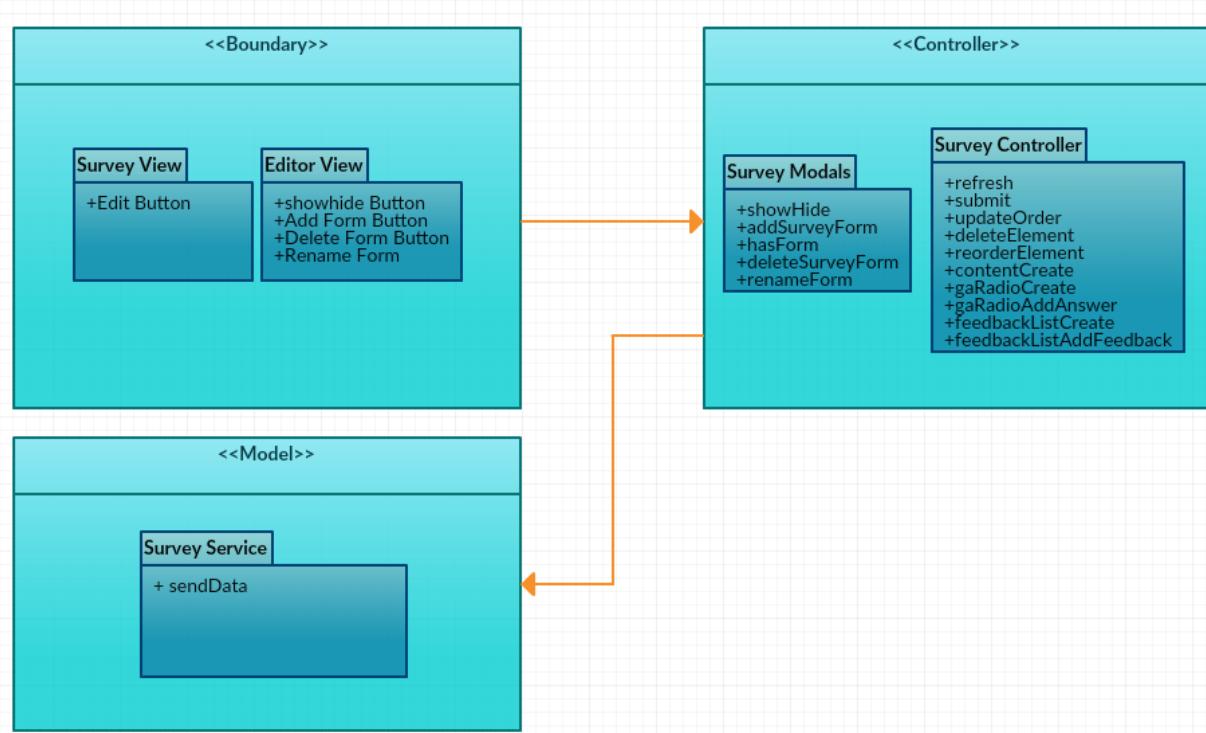
Use Case Diagram (#412)



Sequence Diagram (#412)

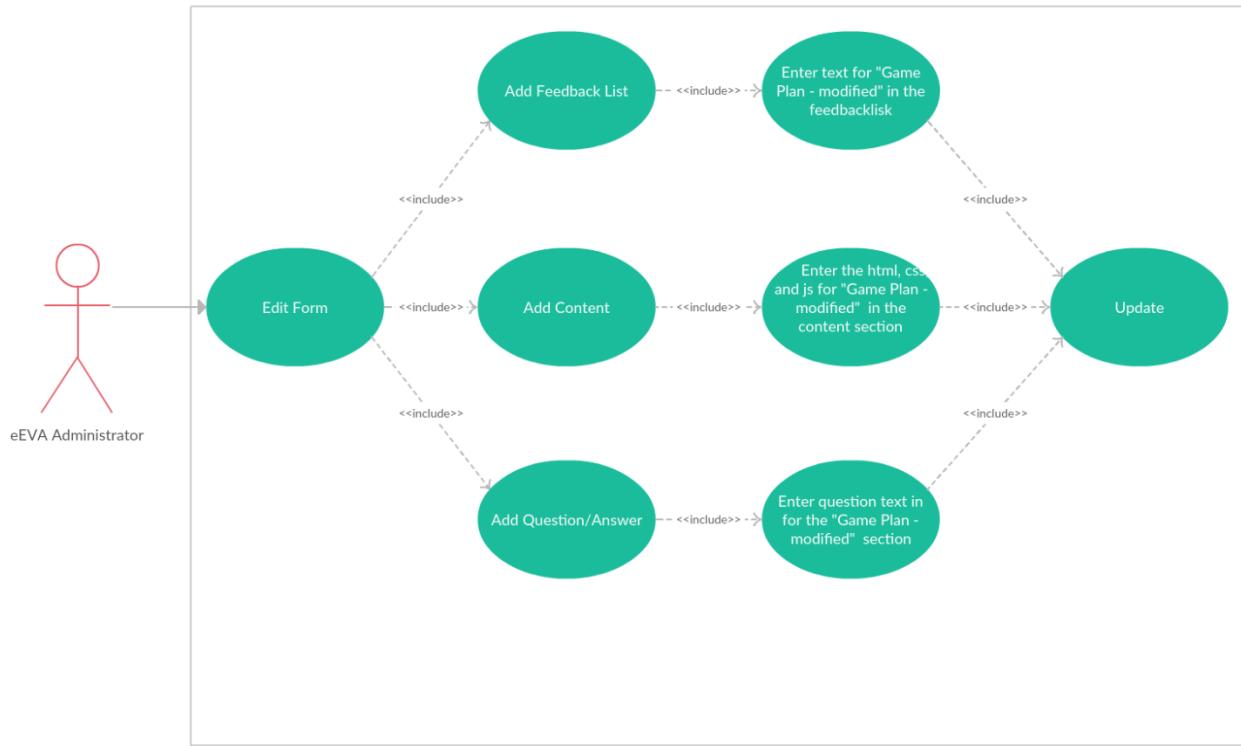


Class Diagram (#412)

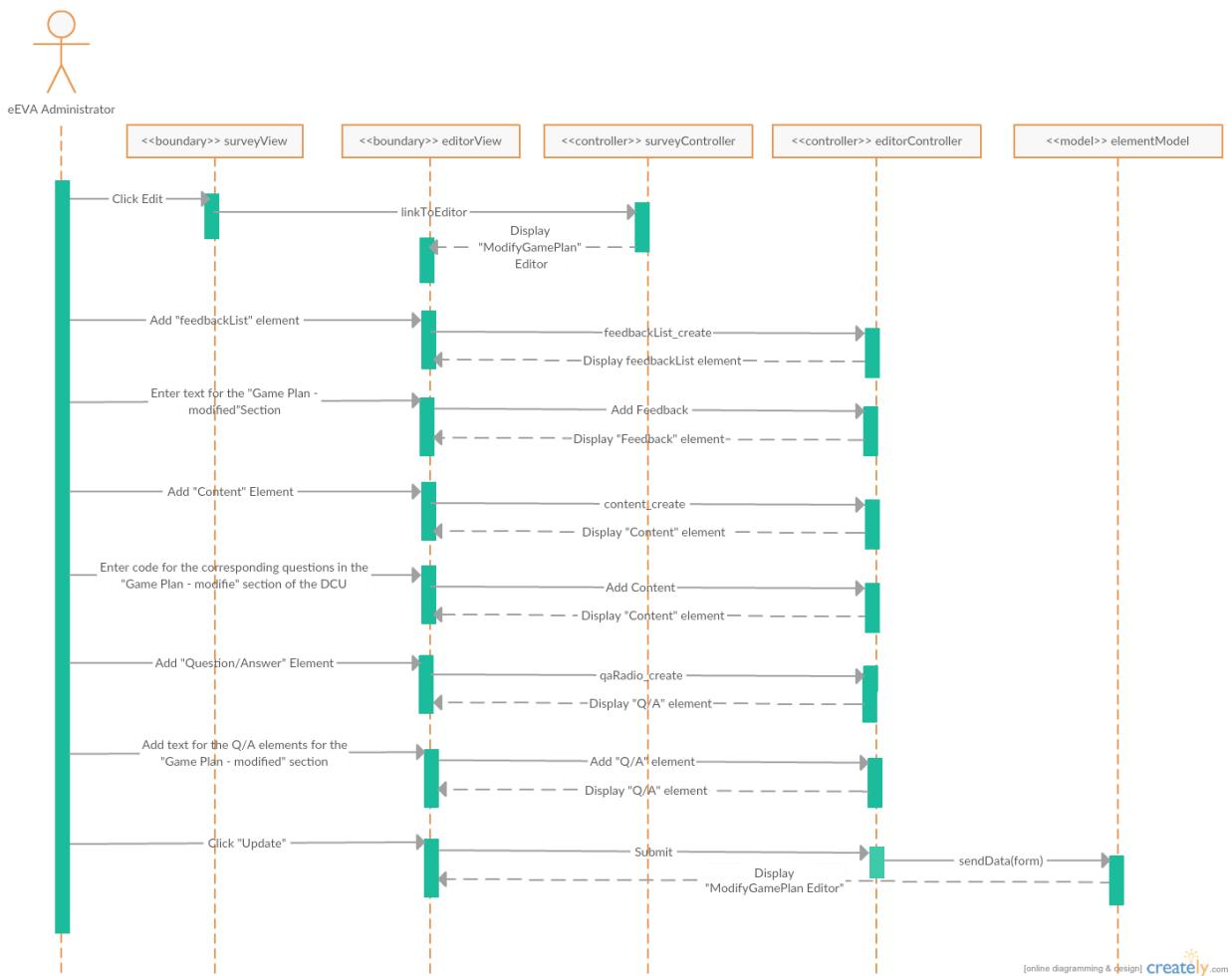


EditDCU_ModifyGamePlan (Mingle #418)

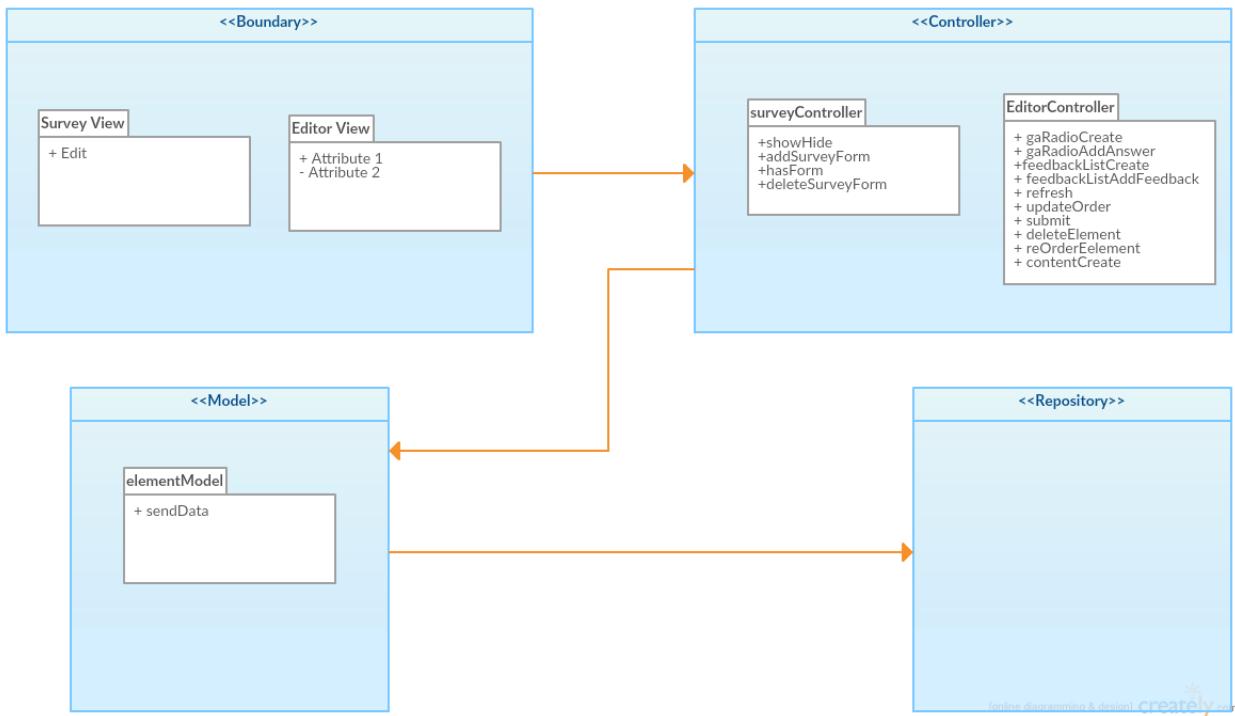
Use Case Diagram (#418)



Sequence Diagram (#418)

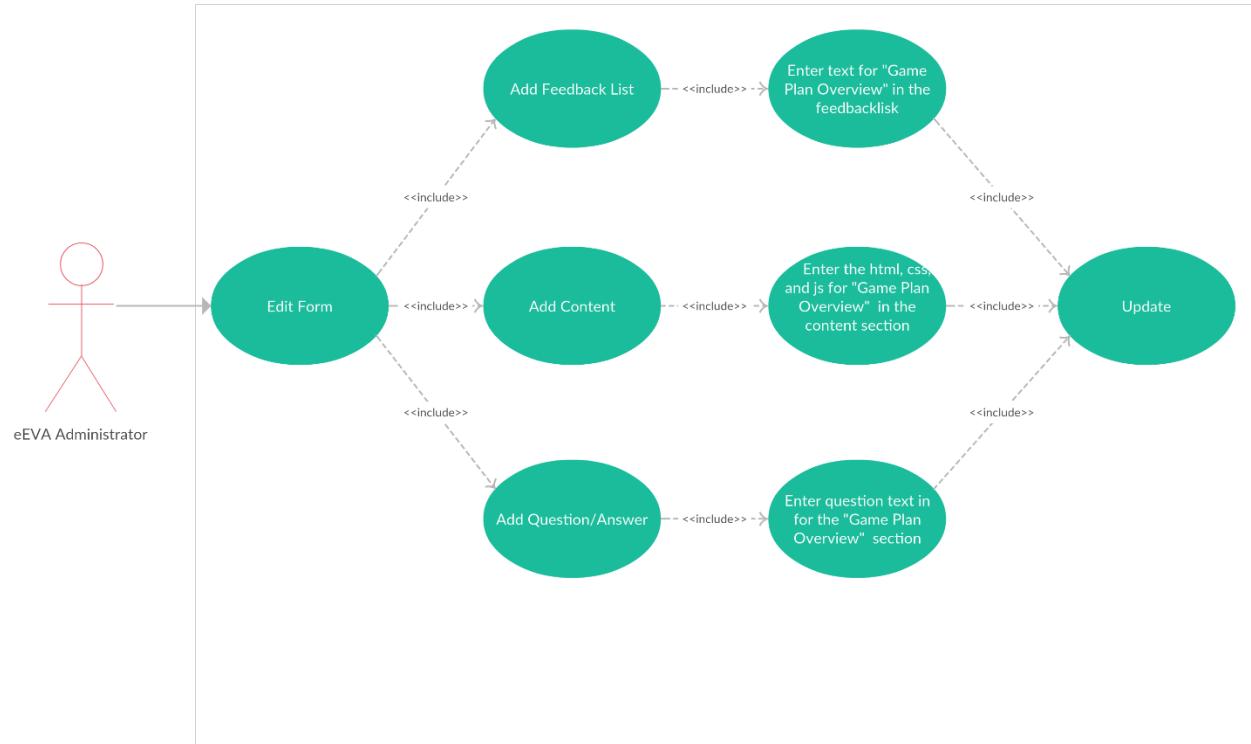


Class Diagram (#418)

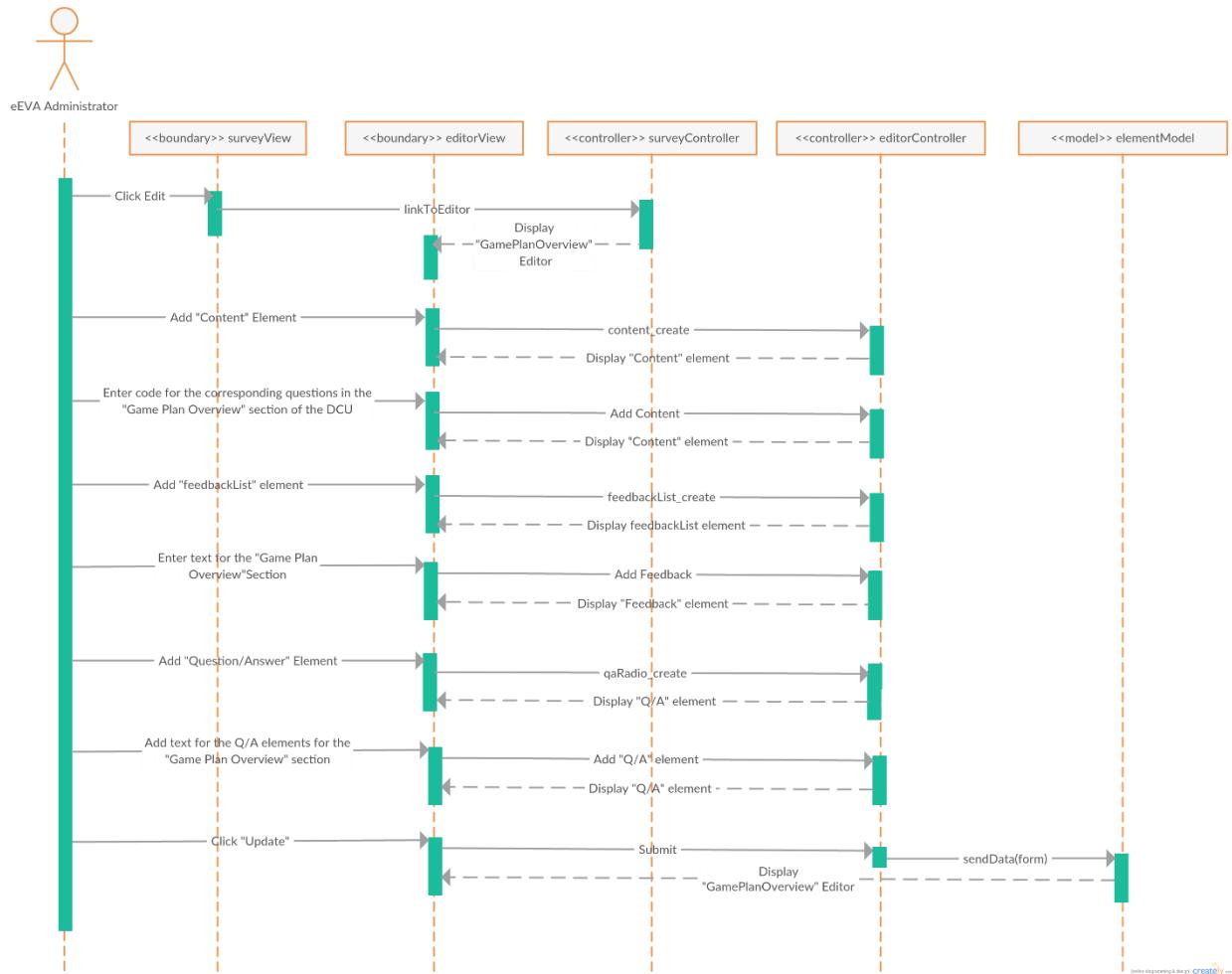


EditDCU_GameplanOverview (Mingle #419)

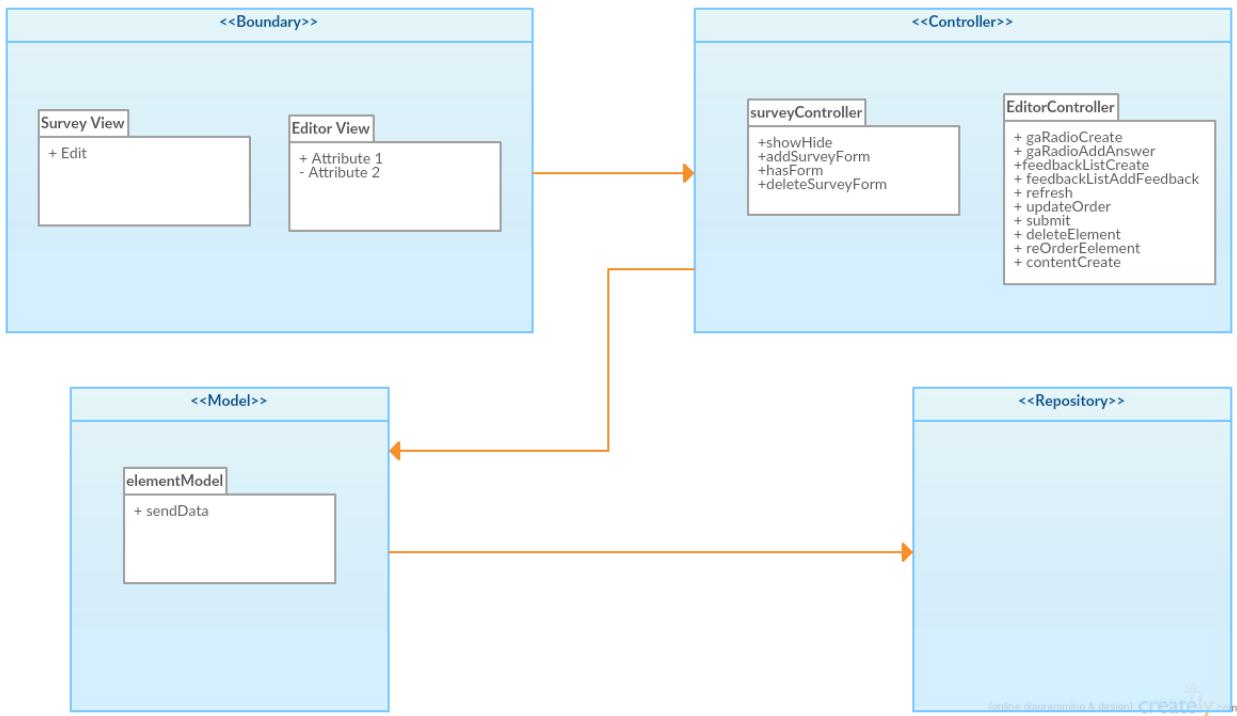
Use Case Diagram (#419)



Sequence Diagram (#419)

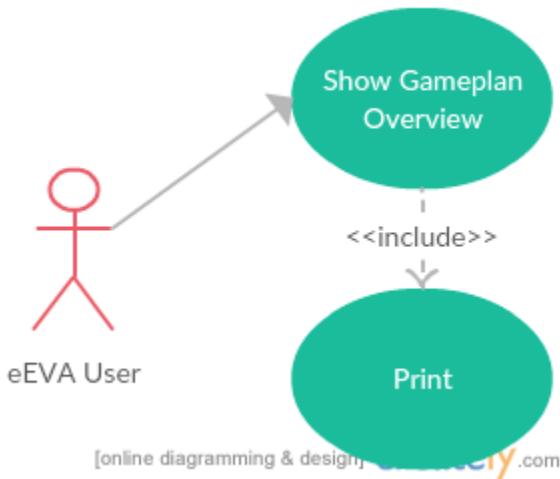


Class Diagram (#419)

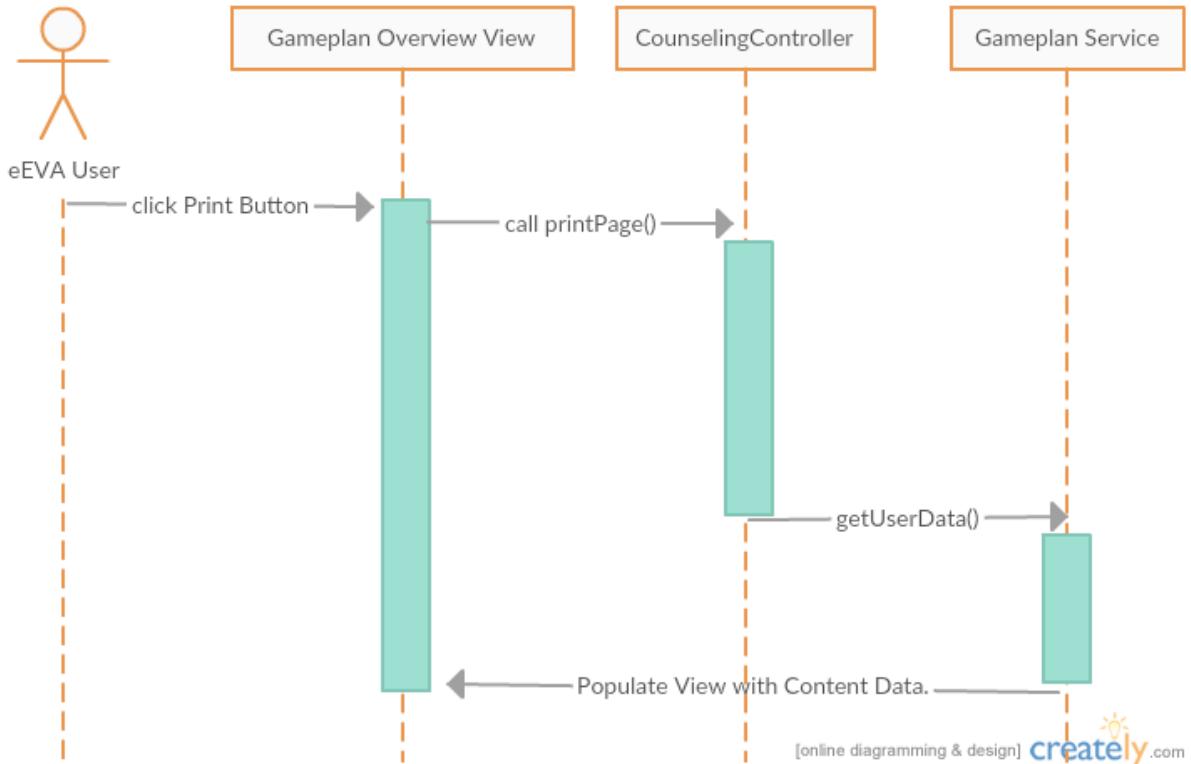


User Story (Mingle #424)

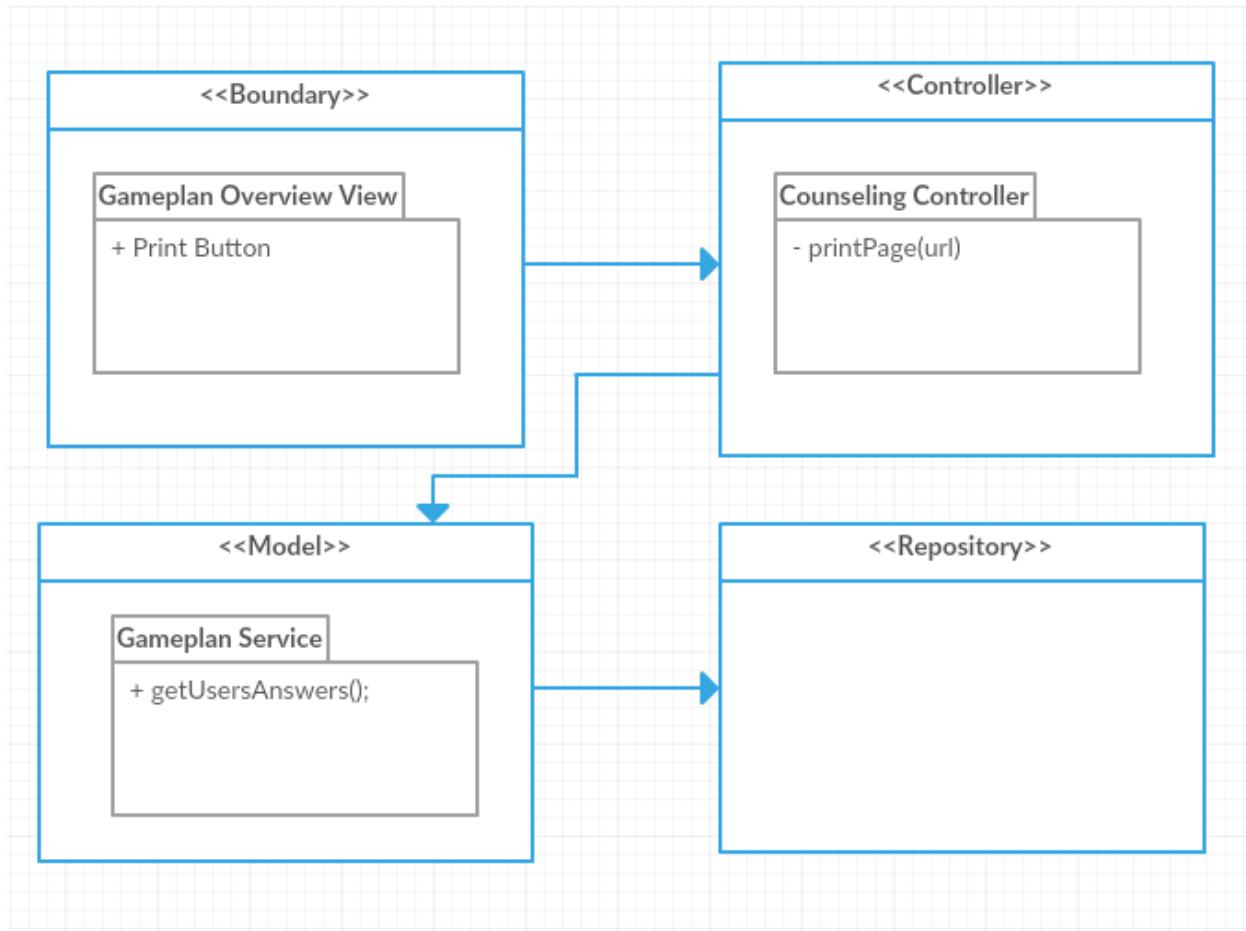
Use Case Diagram (#424)



Sequence Diagram (#424)

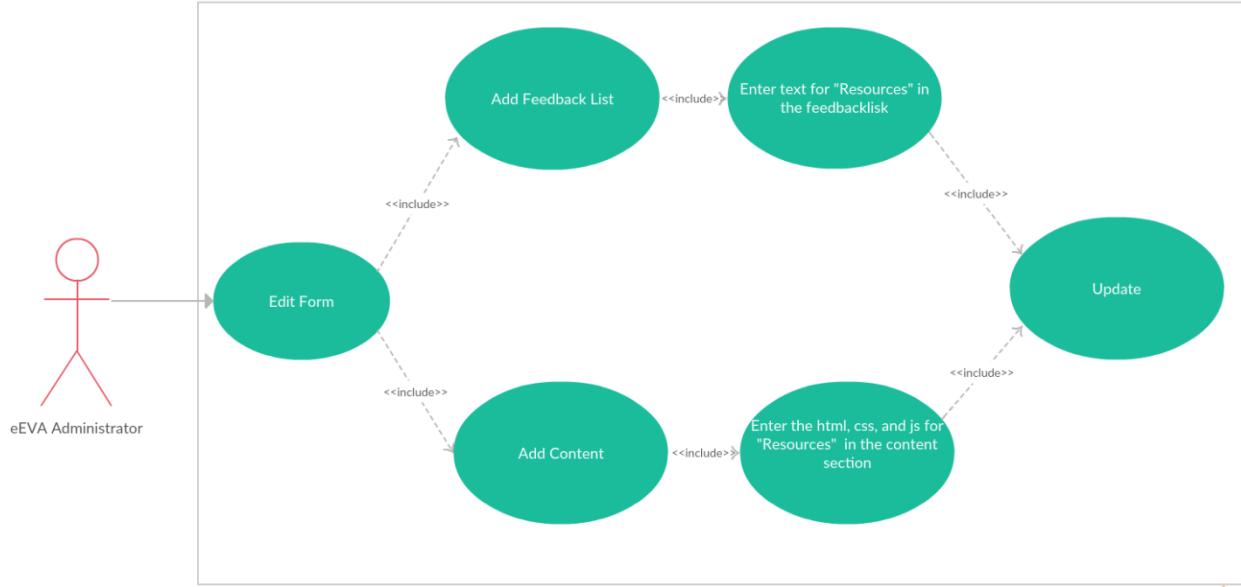


Class Diagram (#424)

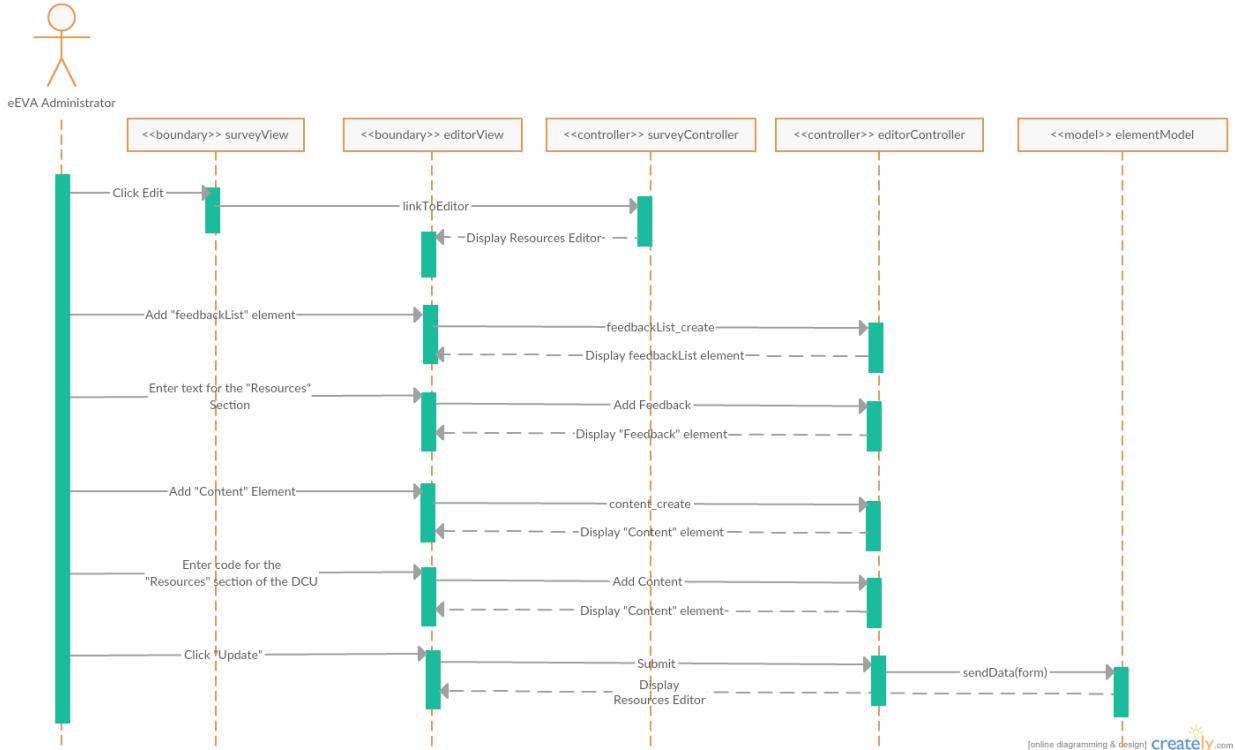


EditDCU_Resources (Mingle #436)

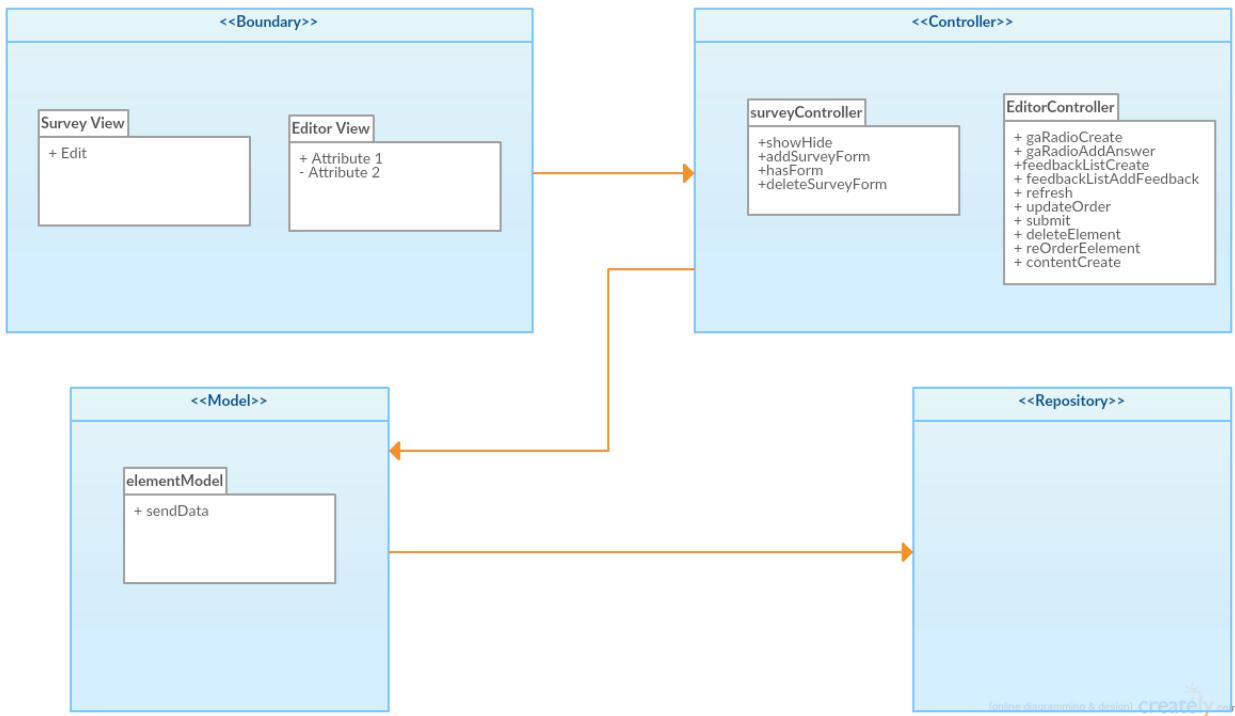
Use Case Diagram (#436)



Sequence Diagram (#436)



Class Diagram (#436)



Appendix B – User Interface Design

User Story #343

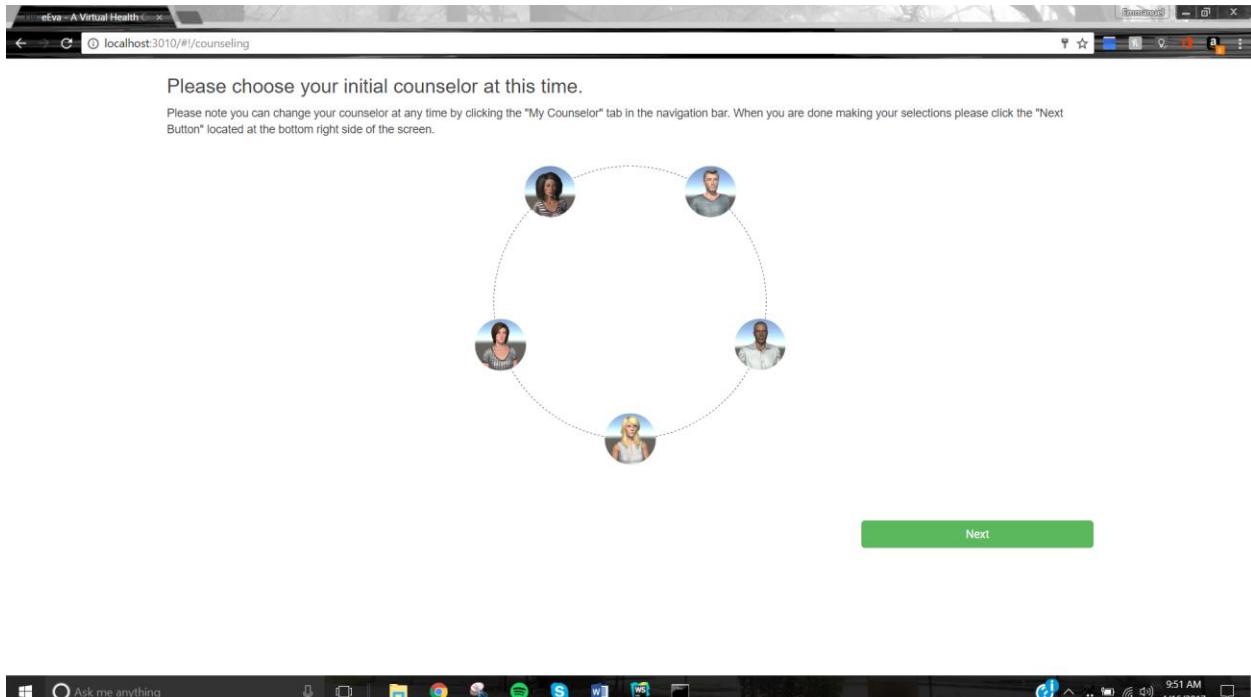


Figure 5: The above image illustrates the initial counselor selection menu before a counselor is selected for a preview.

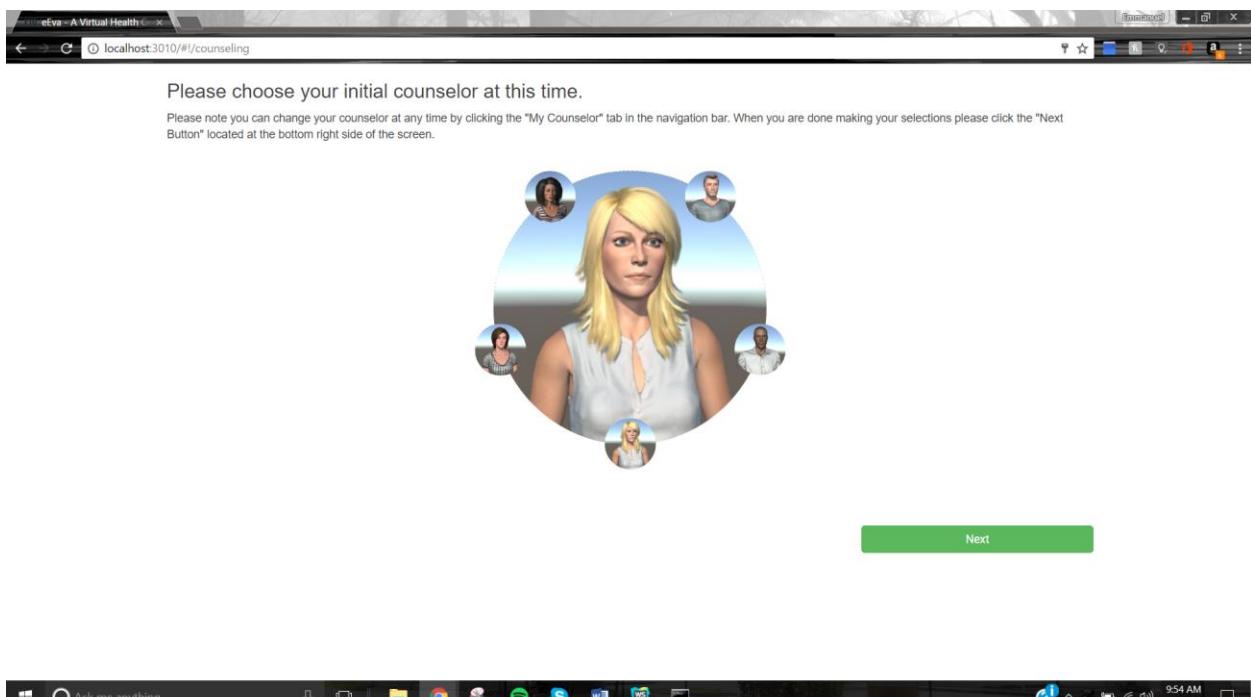


Figure 6: This image depicts the counselor preview, after a counselor has been selected

User Story #344

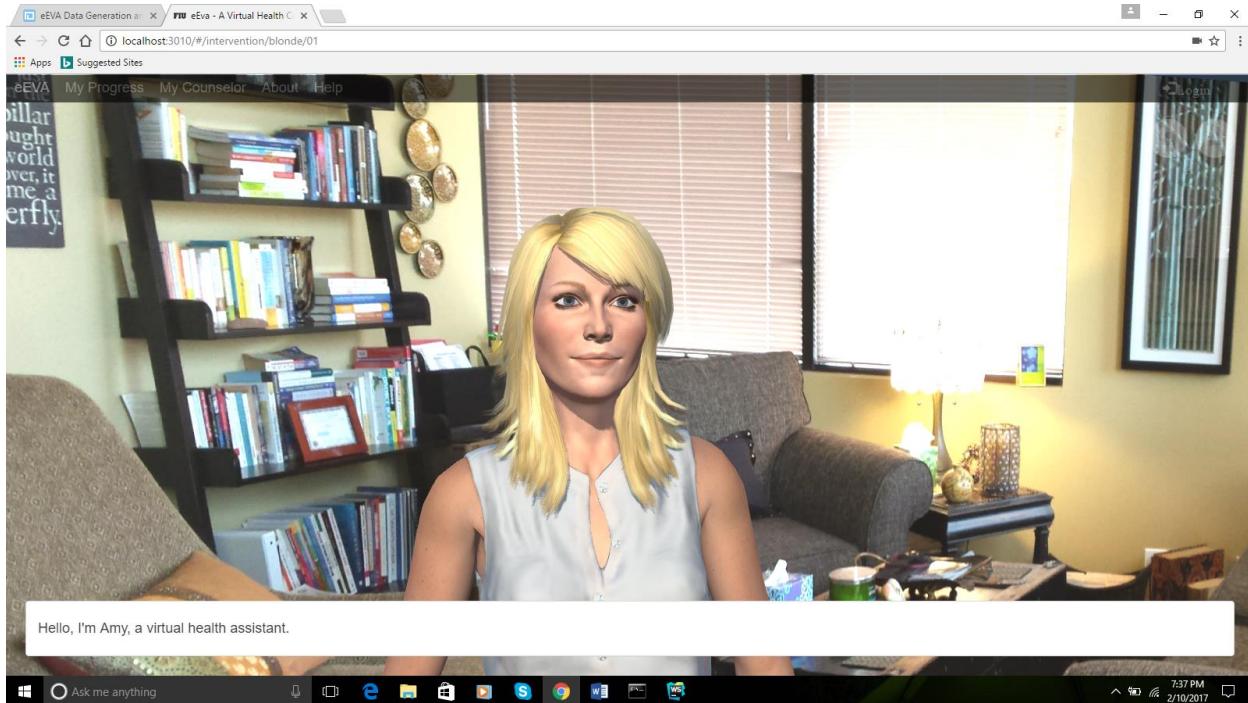


Figure 7: In Session Counseling View

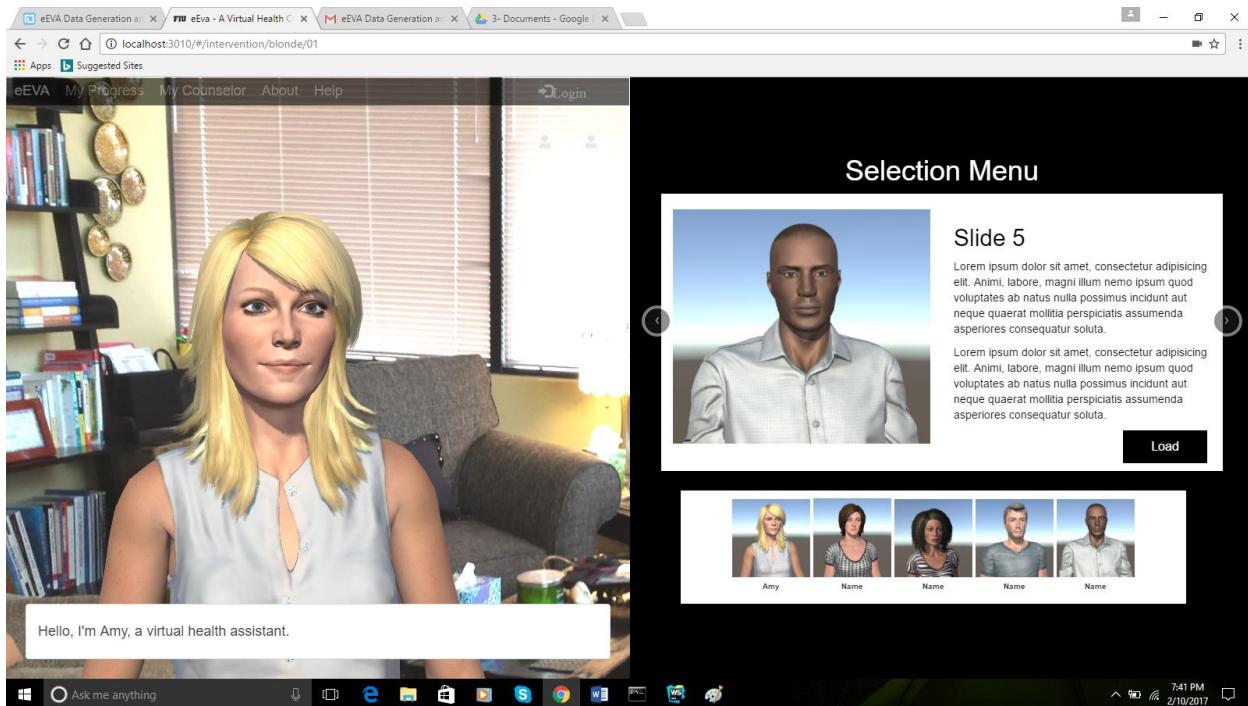


Figure 8: In Session Selection Menu. (slides from the right and takes up 50% of the screen)

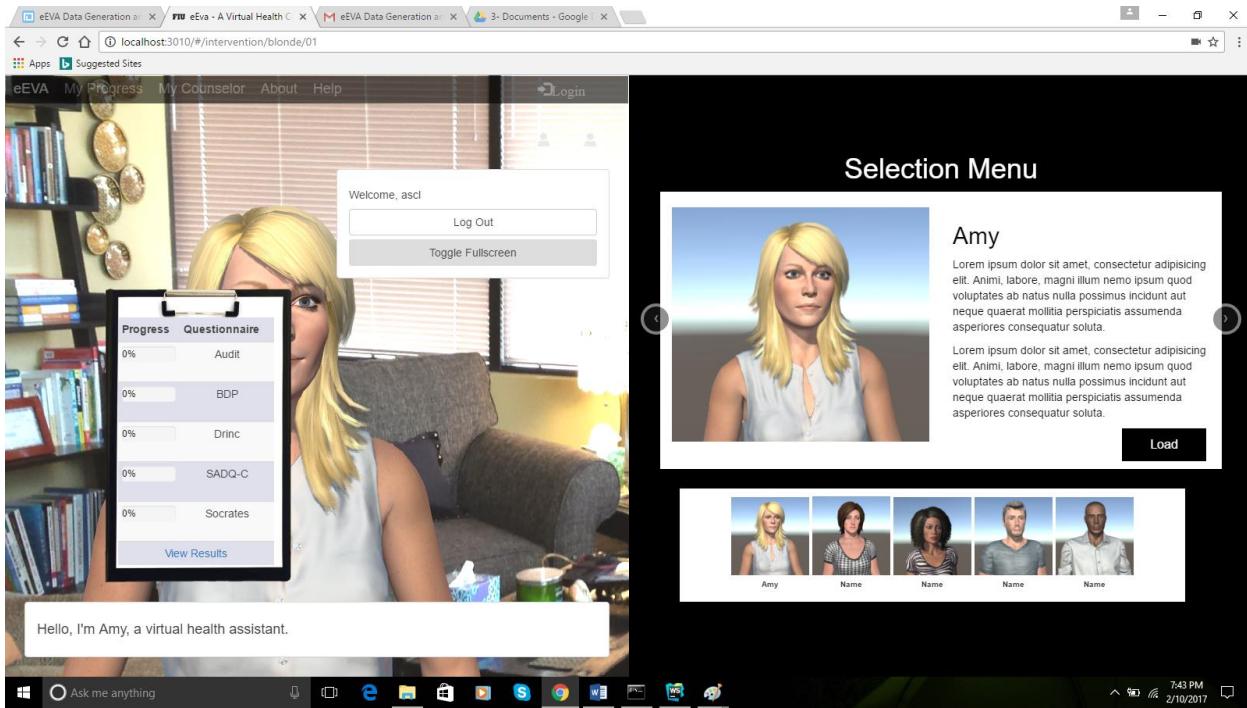


Figure 9: In Session Selection Menu. (Shows functionality of left view is unaffected by the menu)

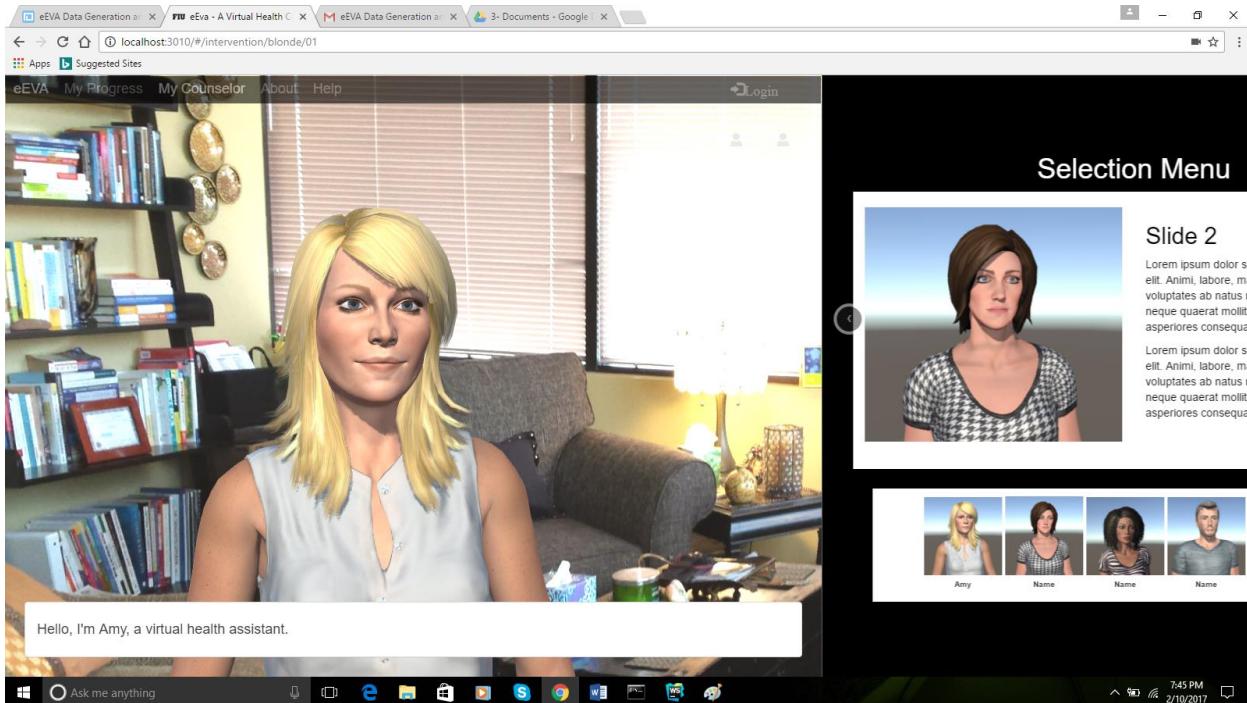


Figure 10: In Session Selection Menu. (Shows a transition that is taking place)

Final Deliverable

eEVA Data Generation and User Results Analysis Version 2.0

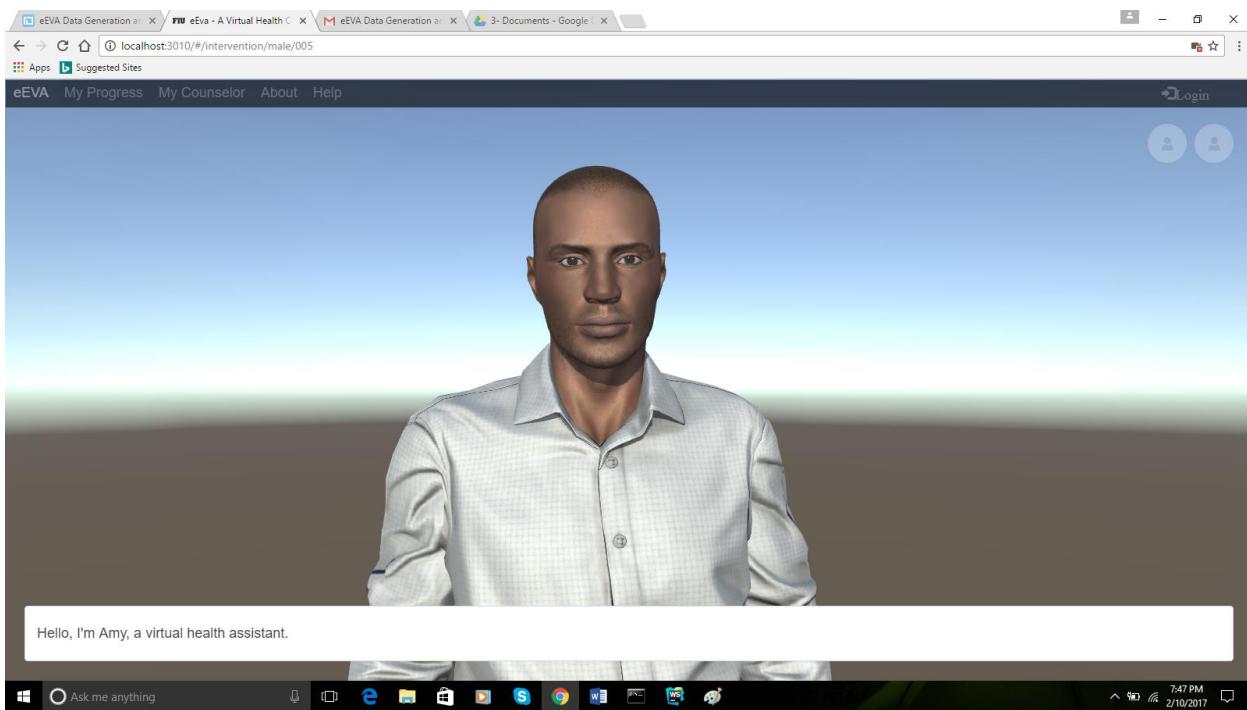


Figure 11: After loading a new counselor through the selection menu.

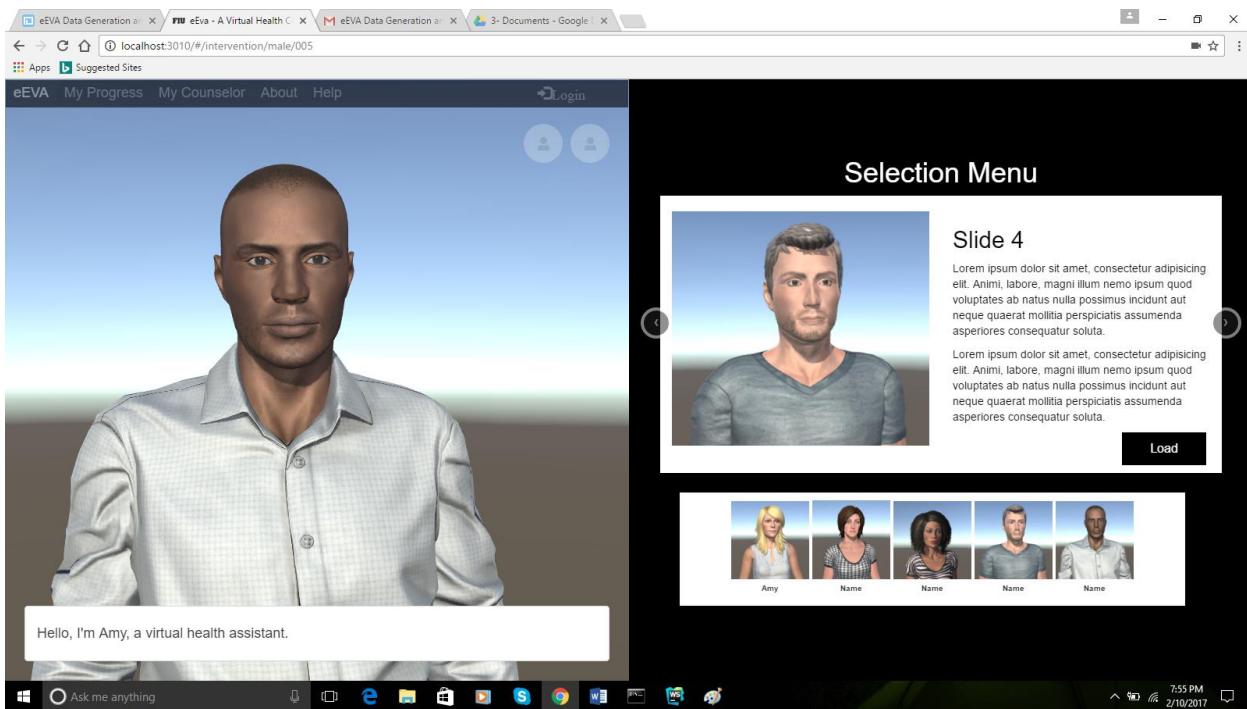


Figure 12: Selection menu shown in the newly loaded counseling view.

User Story #361

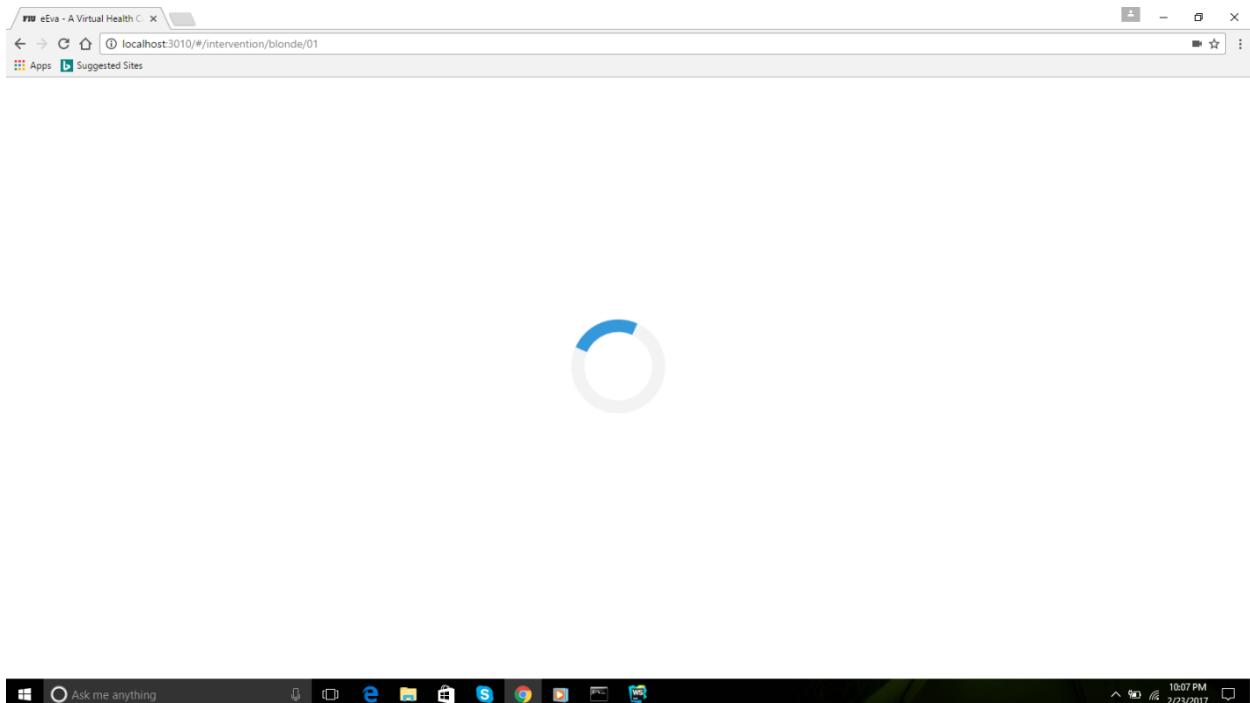


Figure 13: Simple CSS Loader (User Story 360)

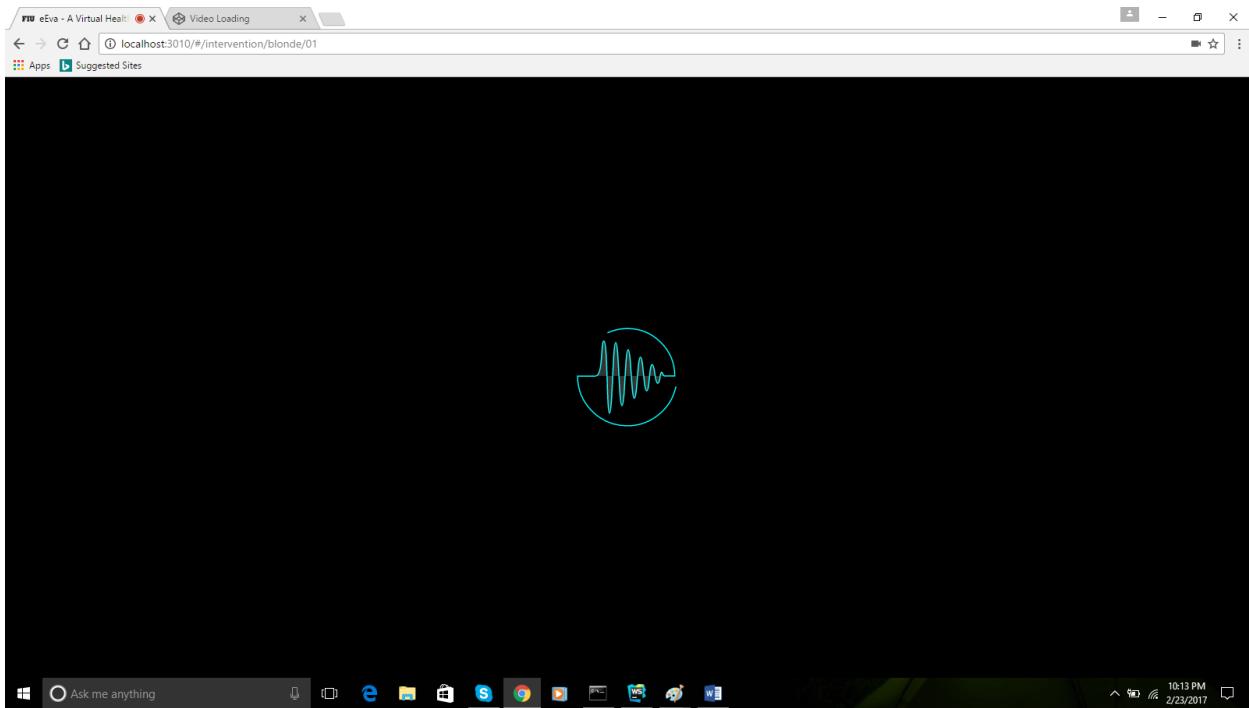


Figure 14: Fancier CSS Loader with different style (User Story 360)

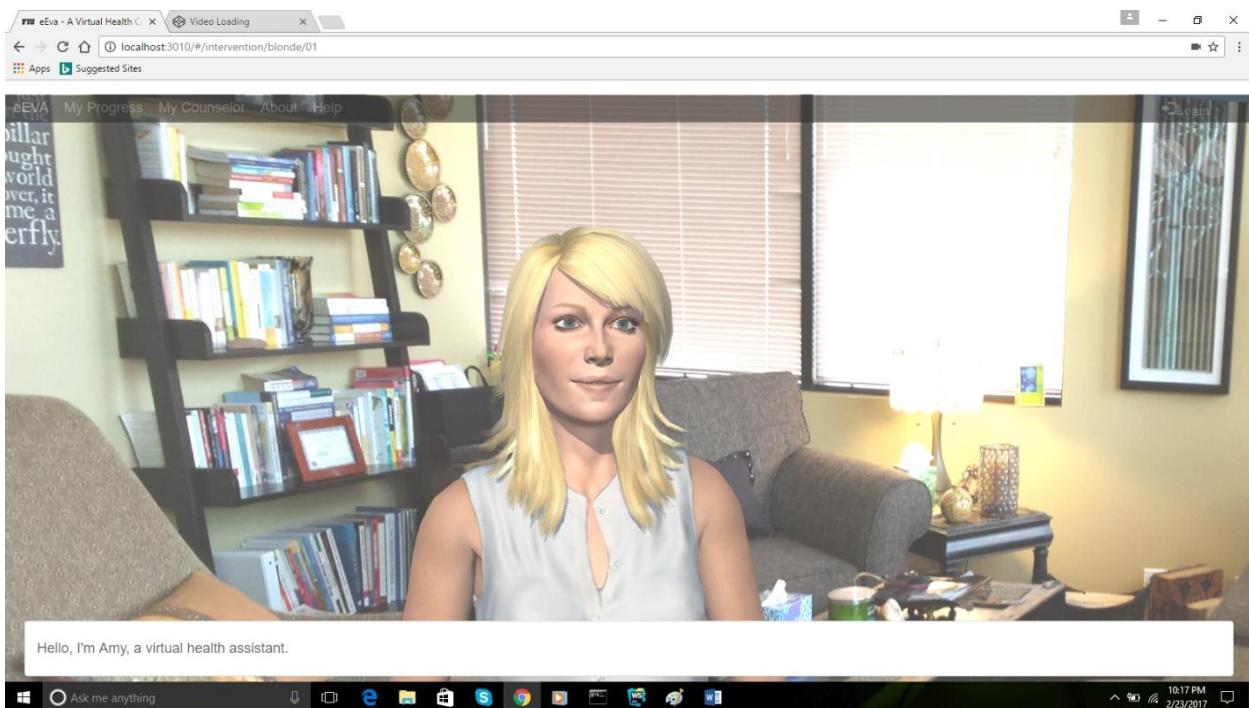


Figure 15: CSS Loader triggers a transition after scene has loaded

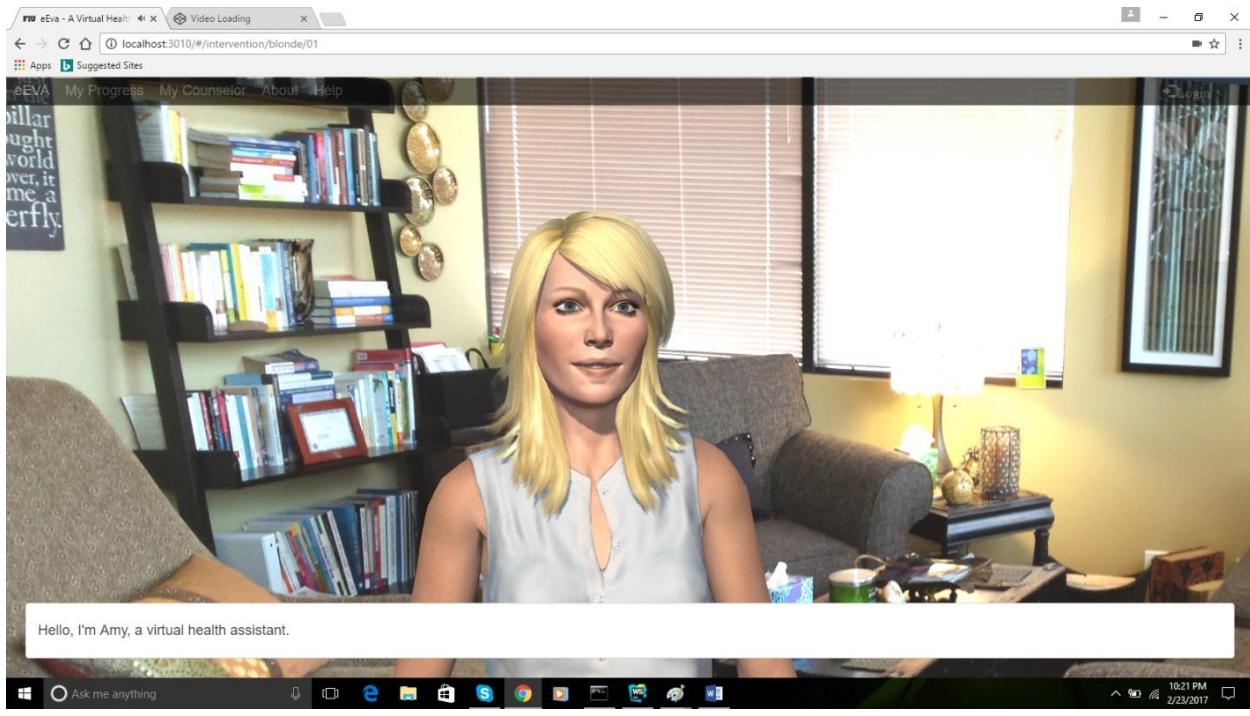


Figure 16: Counselor Amy

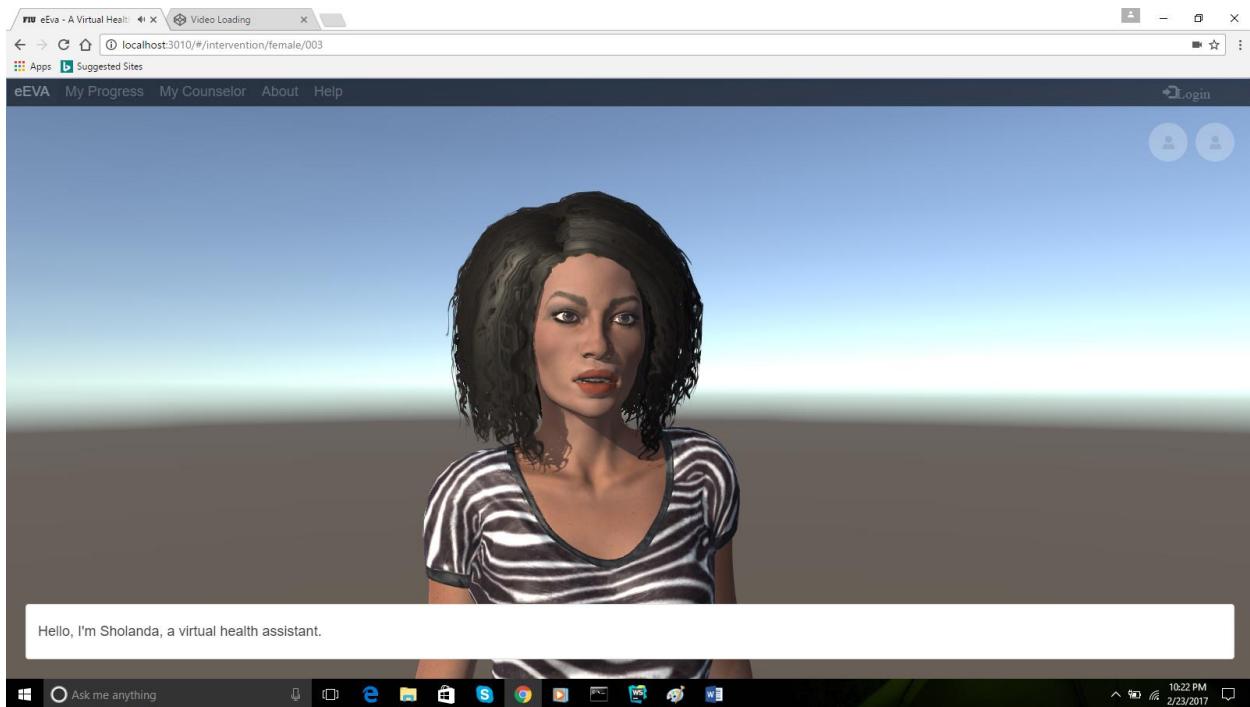


Figure 17: Counselor Stephanie

Final Deliverable

eEVA Data Generation and User Results Analysis Version 2.0

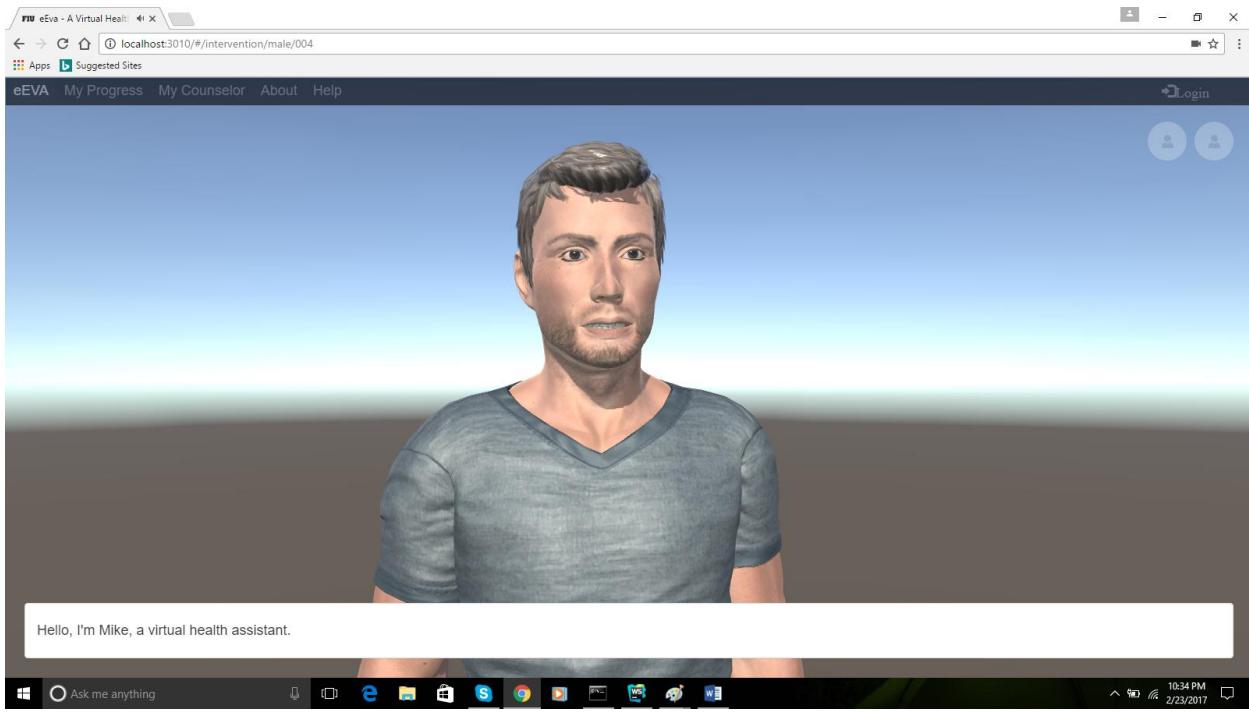


Figure 18: Counselor Mike

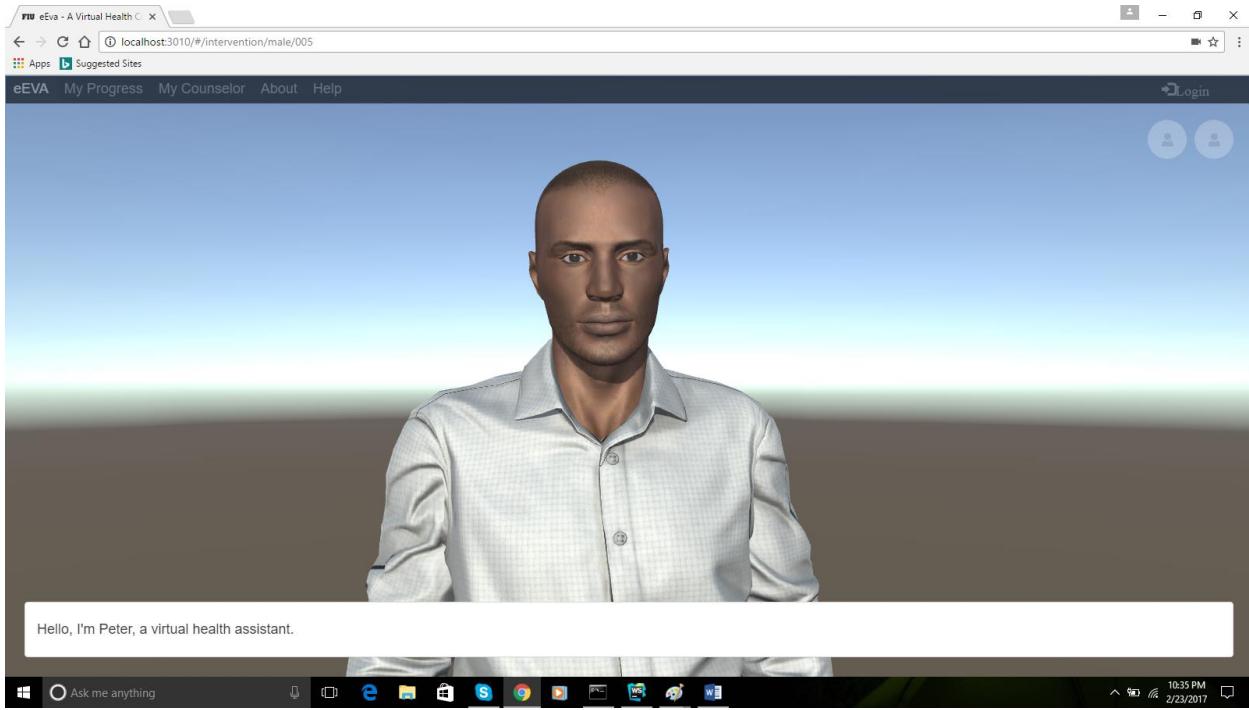


Figure 19: Counselor Peter

User Story #369

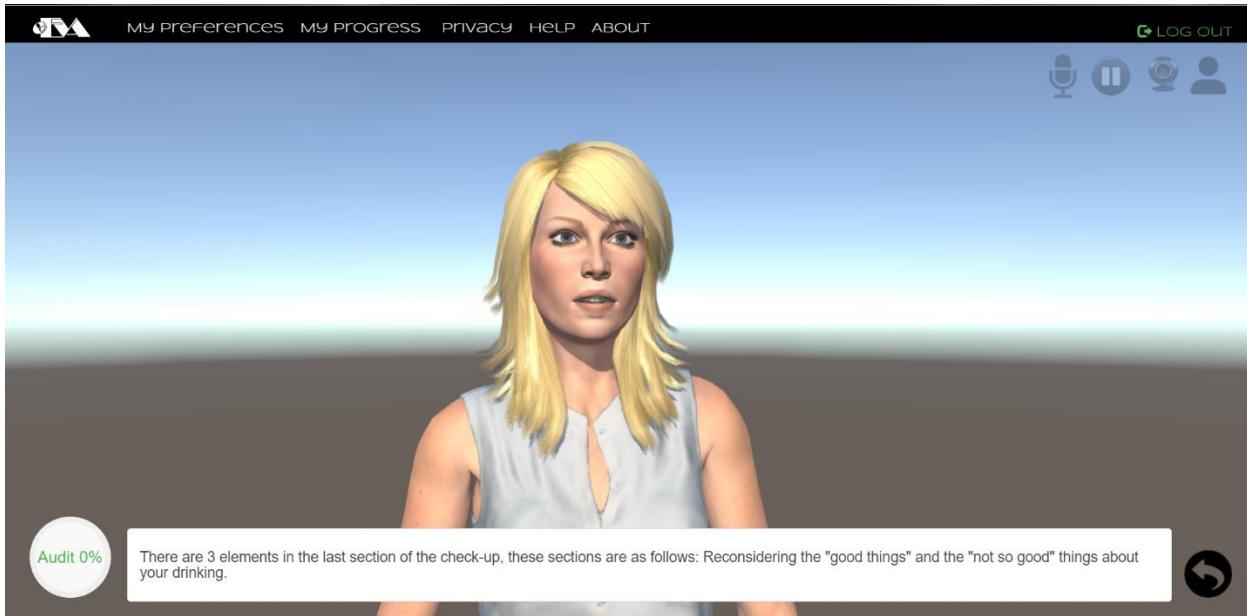


Figure 20: The above image is the beginning of the "Remaining Exercises" section. This section serves as a brief introduction for the remaining exercises in DCU.

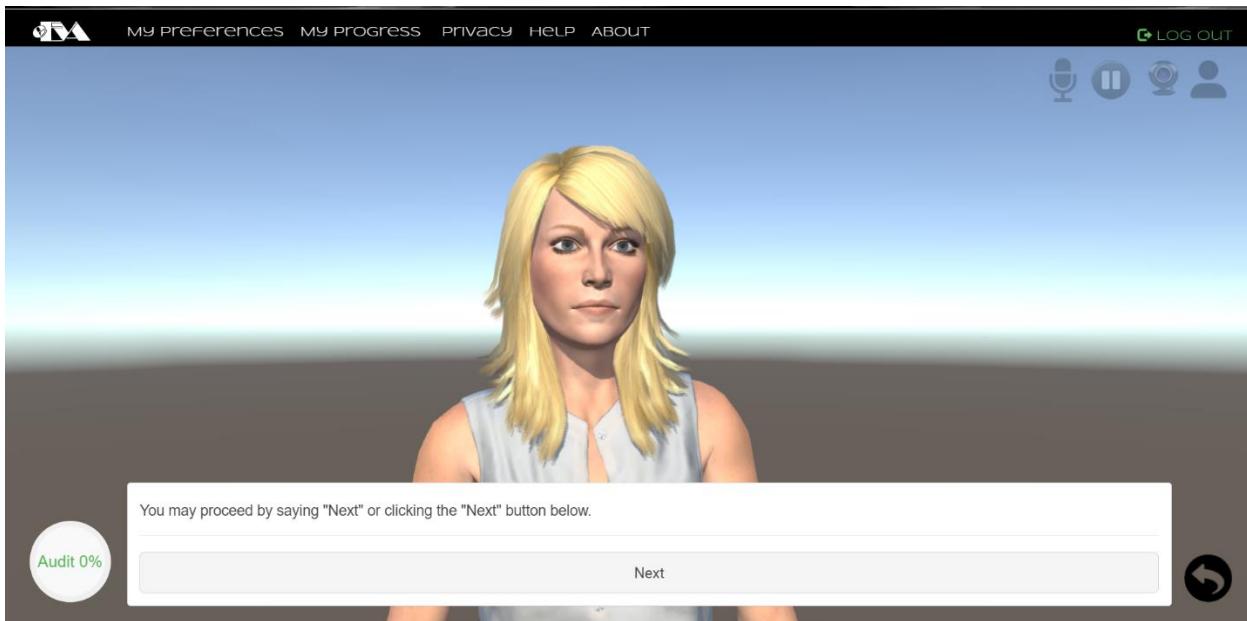


Figure 21: After the counselor has listed the remaining exercises in the DCU, the user can proceed to the next section.

User Story #370

The Good Things List

- It helps me sleep
- It helps me be more open socially
- It helps me forget my problems
- It helps me adjust my attitude
- It helps me feel sexier or have better sex
- I feel more creative when I drink
- I like the high

What I like About Drinking

Click on responses from the Good Things List to add them here, or enter responses in the field provided below:

Add

Here's the list of things you like about drinking that you entered earlier.

Figure 22: Depicts the beginning of "The Good Things Revisited". The counselor toggles to half screen and two text boxes (The Good Things List, What I Like About Drinking), an input field, and an add button displays.

The Good Things List

- It helps me sleep**
- It helps me be more open socially
- It helps me forget my problems
- It helps me adjust my attitude
- It helps me feel sexier or have better sex
- I feel more creative when I drink
- I like the high

What I like About Drinking

Click on responses from the Good Things List to add them here, or enter responses in the field provided below:

When you are done reviewing your answers please say "Submit" or click the "Submit" button provided below.

Submit

Figure 23: This image illustrates how the when the user hovers over a selection in either list, the content highlights yellow to show emphasis.

The Good Things Revisited

The Good Things List

- It helps me sleep
- It helps me be more open socially
- It helps me adjust my attitude
- I feel more creative when I drink

What I like About Drinking

Click on responses from the Good Things List to add them here, or enter responses in the field provided below:

- It helps me forget my problems
- It helps me feel sexier or have better sex
- I like the high

It helps me forget Add

When you are done reviewing your answers please say "Submit" or click the "Submit" button provided below.

Submit

Figure 24: This image shows how once the user clicks on an item in "The Good Things List" it is moved to the "What I like About Drinking" list. It also depicts how the user can enter items into the "What I like About Drinking List", in addition to clicking on the item in "The Good Things List".

The Good Things Revisited

The Good Things List

- It helps me sleep
- It helps me be more open socially
- It helps me adjust my attitude
- I feel more creative when I drink

What I like About Drinking

Click on responses from the Good Things List to add them here, or enter responses in the field provided below:

- It helps me forget my problems
- It helps me feel sexier or have better sex
- I like the high
- It helps me forget

It helps me forget Add

When you are done reviewing your answers please say "Submit" or click the "Submit" button provided below.

Submit

Figure 25: This shows that the information that was entered in the input field (figure 3) is added to the "What I like About Drinking" after clicking the "Add" button.

eEVA My Progress My Counselor About Help

The Good Things Revisited



The Good Things List

- It helps me sleep
- It helps me be more open socially
- It helps me adjust my attitude
- I feel more creative when I drink
- It helps me forget my problems
- It helps me feel sexier or have better sex

What I like About Drinking

Click on responses from the Good Things List to add them here, or enter responses in the field provided below:

It helps me forget

When you are done reviewing your answers please say "Submit" or click the "Submit" button provided below.

Figure 26: Shows the moving of items out of the What I Like About Drinking and back to “The Good Things List”.

User Story #386

eEVA My Progress My Counselor About Help

The Not So Good Things Revisited



The Not So Good Things List

- It affects my relationships with others
- Health-related problems
- Money Problems
- Memory blackouts
- Make poor decisions
- Feel guilty or ashamed
- Miss class or work the next day
- Affecting my school or work performance

What I Don't Like About My Drinking

Click on responses from the Not So Good Things List to add them here, or enter responses in the field provided below:

Can't afford to drink as much as I would like to.

Here's the list of things you don't like about drinking that you entered earlier.

Figure 27: Depicts the beginning of "The Not So Good Things Revisited". The counselor stays at half screen and two text boxes (The Not So Good Things List, What I Don't Like About My Drinking), an input field, and an add button displays.

Final Deliverable

eEVA Data Generation and User Results Analysis Version 2.0

The Not So Good Things Revisited

The Not So Good Things List

- It affects my relationships with others
- Health-related problems
- Memory blackouts
- Make poor decisions
- Feel guilty or ashamed
- Miss class or work the next day
- Affecting my school or work performance
- Shamed or embarrassed someone

What I Don't Like About My Drinking

Click on responses from the Not So Good Things List to add them here, or enter responses in the field provided below:

Money Problems

When you are done reviewing your answers please say "Submit" or click the "Submit" button provided below.

Submit

The Not So Good Things Revisited

The Not So Good Things List

- It affects my relationships with others
- Health-related problems
- Memory blackouts
- Make poor decisions
- Feel guilty or ashamed
- Miss class or work the next day
- Affecting my school or work performance
- Shamed or embarrassed someone

What I Don't Like About My Drinking

Click on responses from the Not So Good Things List to add them here, or enter responses in the field provided below:

Money Problems

When you are done reviewing your answers please say "Submit" or click the "Submit" button provided below.

Submit

Figure 28: The above 2 images illustrates how when the user hovers over a selection in either list, the content highlights yellow to show emphasis, and an arrow displays to show which direction the item will move upon being clicked.

The Not So Good Things Revisited

The Not So Good Things List

- It affects my relationships with others
- Health-related problems
- Memory blackouts
- Make poor decisions
- Feel guilty or ashamed
- Miss class or work the next day
- Affecting my school or work performance
- Shamed or embarrassed someone

What I Don't Like About My Drinking

Click on responses from the Not So Good Things List to add them here, or enter responses in the field provided below:

Money Problems

When you are done reviewing your answers please say "Submit" or click the "Submit" button provided below.

Submit

Figure 29: This image shows that once a user clicks on an item in a list, the item is moved from that list to the opposite list. In this image, "Money Problems" that was originally in "The Not So Good Things List" (see left image of Figure 23) was clicked and is not located in the "What I Don't Like About My Drinking" list.

The Not So Good Things Revisited

The Not So Good Things List

- It affects my relationships with others
- Health-related problems
- Memory blackouts
- Make poor decisions
- Feel guilty or ashamed
- Miss class or work the next day
- Affecting my school or work performance
- Shamed or embarrassed someone

What I Don't Like About My Drinking

Click on responses from the Not So Good Things List to add them here, or enter responses in the field provided below:

The user's manually input response

When you are done reviewing your answers please say "Submit" or click the "Submit" button provided below.

Submit

The Not So Good Things Revisited

The Not So Good Things List

- It affects my relationships with others
- Health-related problems
- Memory blackouts
- Make poor decisions
- Feel guilty or ashamed
- Miss class or work the next day
- Affecting my school or work performance
- Shamed or embarrassed someone

What I Don't Like About My Drinking

Click on responses from the Not So Good Things List to add them here, or enter responses in the field provided below:

Money Problems

The user's manually input response

When you are done reviewing your answers please say "Submit" or click the "Submit" button provided below.

Submit

Figure 30: The left picture shows the user inputting their response in the text field. The right image shows the manually input response in the "What I Don't Like About My Drinking" list.

User Story #387

Rating Your Pros and Cons

Instructions: Items are ranked by priority from highest (top of the list) to lowest (bottom of the list). Items can be reordered by mousing over the item and clicking the up arrow to move the item higher in the list, or click the down arrow to move the item to a lower position within the list.

What I Like About Drinking	What I Don't Like About Drinking
It relaxes me.	It doesn't last forever.
It helps me feel sexier and have better sex.	Can't afford to drink as much as I would like to.
It helps me tolerate my family.	
When drinking, people are less annoying.	

Move the most important to the top of each list by mousing over the item that you would like to move, and then click the corresponding arrow to move the item in that direction.

Figure 31: This section "Rating Your Pros and Cons" allows the user to rate what they like and don't like about their drinking. Note: There has been changes made to this interface with user story #435.\|

Rating Your Pros and Cons

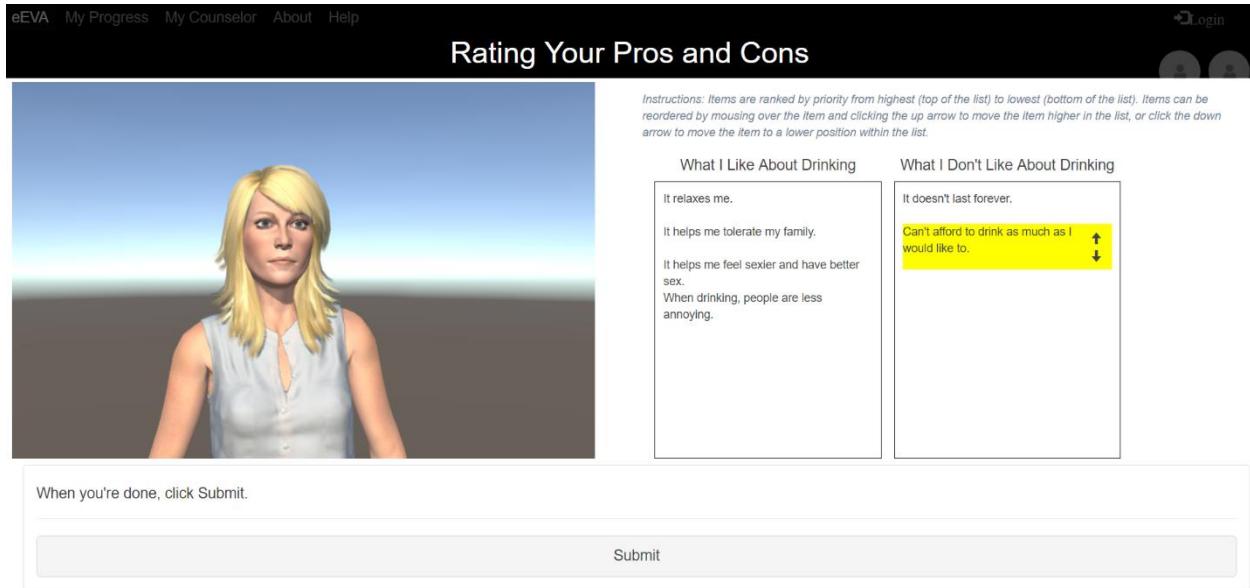
Instructions: Items are ranked by priority from highest (top of the list) to lowest (bottom of the list). Items can be reordered by mousing over the item and clicking the up arrow to move the item higher in the list, or click the down arrow to move the item to a lower position within the list.

What I Like About Drinking	What I Don't Like About Drinking
It relaxes me.	It doesn't last forever.
It helps me feel sexier and have better sex.	Can't afford to drink as much as I would like to.
It helps me tolerate my family.	
When drinking, people are less annoying.	

When you're done, click Submit.

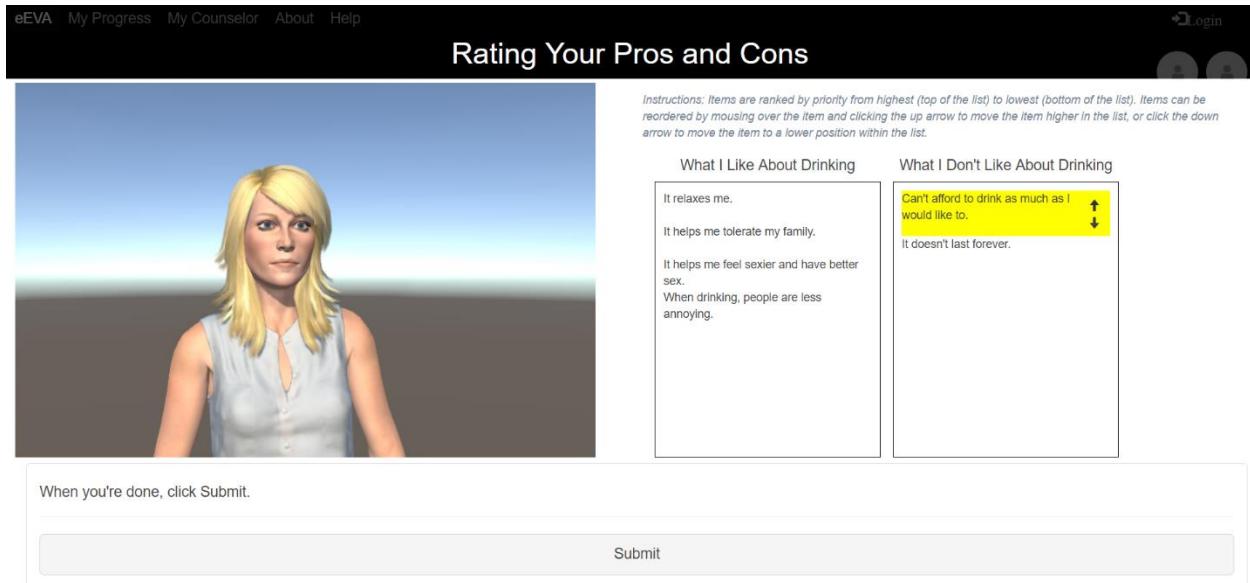
Submit

Figure 32: When the mouse pointer hovers over an item, it highlights yellow for clarity and an up and down arrow appears to alert the user of the directions the items can move.



The screenshot shows a user interface titled "Rating Your Pros and Cons". At the top left is a navigation bar with links: "eEVA", "My Progress", "My Counselor", "About", "Help", and "Login". Below the title is a large image of a woman with blonde hair. To the right of the image are two columns of text boxes. The left column is titled "What I Like About Drinking" and contains the following items: "It relaxes me.", "It helps me tolerate my family.", "It helps me feel sexier and have better sex.", and "When drinking, people are less annoying.". The right column is titled "What I Don't Like About Drinking" and contains the following items: "It doesn't last forever.", "Can't afford to drink as much as I would like to.", and "It doesn't last forever.". A yellow highlight box surrounds the third item in the right column. Below the columns is a note: "Instructions: Items are ranked by priority from highest (top of the list) to lowest (bottom of the list). Items can be reordered by mousing over the item and clicking the up arrow to move the item higher in the list, or click the down arrow to move the item to a lower position within the list." At the bottom left is a message: "When you're done, click Submit." At the bottom center is a "Submit" button.

Figure 33: All items highlight for clarity and allows the user to move the items up or down by clicking on the associated up or down arrow. Note: There has been changes made to this interface with user story #425.



This screenshot is identical to Figure 33, showing the same interface and content. It includes the same navigation bar, the same woman's image, the same two columns of text boxes, the same note about reordering, the same "Submit" button, and the same "When you're done, click Submit." message. The only difference is that the third item in the "What I Don't Like About Drinking" list is now highlighted with a yellow box and arrows, indicating it has been moved to the top of the list.

Figure 34: This demonstrates the reordering of items: Note: There has been changes made to this interface with the user story #425.

User Story #389

Getting What You Want

Element 1 (Content)

```
<div ng-controller="GWWController"> <div> <div class="row-fluid" style="position:fixed; width:100%;"> <div class="col-sm-12"> <header id="title-...> <button>Order ▾ <button>Delete
```

Element 2 (feedbackList)

People often drink to get something from it.

It helps them relax, socialize, adjust their attitude, improve their mood, and escape.

The "desired effects" themselves are often positive.

They are a part of enjoying the good things in life and help deal with life.

Here are some desired effects people try to get by drinking. What are yours?

Add Feedback

Element 3 (QuestionAnswer)

When you are done reviewing your answers please say "Submit" or click the "Submit" button provided below.

Submit

Add Answers

Figure 35: Editing Survey

The screenshot shows a web browser window with the URL localhost:3010/#/counseling. The page title is "Getting What You Want". On the left, there is a 3D rendering of a male virtual character. To the right, there are two columns: "Desired Effects" and "My Desired Effects". The "Desired Effects" column contains a list of items: "To reduce my stress levels", "To adjust my attitude", "To be more sociable", "To enjoy sex more", "To be more assertive", "To get high", "To be more creative", and "To be a better lover". The "My Desired Effects" column contains a text box with the instruction: "To add an effect, click and drag it into your list. You can also add effects by clicking in the text box, typing, then clicking Add. When you're done, click Submit." Below the "Desired Effects" list is a text input field and a "Add" button. At the bottom of the page, there is a feedback section with the text: "It helps them relax, socialize, adjust their attitude, improve their mood, and escape." The browser's status bar at the bottom shows the date and time: "11:02 PM 3/9/2017".

Figure 36: Survey Interaction.

Final Deliverable

eEVA Data Generation and User Results Analysis Version 2.0

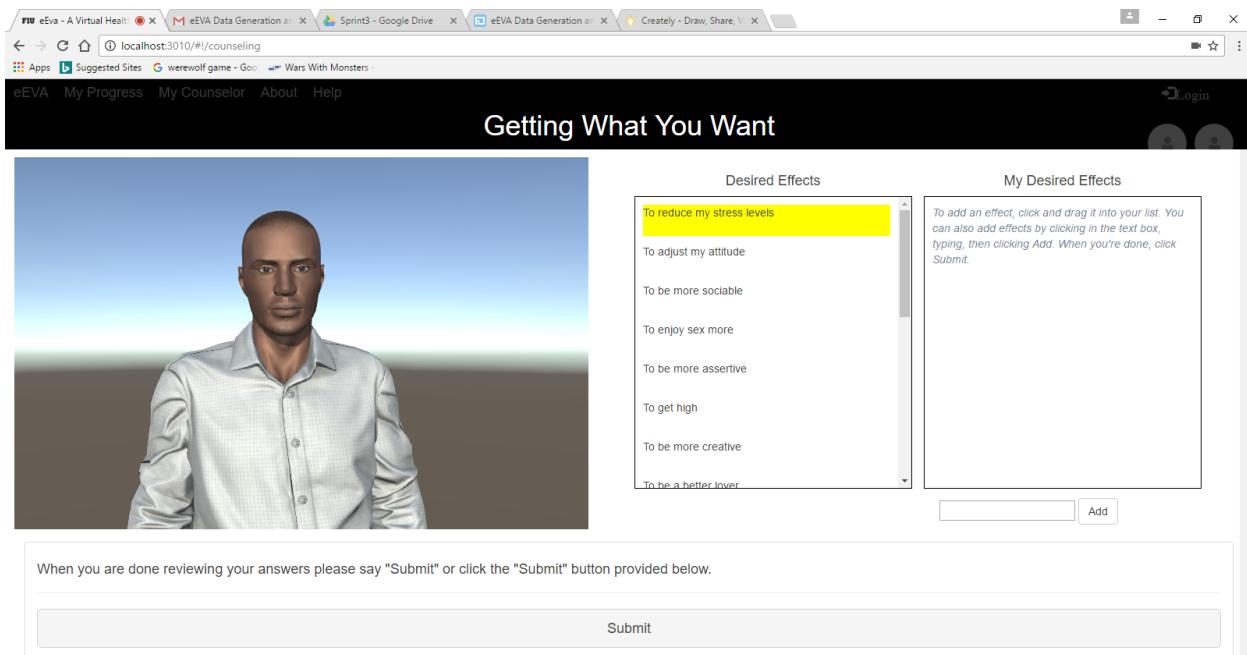


Figure 37: Hover Effect

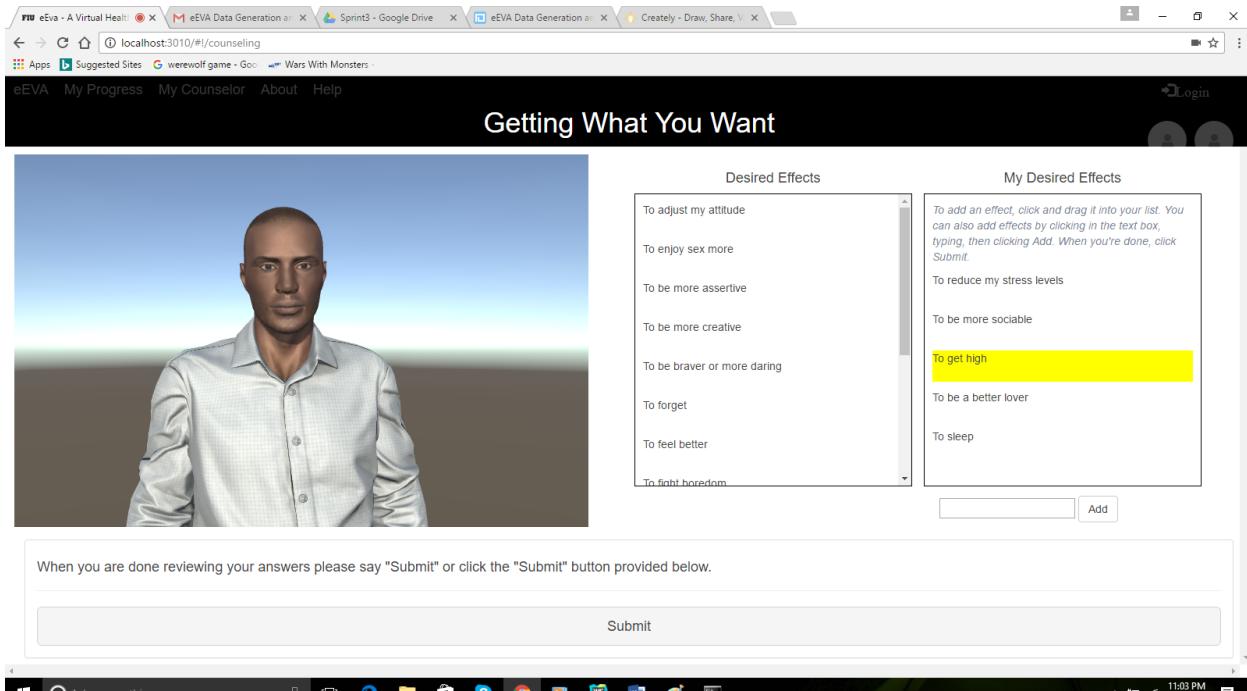


Figure 38: After moving items from the default Desired Effects List to My Desired Effects List

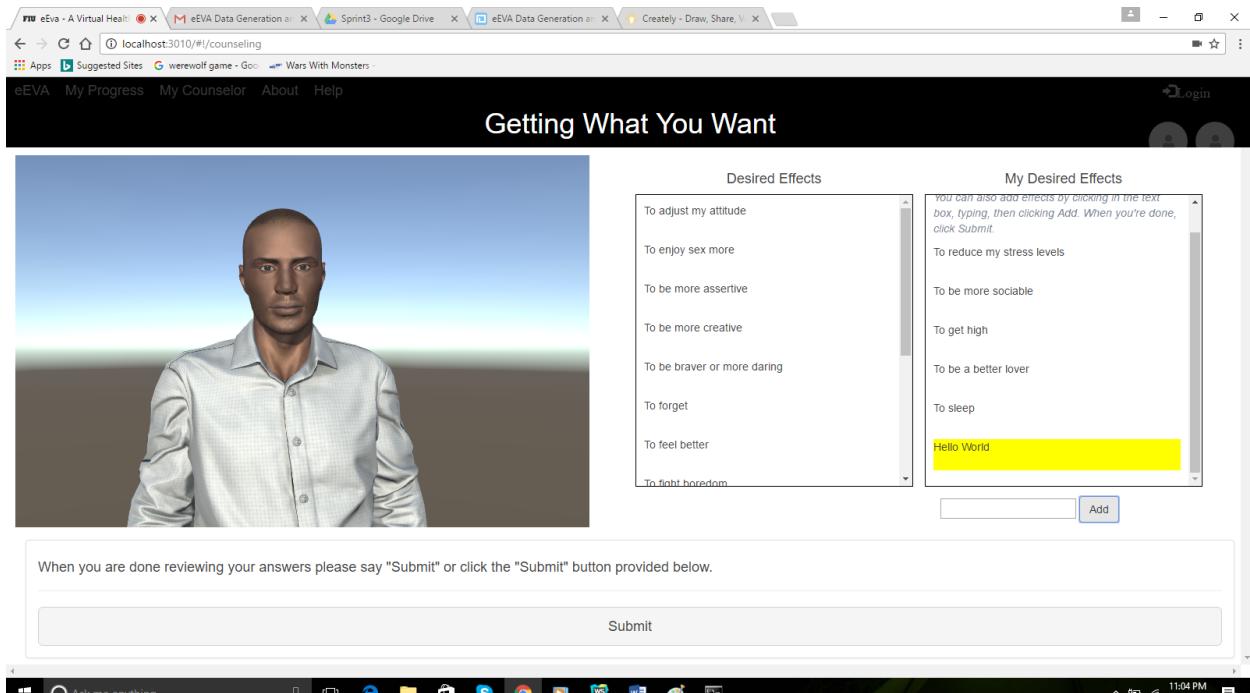


Figure 39: After adding my own text input to the list

User Story #411

Game Plan

What changes are you going to make? Be specific. Include positive goals (beginning, increase, improve, do more of something) as well as negative goals (stopping, decreasing, avoiding).

Type your response here...

What changes are you going to make? Be specific. Include positive goals (beginning, increase, improve, do more of something) as well as negative goals (stopping, decreasing, avoiding).

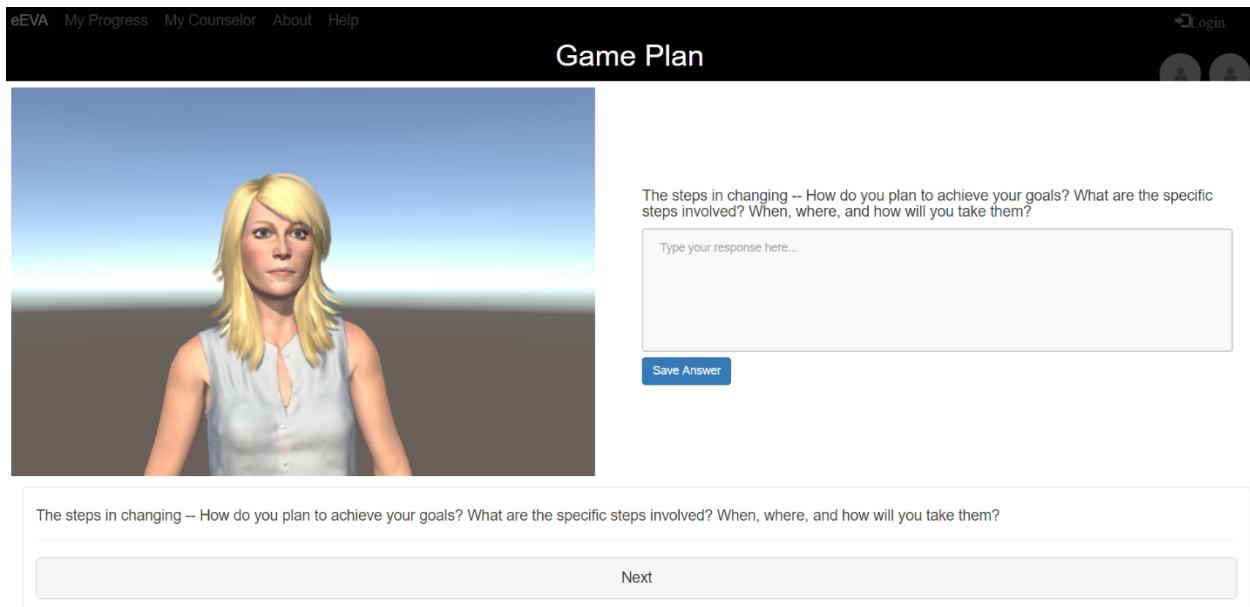
Figure 40: This image shows question 1 of 6 that is a part of the "Game Plan" section of the DCU.

The screenshot shows the 'Game Plan' section of the eEVA application. At the top, there is a navigation bar with links for 'eEVA', 'My Progress', 'My Counselor', 'About', 'Help', 'Login', and user icons. The main title 'Game Plan' is centered above a large image of a woman with blonde hair. To the right of the image is a text input field with placeholder text: 'Reasons for changing--What are your most important reasons for changing? Your list of "not so good" things about drinking.' Below the input field is a blue 'Save Answer' button. Below the main image, there is another text input field with the same placeholder text, followed by a blue 'Next' button.

Figure 41: This image shows question 2 of 6 that is a part of the “Game Plan” section of the DCU.

The screenshot shows the 'Game Plan' section of the eEVA application. At the top, there is a navigation bar with links for 'eEVA', 'My Progress', 'My Counselor', 'About', 'Help', 'Login', and user icons. The main title 'Game Plan' is centered above a large image of a woman with blonde hair. To the right of the image is a text input field with placeholder text: 'Reasons for changing--What are your most important reasons for changing?'. Below the input field is a blue 'Save Answer' button. A modal window titled 'My List of Not So Good Things about Drinking' is displayed, containing two lines of text: 'It doesn't last forever.' and 'Can't afford to drink as much as I would like to.'. Below the modal is a blue 'Insert into my game plan' button. Below the main image, there is another text input field with the same placeholder text, followed by a blue 'Next' button.

Figure 42: This image depicts the user's ability to auto fill this question (2 of 6) using responses from a different portion of the DCU.

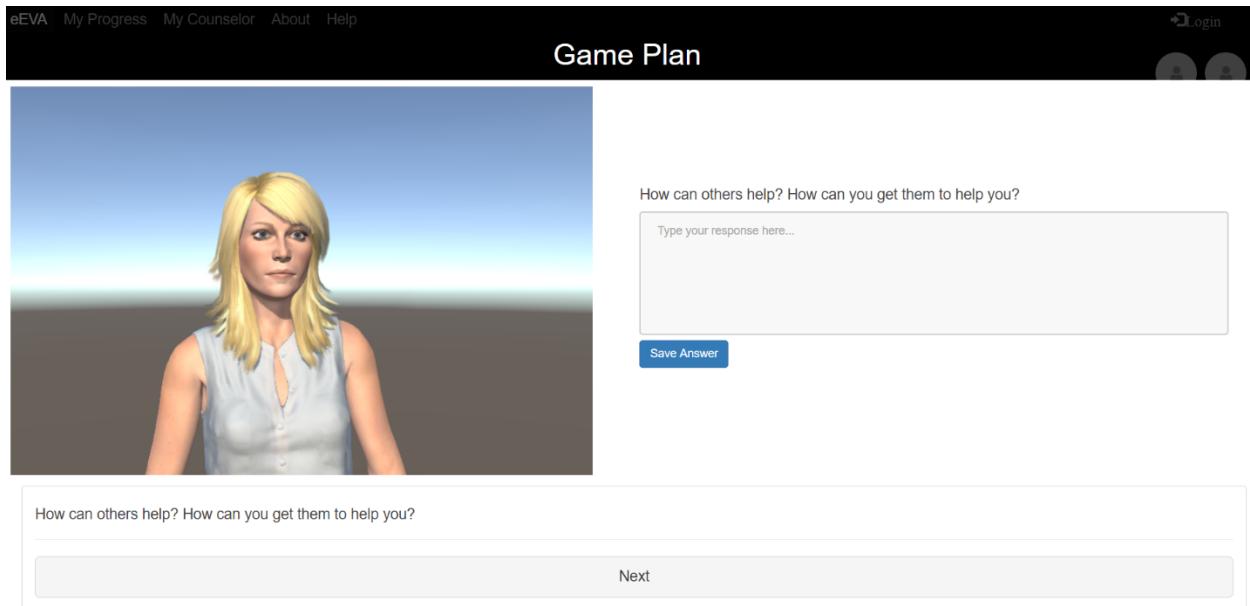


The steps in changing -- How do you plan to achieve your goals? What are the specific steps involved? When, where, and how will you take them?

Type your response here...

Save Answer

Figure 43: This image shows question 3 of 6 that is a part of the “Game Plan” section of the DCU.



How can others help? How can you get them to help you?

Type your response here...

Save Answer

Figure 44: This image shows question 4 of 6 that is a part of the “Game Plan” section of the DCU.

The screenshot shows the "Game Plan" section of the DCU. At the top, there is a navigation bar with links for "eEVA", "My Progress", "My Counselor", "About", "Help", "Login", and two user icons. The main title "Game Plan" is centered above a large image of a blonde woman in a light blue sleeveless top. To the right of the image is a text box asking, "What could go wrong or undermine your plan? How can you stick with your plan despite these setbacks or problems?" Below this is a response input field with the placeholder "Type your response here..." and a "Save Answer" button.

What could go wrong or undermine your plan? How can you stick with your plan despite these setbacks or problems?

Type your response here...

Save Answer

Figure 45: This image shows question 5 of 6 that is a part of the “Game Plan” section of the DCU.

The screenshot shows the "Game Plan" section of the DCU. At the top, there is a navigation bar with links for "eEVA", "My Progress", "My Counselor", "About", "Help", "Login", and two user icons. The main title "Game Plan" is centered above a large image of a blonde woman in a light blue sleeveless top. To the right of the image is a text box asking, "What good things will happen as a result of changing?" Below this is a response input field with the placeholder "Type your response here..." and a "Save Answer" button.

What good things will happen as a result of changing?

Type your response here...

Save Answer

Figure 46: This image shows question 6 of 6 that is a part of the “Game Plan” section of the DCU.

User Story #412

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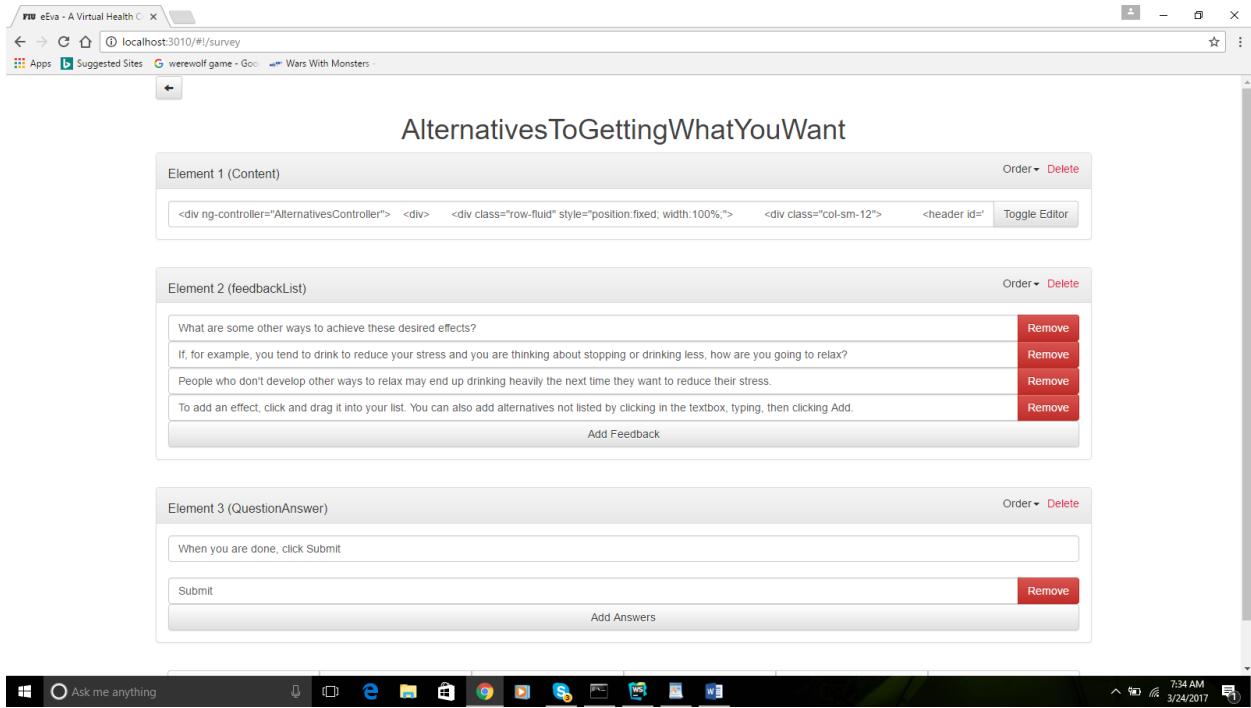


Figure 47: Editing Survey

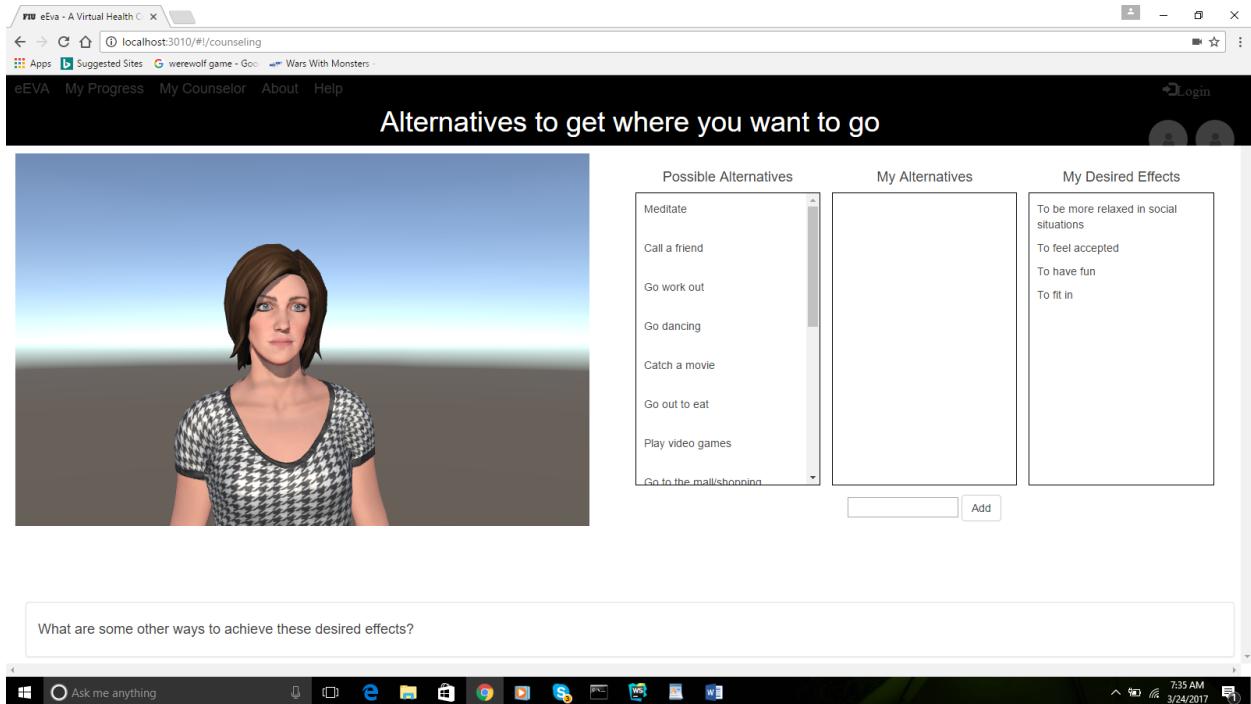
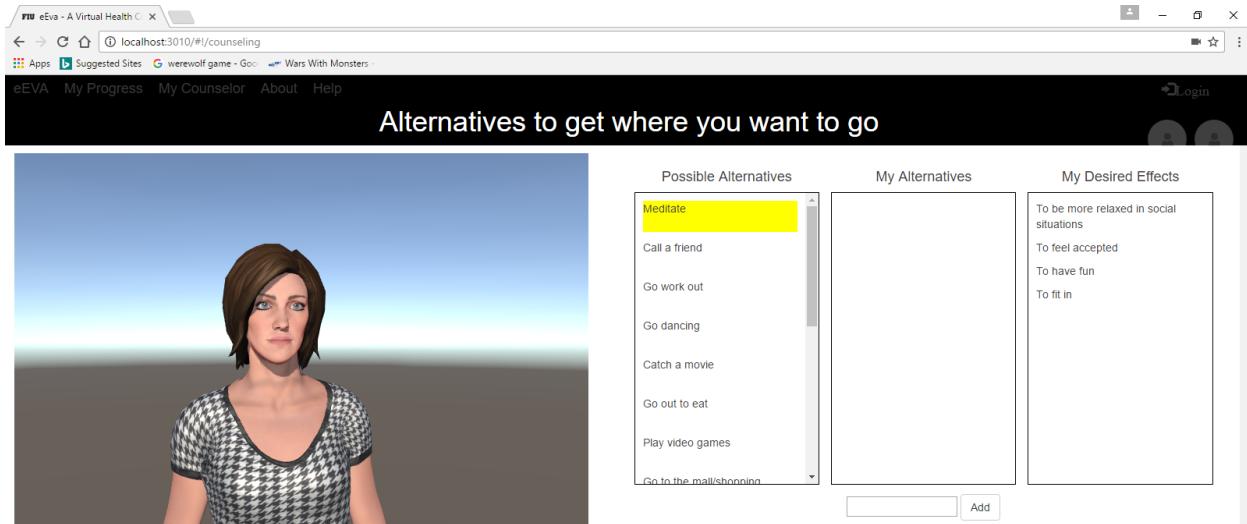


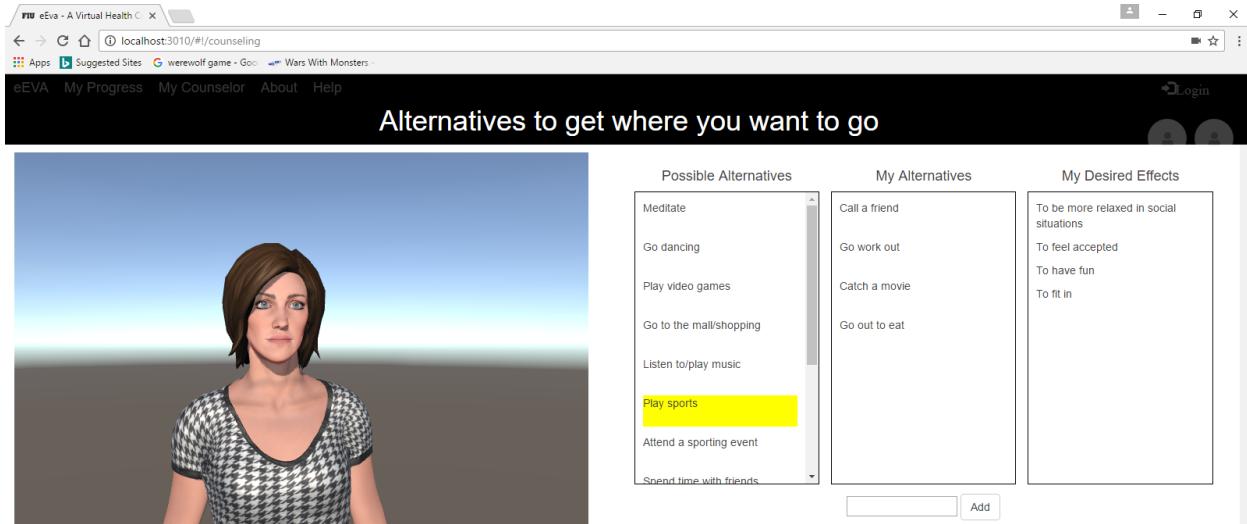
Figure 48: Survey Interaction.



What are some other ways to achieve these desired effects?



Figure 49: Hover Effect



What are some other ways to achieve these desired effects?



Figure 50: After moving items from the default Possible Alternatives List to My Alternatives List

The screenshot shows a web browser window for 'eEva - A Virtual Health C...' at 'localhost:3010/#/counseling'. The page title is 'Alternatives to get where you want to go'. On the left is a 3D female avatar. To the right are three columns: 'Possible Alternatives' (Meditate, Go dancing, Play video games, Go to the mall/shopping, Listen to/play music, Play sports, Attend a sporting event, Spend time with friends), 'My Alternatives' (Call a friend, Go work out, Catch a movie, Go out to eat, My name is what? - highlighted in yellow), and 'My Desired Effects' (To be more relaxed in social situations, To feel accepted, To have fun, To fit in). Below these columns are 'Add' and 'Add' buttons. At the bottom, a text input field contains 'What are some other ways to achieve these desired effects?'.

Figure 51: After adding my own text input to the list

User Story #418

The screenshot shows a web browser window for 'eEva - A Virtual Health C...' at 'localhost:3010/#/counseling'. The page title is 'Game Plan'. On the left is a 3D female avatar. To the right is a text area with placeholder text 'Type your response here...' and a 'Save Answer' button. Above the text area is a note: 'Be specific. Include positive goals (beginning, increase, improve, do more of something) as well as negative goals (stopping, decreasing, avoiding.)'. Below the text area is a question 'What changes are you going to make?' with a 'Next' button. In the bottom left corner, there is a circular progress bar labeled 'Audit 0%'.

Figure 52: The above figure shows the "Modified Game Plan" section of the DCU. The only difference between this user story and the original Gameplan user story is that the question is not repeated twice, once about the text-area and once in the counselor's CC as was the case with the original. Now the counselor presents the questions and useful extra information is displayed about the text-area.

User Story #419

Game Plan Overview

Your Game Plan Overview

What changes are you going to make? Be specific. Include positive goals (beginning, increase, improve, do more of something) as well as negative goals (stopping, decreasing, avoiding)

Become more aware of my drinking

Reasons for changing—What are your most important reasons for changing?

It's ruining my life

The steps in changing—How do you plan to achieve your goals? What are the specific steps involved? When, where, and how will you take them?

Taking one day at a time

How can others help? How can you get them to help you?

By letting me know when I am not on track with my drinking plan. Explaining the importance for me to change my drinking habits.

What could go wrong or undermine your plan? How can you stick with your plan despite these setbacks or problems?

Continuing to hang out with the 'bad crowd'. Choose my friends wisely.

What good things will happen as a result of changing?

I will save money and hopefully improve my relationships.

[Print Game Plan Overview](#)

Figure 53: This is the “Game Plan Overview” section of the DCU, where the user can review how they answered the “Game Plan” section of the DCU and is given the option to print this information to review later.

Game Plan Overview

Congratulations!

ModerateDrinking.com
Overcoming Addictions

Audit 0%

You're done with the Check-up!

Figure 54: This is the congratulatory screen and shows that the user is given some initial resources.

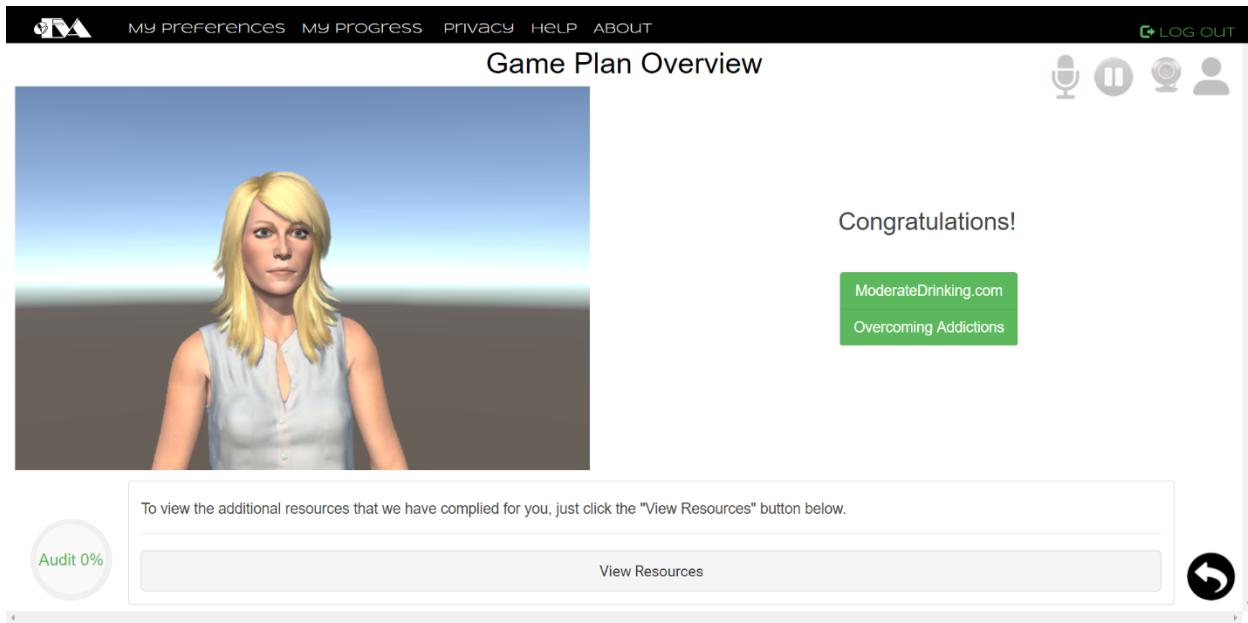


Figure 55: This shows that the user can progress to additional resources if they decide to do so.

User Story #424

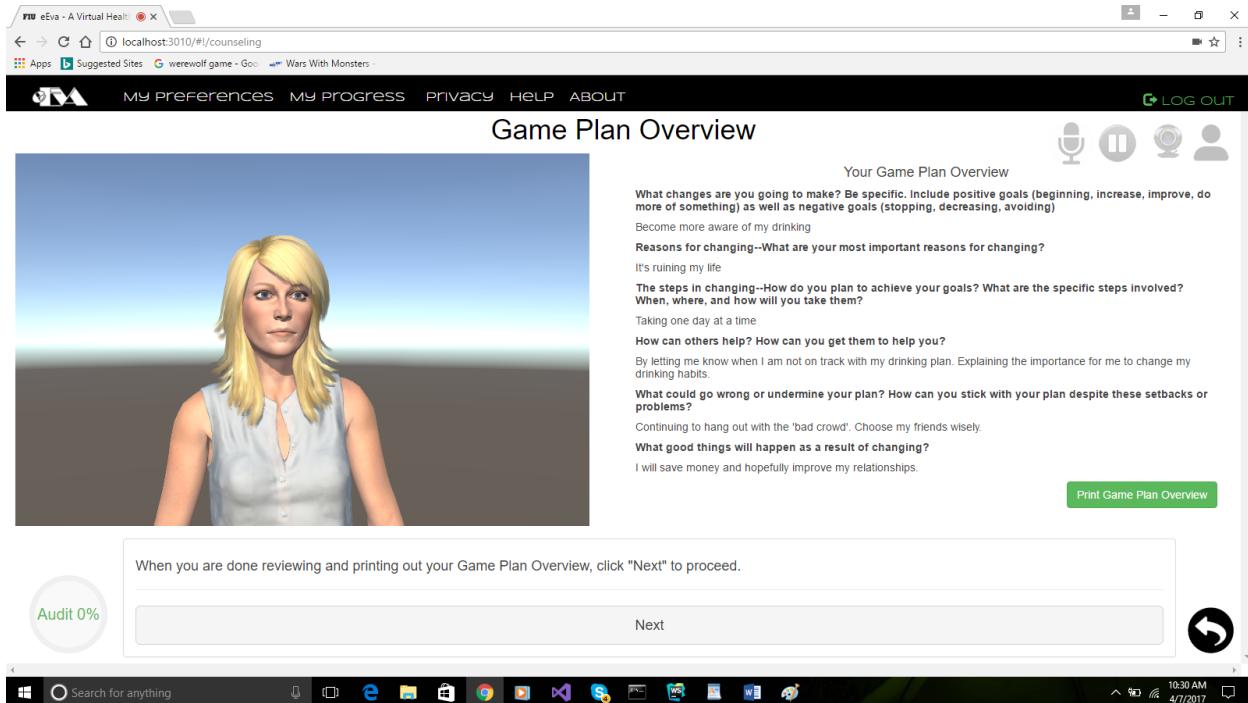


Figure 56: Gameplan Overview Survey View

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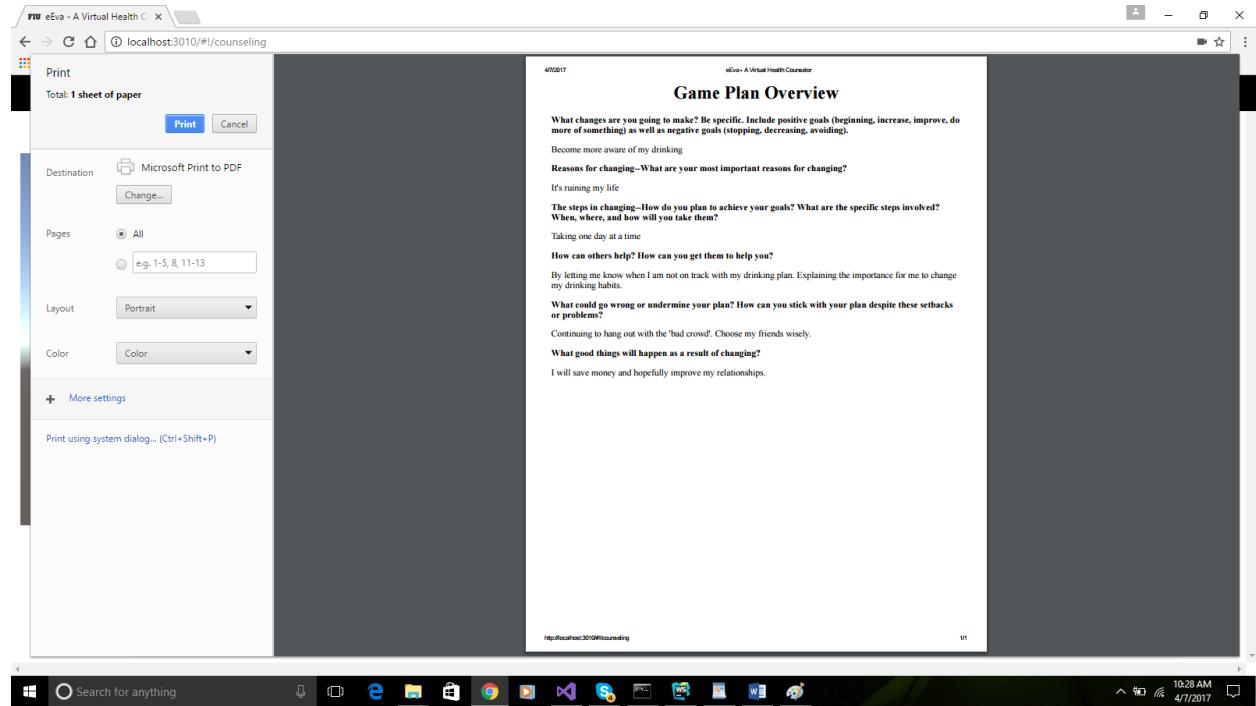


Figure 57: Printing Gameplan Overview content.

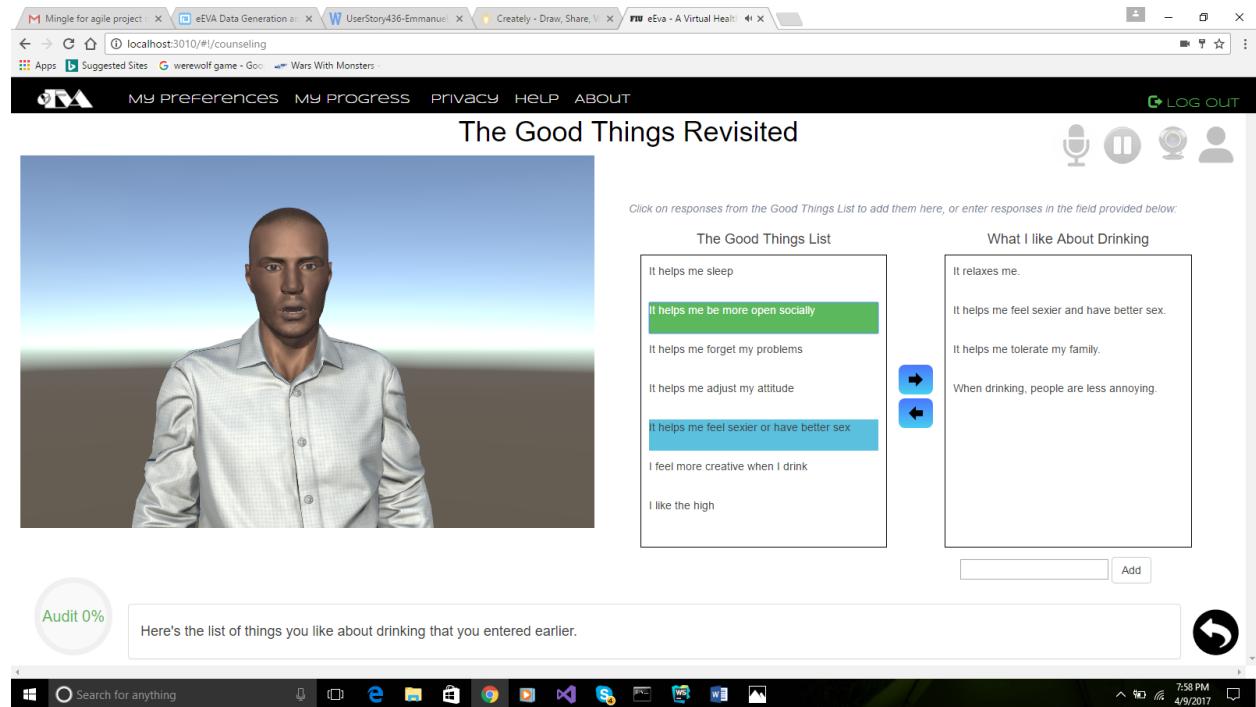


Figure 58: The Good Things Revisited Survey Rework.

Final Deliverable

eEVA Data Generation and User Results Analysis Version 2.0

The screenshot shows a web-based application window titled "The Not So Good Things Revisited". At the top, there is a navigation bar with links for "MY PREFERENCES", "MY PROGRESS", "PRIVACY", "HELP", and "ABOUT". On the right side of the header, there are icons for microphone, video, and user profile, along with a "LOG OUT" button.

The main content area features a large image of a woman with dark hair and a striped shirt. To the right of the image is a list titled "The Not So Good Things List" containing items such as "It affects my relationships with others", "Health-related problems", "Money Problems", "Memory blackouts", "Make poor decisions", "Feel guilty or ashamed", and "Miss class or work the next day". Below this list is a sub-section titled "What I Don't Like About My Drinking" with items like "It doesn't last forever" and "Can't afford to drink as much as I would like to". A blue "Add" button is located at the bottom right of the list area.

A message at the top of the list area says: "Click on responses from the Not So Good Things List to add them here, or enter responses in the field provided below:". A tooltip below the list area states: "To move an item, just click the item that you would like to move into or out of your list." A circular progress bar on the left indicates "Audit 0%".

The taskbar at the bottom of the screen shows various open applications, including Microsoft Word, Excel, and several browser tabs. The system tray shows the date and time as 4/9/2017 8:00 PM.

Figure 59: The Not So Good Things Revisited Survey Rework.

The screenshot shows a web-based application window titled "Rating Your Pros and Cons". The layout is similar to Figure 59, with a navigation bar at the top and a main content area featuring a woman's image and a list of pros and cons.

The main content area features a large image of a woman with blonde hair and a light blue sleeveless top. To the right of the image is a list titled "What I Like About Drinking" containing items such as "It relaxes me", "It helps me feel sexier and have better sex", "It helps me tolerate my family" (which is highlighted in blue), and "When drinking, people are less annoying". Below this list is a sub-section titled "What I Don't Like About My Drinking" with items like "It doesn't last forever" and "Can't afford to drink as much as I would like to". A blue "Add" button is located at the bottom right of the list area.

A message at the top of the list area says: "Instructions: Items are ranked by priority from highest (top of the list) to lowest (bottom of the list). Items can be reordered by clicking on the directional arrows, thus adjusting priority." A tooltip below the list area states: "How important is each of these things to you?". A circular progress bar on the left indicates "Audit 0%".

The taskbar at the bottom of the screen shows various open applications, including Microsoft Word, Excel, and several browser tabs. The system tray shows the date and time as 4/9/2017 8:01 PM.

Figure 60: Rating Pros and Cons Survey Rework.

Final Deliverable

eEVA Data Generation and User Results Analysis Version 2.0

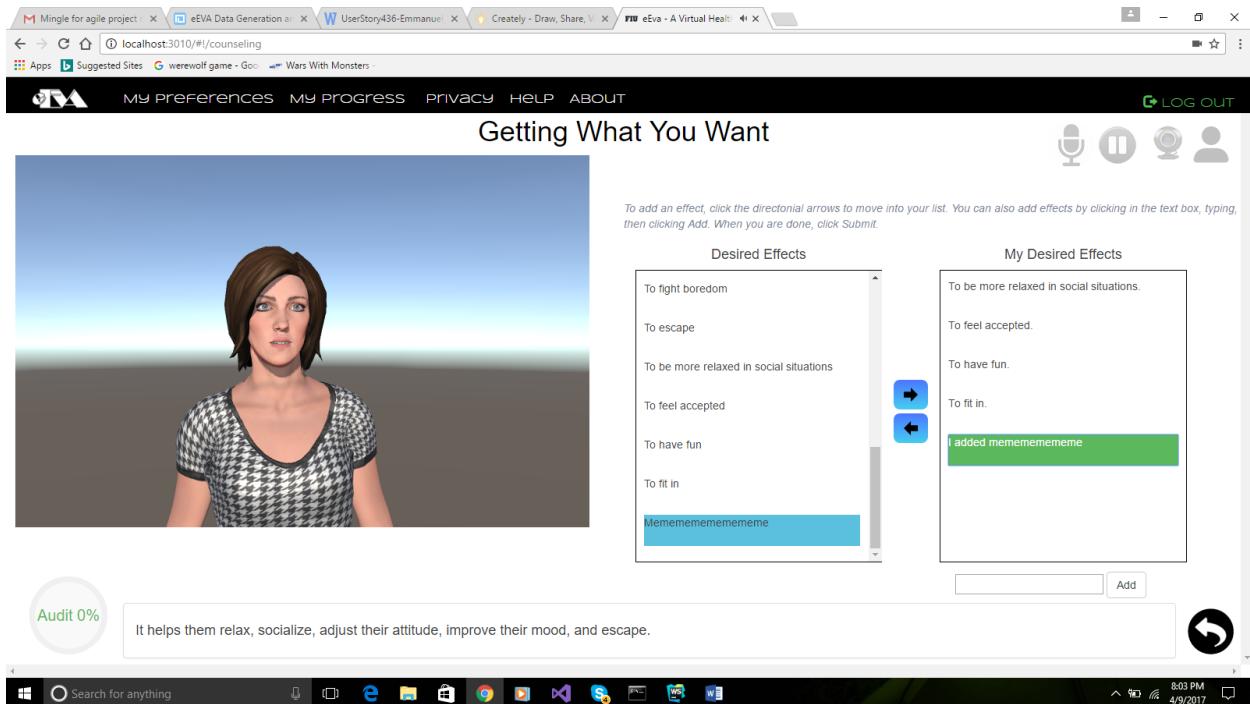


Figure 61: Getting What You Want Survey Rework.

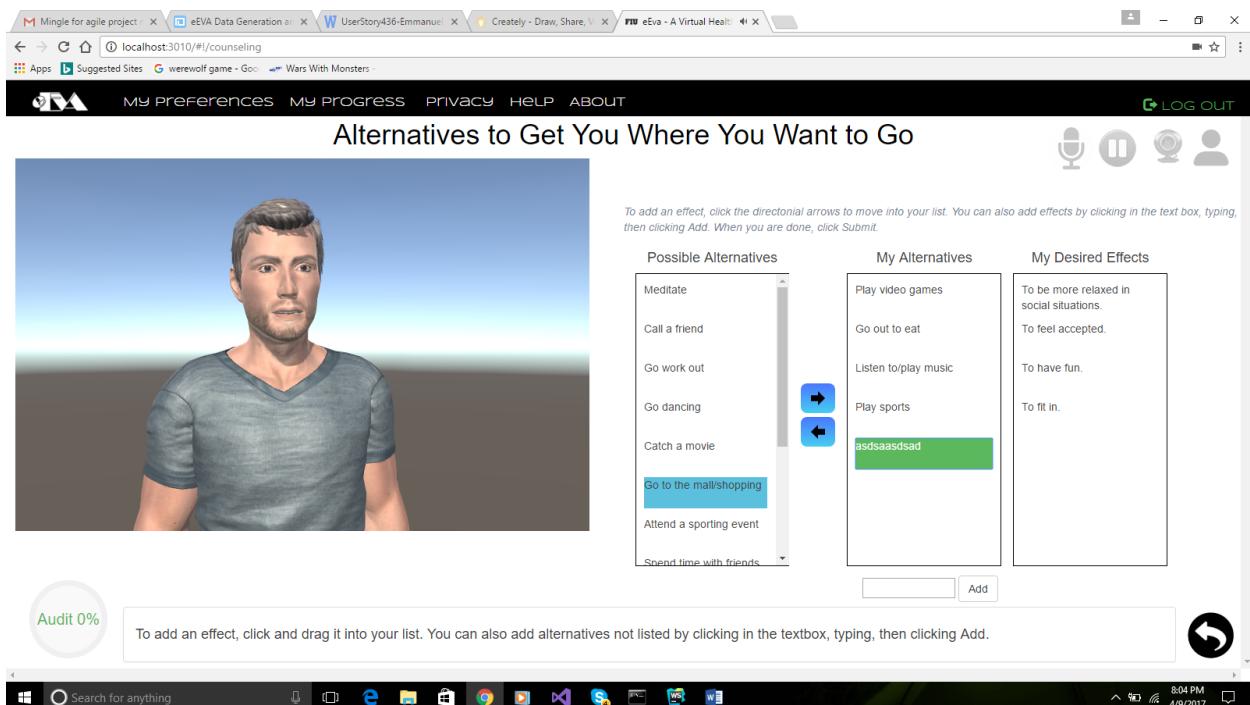


Figure 62: Alternatives to Get You Where You Want to Go Survey Rework.

User Story #436

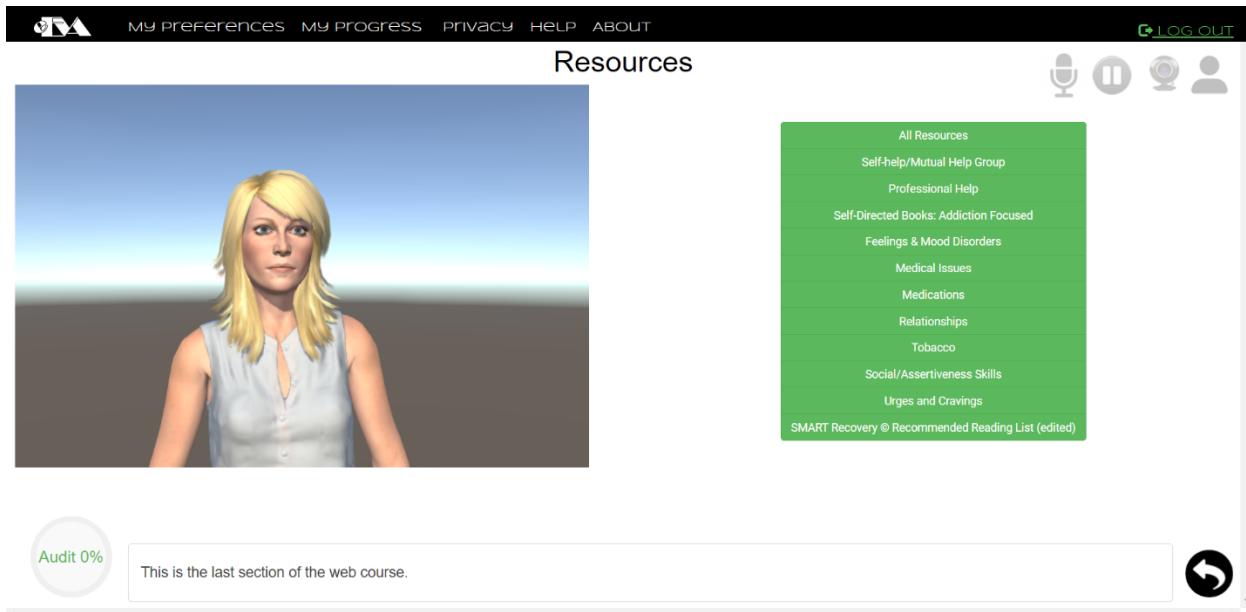


Figure 63: This image illustrates the Resource section of the DCU, and the ability to view all resource at once (All Resources button), or resources by topic.

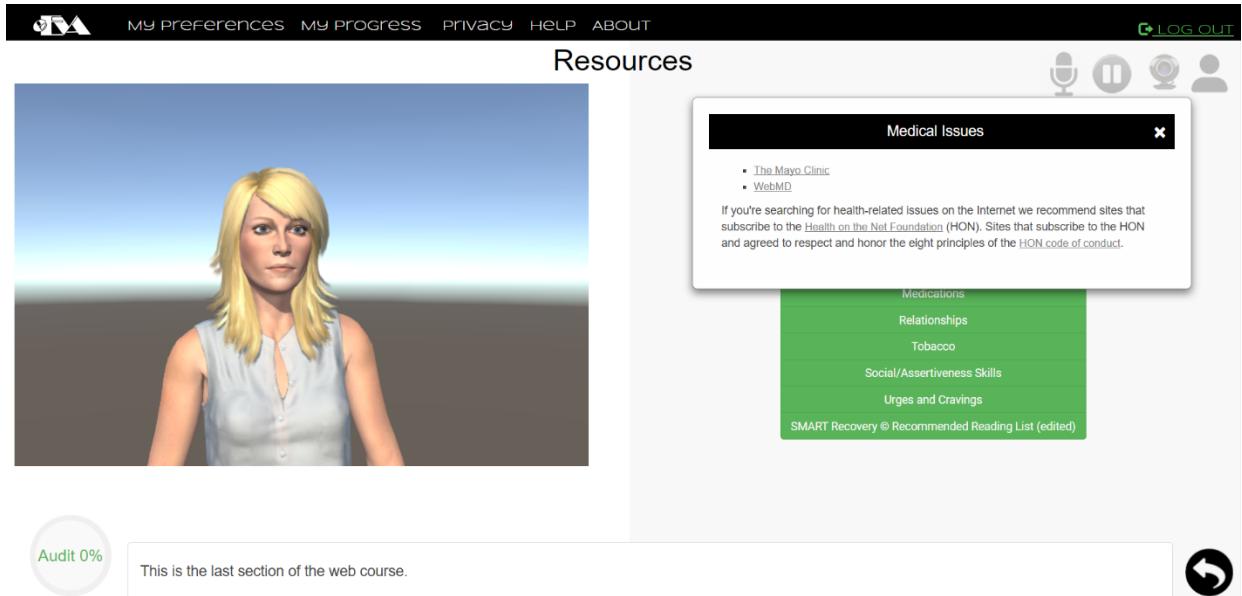


Figure 64: This image illustrates the use of modals to display resource information, along with the external link that will lead the user to the source of that resource.

The screenshot shows a web-based application interface. At the top, there is a navigation bar with links: MY PREFERENCES, MY PROGRESS, PRIVACY, HELP, and ABOUT. On the right side of the top bar, there is a 'LOG OUT' button and a user profile icon. Below the navigation bar, the word 'Resources' is centered above a large image of a woman with blonde hair, wearing a light blue sleeveless top. To the left of the image, there is a circular progress indicator labeled 'Audit 0%' with a green arrow pointing right. A text box below the image contains the message: 'This is the last section of the web course.' To the right of the image, there is a column of text and links. The first section is titled 'Self-directed books: addiction focused' and lists several books: 'Sex, Drugs, Gambling, and Chocolate' by Dr. Tom Horvath, 'Sober for Good' for people interested in stopping drinking, and 'SMART Recovery' which has a list of recommended readings. The second section is titled 'Feelings & mood disorders' and provides information about seeking professional help for depression or bipolar disorder, including consulting a family physician and using the 'mental health services' locator site. It also lists self-help manuals: 'Mastering anxiety and phobias', 'Feeling Good: The New Mood Therapy', 'The Feeling Good Handbook', and 'Mind Over Mood: Change How You Feel by Changing the Way You Think'. The bottom of the page features a horizontal scrollbar and a back/forward navigation bar.

Figure 65: This image illustrates that the ability to click a link of the resource that the user would like to visit, this is demonstrated with the green text.

Appendix C – Sprint Review Reports

Sprint 1	
Attendees:	<Christine Lisetti, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<January 13, 2016 11:30 PM>
End Time:	<January 13, 2016 12:00 PM>
<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"> • N/A 	
<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, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<February 10, 2017 11:00 AM>
End Time:	<February 10, 2017 11:30 AM>
<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 <initialCounselorSelection Mingle #343> • User Story <inSessionCounselorSelection Mingle #344> 	
<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 3	
Attendees:	<Christine Lisetti, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<February 24, 2017 11:00 AM>
End Time:	<February 24, 2017 11:30 AM>
<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 <initialLoadingIcon Mingle #360> • User Story <settingCounselorNameVariable Mingle #361> • User Story <EditDcu_RemaningExercises Mingle #369> • User Story <EditDCU_TheGoodThingsRevisite Mingle #370> 	
<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, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<March 10, 2017 11:00 AM>
End Time:	<March 10, 2017 11:30 AM>
<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 <EditDCU_NotSoGoodThings Mingle #386> • User Story <EditDCU_RatingProsAndCons Mingle #387> • User Story <EditDCU_ImportanceOfYourReasons Mingle #388> • User Story <EditDCU_GettingWhatYouWant Mingle #389> 	
<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, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<January 13, 2016 11:30 PM>
End Time:	<January 13, 2016 12:00 PM>
<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 <EditDCU_GamePlan #411> • User Story <EditDCU_AlternativesGetYouWhereYouWantToGo Mingle #412> 	
<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 6	
Attendees:	<Christine Lisetti, Emmanuel Henley, Andy Regueira, Stephanie Lunn>
Start Time:	<January 13, 2016 11:30 PM>
End Time:	<January 13, 2016 12:00 PM>
<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 <EditDCU_ModifyGamePlan #418> • User Story <EditDCU_GamePlanOverview #419> • User Story <EditDCU_GamePlanPopup #424> • User Story <EditDCU_AddDirectionalArrows #425> • User Story <EditDCU_Resources Mingle #436> 	
<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 	

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

User Manual

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

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

Required software:

- Webstorm
- eEVA (code from repository – access granted by product owner)
- mongoDB

1. Acquire a Webstorm student account by registering at the following web address: <https://www.jetbrains.com/shop/eform/students>. Upon successful registration, you should receive a confirmation link, via the email address you used for registration. Follow the instructions provided by the link to obtain and download WebStorm.



JetBrains Products for Learning

Apply with:

UNIVERSITY EMAIL ADDRESS ISIC/ITIC MEMBERSHIP OFFICIAL DOCUMENT

Status: I'm a student I'm a teacher

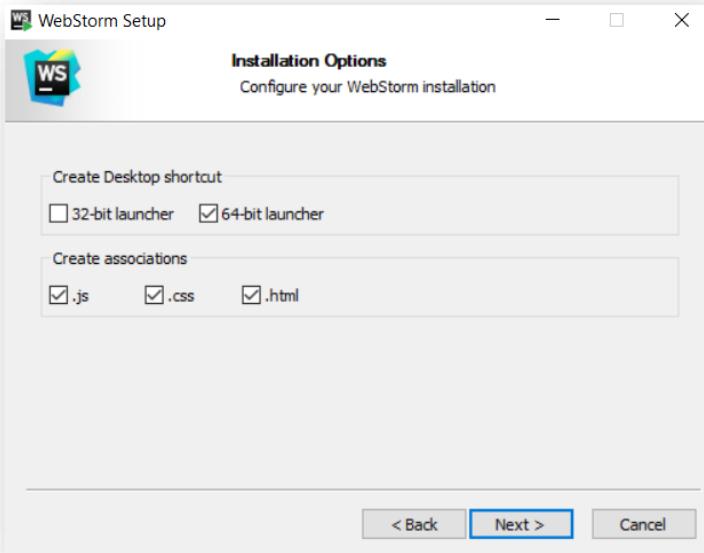
Name: First name Last name
Our software will be registered to your real name.

Email address:
Your valid university email address, e.g. john.smith@mit.edu. We'll send you further instructions.

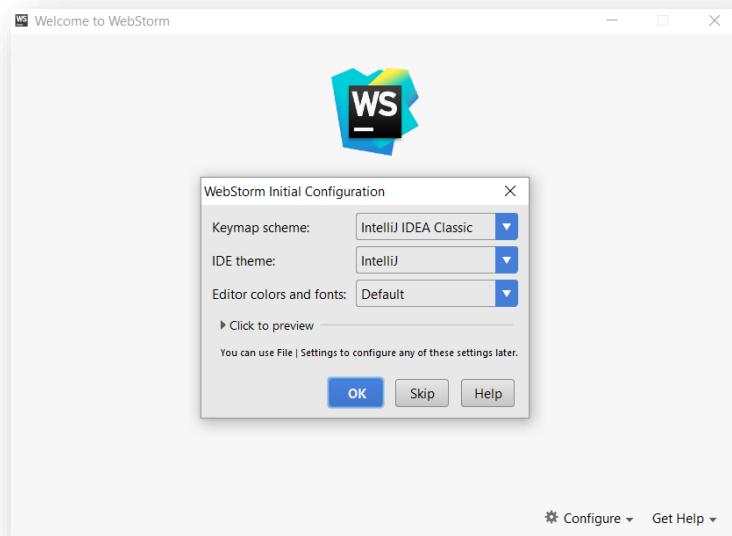
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2. Next, run installation tool and select the appropriate options for your machine (either 32 or 64bit launcher). Ensure that all the associations are checked (.js, .css, .html).



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

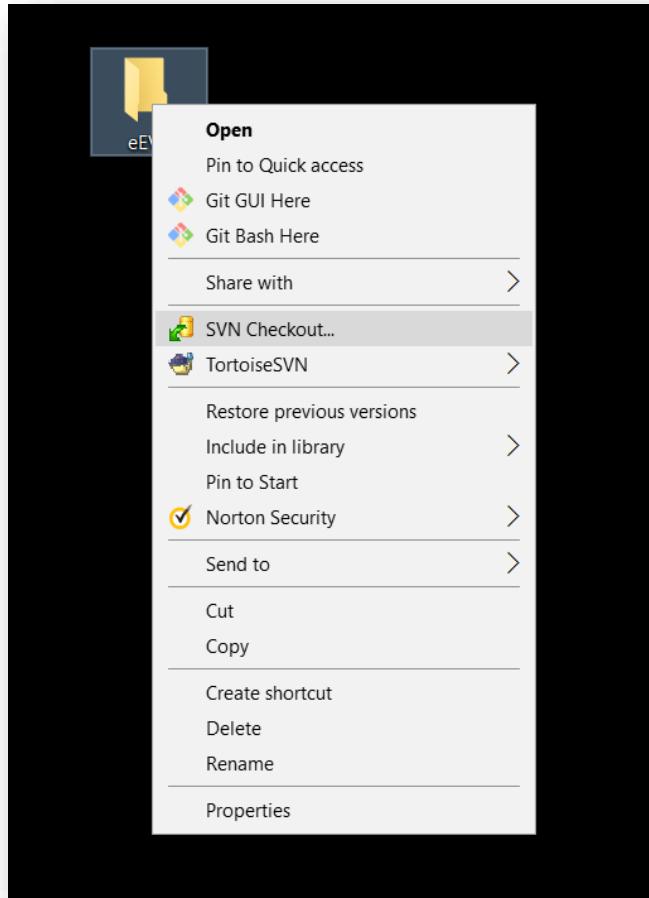


4. The eEVA code is in a repository managed by TortoiseSVN. If you already have SVN Tortoise on your machine please proceed to step 5. Please go TortoiseSVN's website and download the version appropriate for your machine:
<https://tortoisessvn.net/downloads.html>

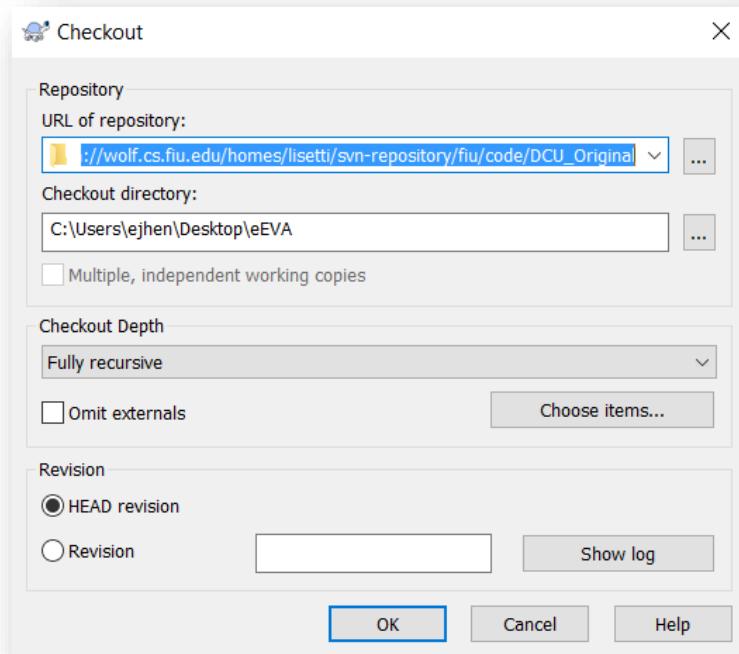


The screenshot shows the TortoiseSVN website homepage. At the top, there is a navigation bar with links for Home, About, Downloads, Translations, Support/Docs, Other tools, and Support this project. Below the navigation bar is the TortoiseSVN logo, which features a blue cartoon turtle. The main content area has two columns. The left column is titled "Info" and contains links for About, Screenshots, Testimonials, and News Archive. The right column is titled "Downloads" and displays the message "The current version is 1.9.5". It includes a note about choosing the right installer for 32-bit or 64-bit OS. Below this are download buttons for "TortoiseSVN 1.9.5 - 32-bit" and "TortoiseSVN 1.9.5 - 64-bit". There are also sections for "Context menu in file-open/save dialogs on x64 OS" and "Pre-Release Builds". An advertisement for TaxAct is visible at the bottom of the page.

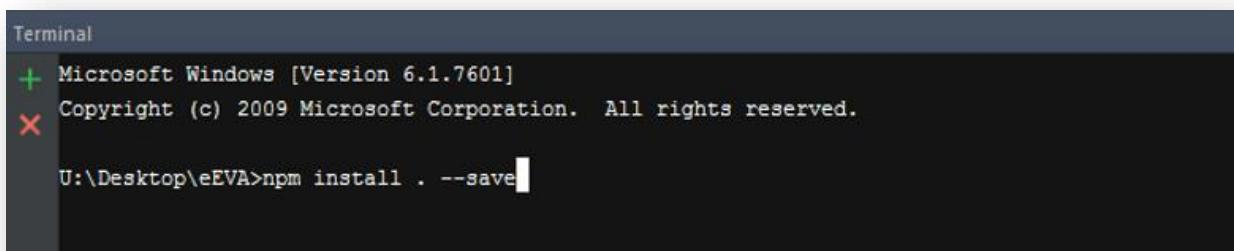
5. This next step requires that you have access to the repository where eEVA is stored. If you do not already have access please speak to your product owner before proceeding. If you don't have eEVA already, will need to obtain from the product owner's lab repository. First create a directory on the C: drive of your machine. Navigate to the newly created folder and right click to view the additional options. Click on SVN checkout as show below:



6. After you have completed step 5, the checkout popup will appear. Ensure that the checkout directory is where you want the code to be stored. In the “URL of repository” field enter the following: svn://wolf.cs.fiu.edu/homes/lisetti/svn-repository/fiu/code/DCU_Original



7. Once download has completed, open eEVA with Webstorm.
8. Next while 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:



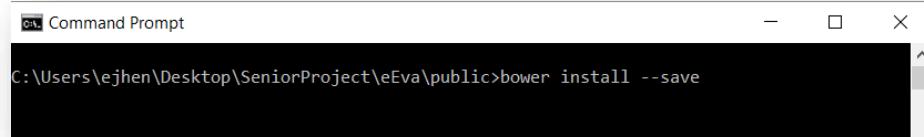
```
+ Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

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

PLEASE NOTE IF THE ABOVE COMMAND IS NOT WORKING CONTINUE WITH STEPS 9 AND 10, AND YOU HAVE RECEIVED THE FOLLOWING ERROR OTHERWISE PROCEED WITH STEP 11:

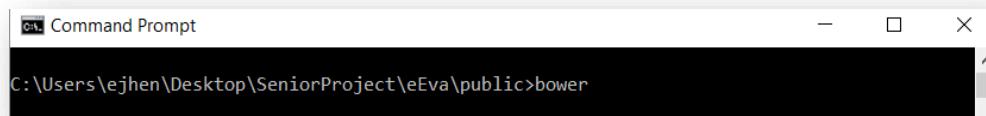
```
'npm' is not recognized as an internal or external command,  
operable program or batch file.
```

9. Download nodejs and make sure webstorm is closed: <https://nodejs.org/en/download/> and get the .msi installer
10. Relaunch Webstorm and type npm in Terminal to confirm presence
11. Now try step 8 again.
12. Next using the command line prompt on your machine navigate to the directory where you stored eEVA and then navigate to the public folder within eEVA and preform the following command:

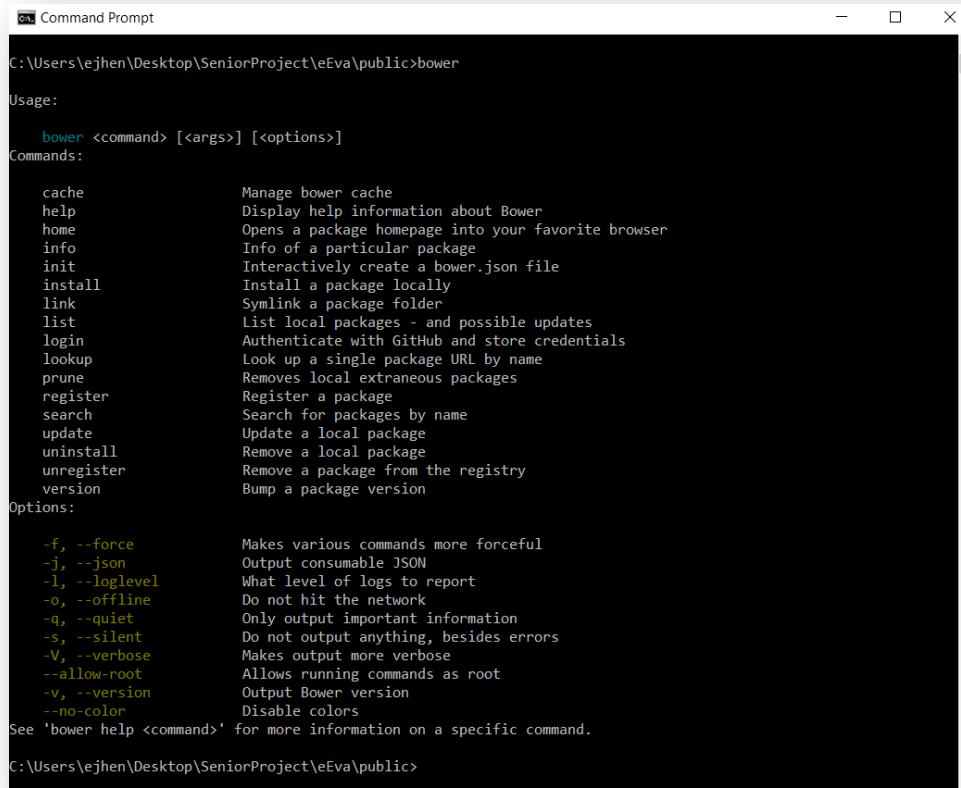


**IF YOU RECEIVE AN ERROR PROCEED TO THE NEXT STEP, IF NOT
CONTINUE WITH STEP 16.**

13. First ensure bower is installed globally on your machine. In the command line prompt enter



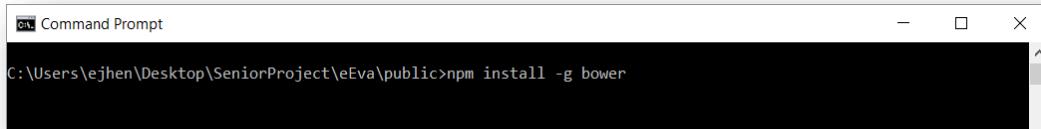
You should see the bower options, like depicted below:



```
Command Prompt
C:\Users\ejhen\Desktop\SeniorProject\eEva\public>bower
Usage:
  bower <command> [<args>] [<options>]
Commands:
  cache          Manage bower cache
  help           Display help information about Bower
  home           Opens a package homepage into your favorite browser
  info            Info of a particular package
  init            Interactively create a bower.json file
  install         Install a package locally
  link            Symlink a package folder
  list             List local packages - and possible updates
  login           Authenticate with GitHub and store credentials
  lookup          Look up a single package URL by name
  prune           Removes local extraneous packages
  register        Register a package
  search          Search for packages by name
  update          Update a local package
  uninstall       Remove a local package
  unregister     Remove a package from the registry
  version         Bump a package version
Options:
  -f, --force      Makes various commands more forceful
  -j, --json        Output consumable JSON
  -l, --loglevel   What level of logs to report
  -o, --offline    Do not hit the network
  -q, --quiet      Only output important information
  -s, --silent     Do not output anything, besides errors
  -V, --verbose    Makes output more verbose
  --allow-root     Allows running commands as root
  -v, --version    Output Bower version
  --no-color       Disable colors
See 'bower help <command>' for more information on a specific command.
C:\Users\ejhen\Desktop\SeniorProject\eEva\public>
```

If you did get the Bower options ensure that you completed step 13 properly, if you received an error proceed to the next step.

14. You need to install bower globally on your machine, preform the following command in your command line prompt:

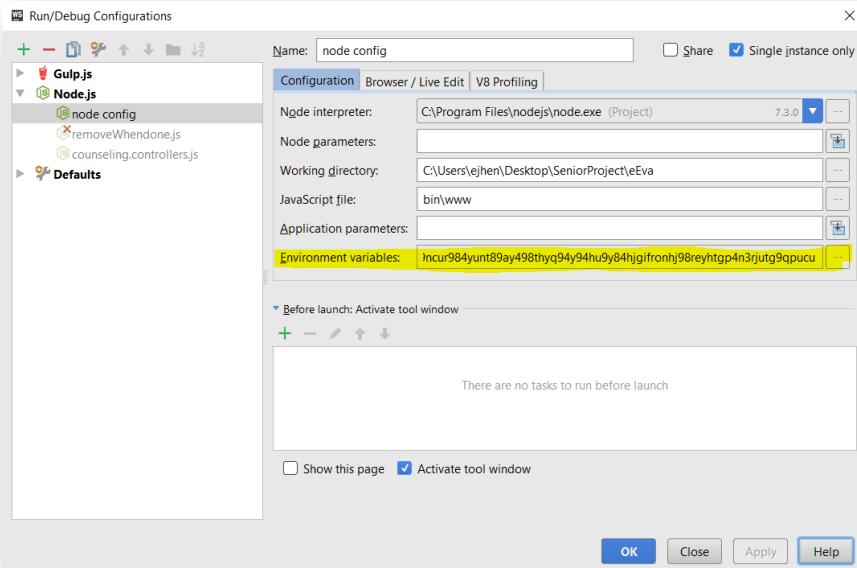


```
Command Prompt
C:\Users\ejhen\Desktop\SeniorProject\eEva\public>npm install -g bower
```

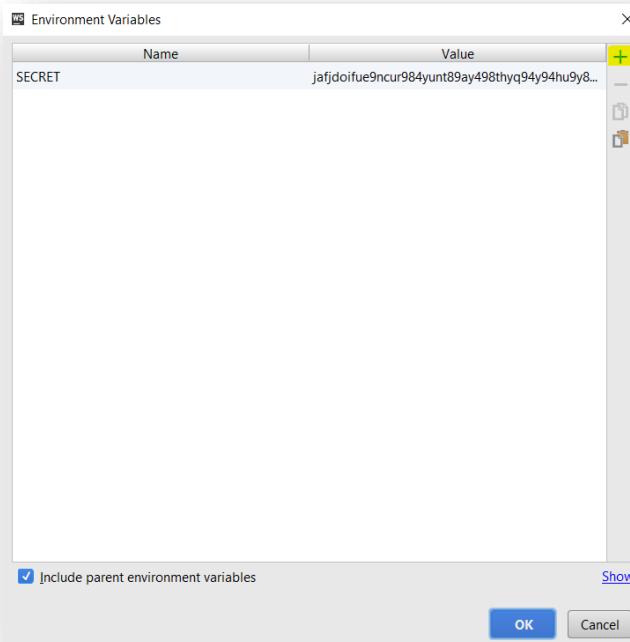
15. If you are still experiencing issues please refer to the following resource or contact your product owner: <https://www.npmjs.com/package/bower>

16. Next, go to the dropdown indicated by the red arrow and select “Edit configuration” to first add the Nodejs configuration.

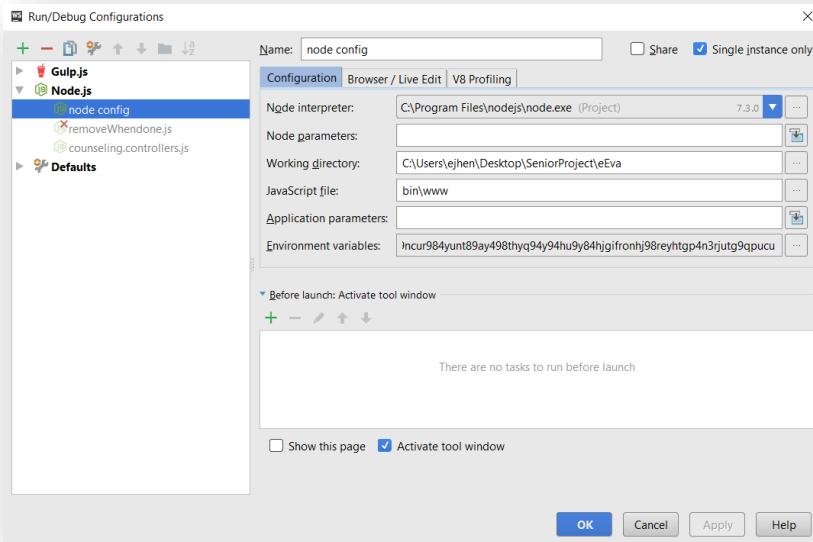
17. Click plus sign, the node.js then in JavaScript file: type bin\www and then must add a new secret environmental variable by clicking ... and then the plus sign as shown below:



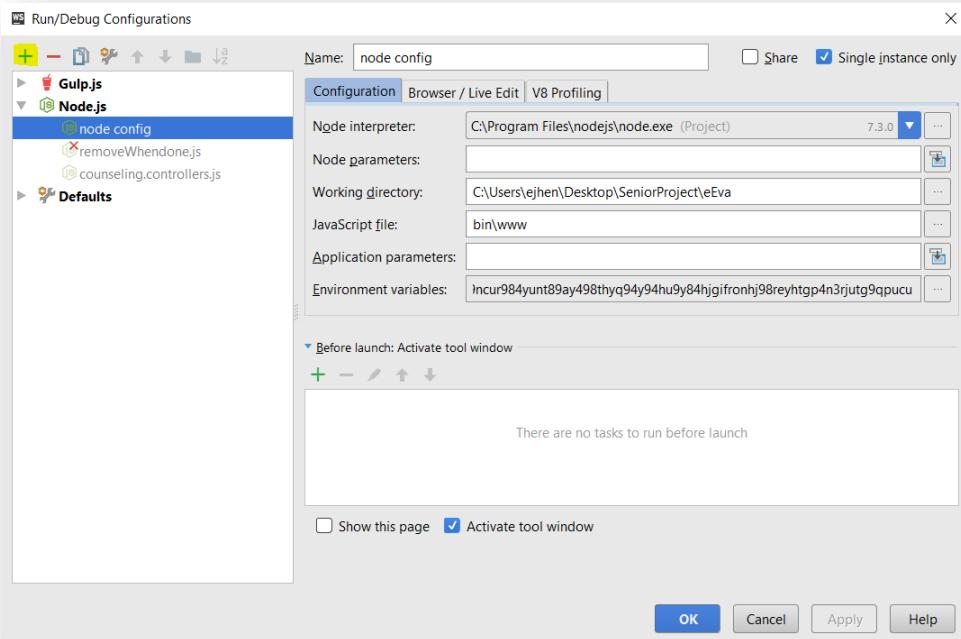
In Name field enter SECRET all in caps, and then in value field, must “spam the keyboard” (entering whatever you want). Then press “OK”:



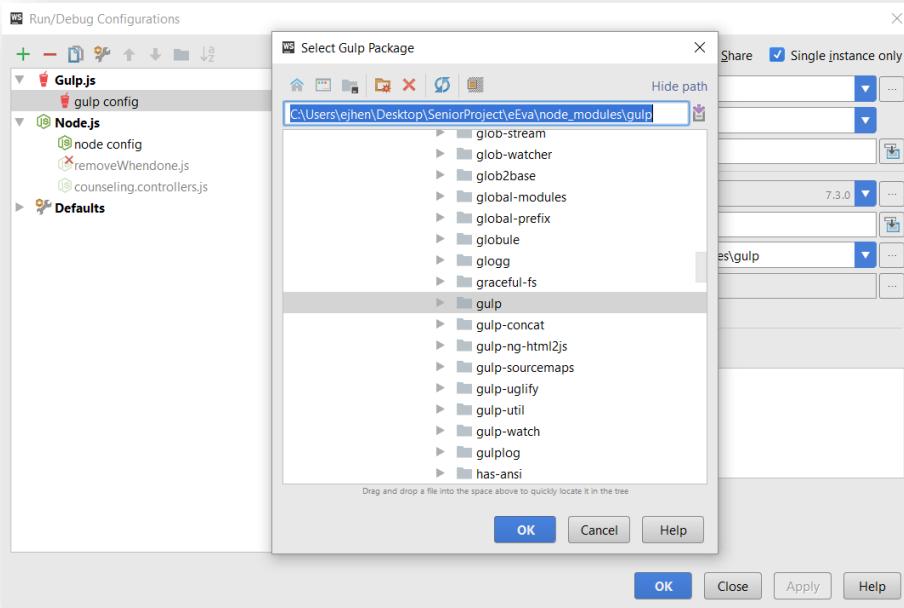
18. Then should look like:



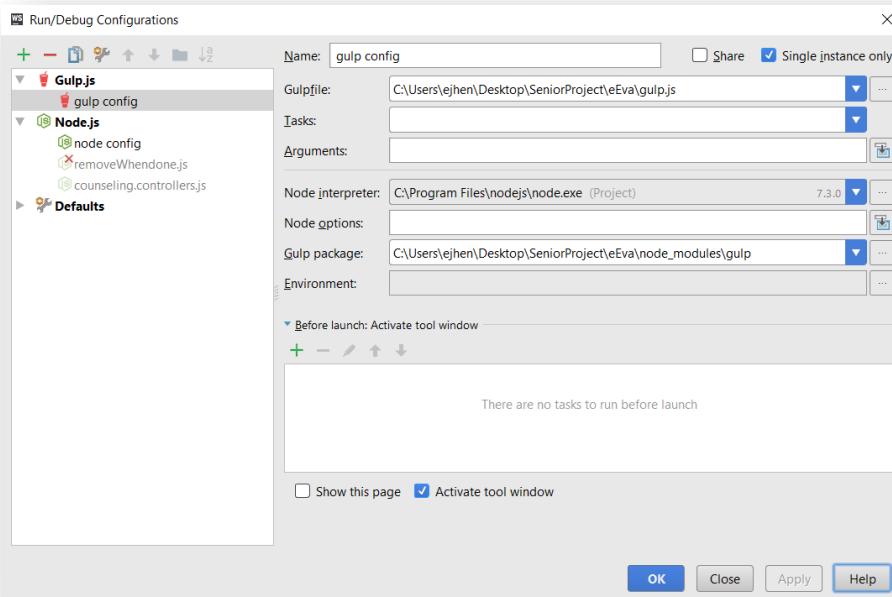
19. Next, we need to set up the Gulp run configuration. First you need to press the green plus sign and select gulp to add it.



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



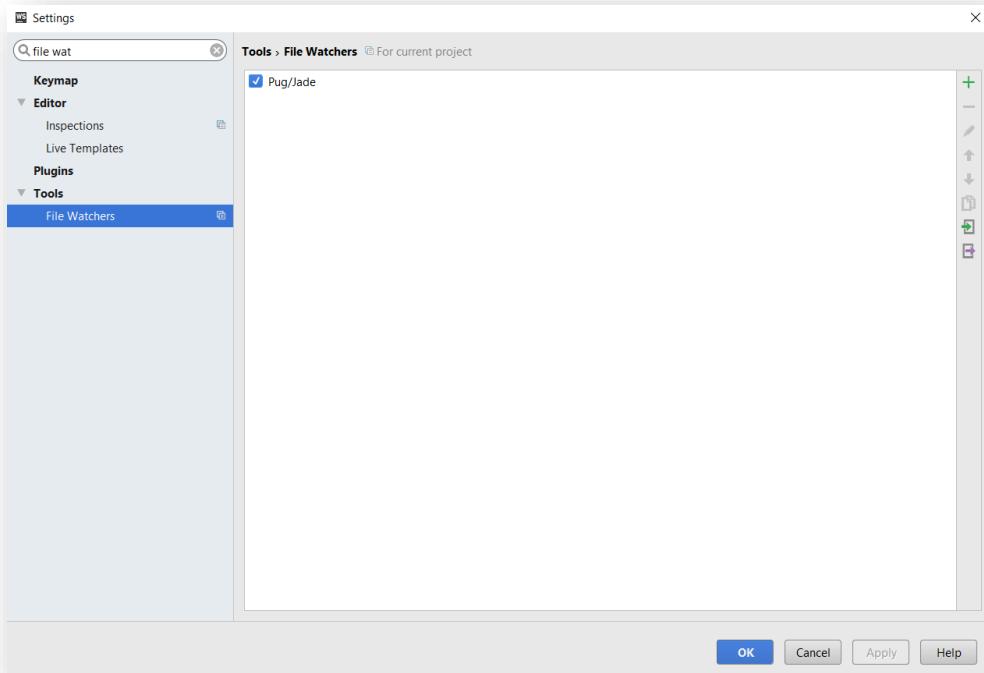
21. Lastly, click OK and your configurations should look similar to the following:



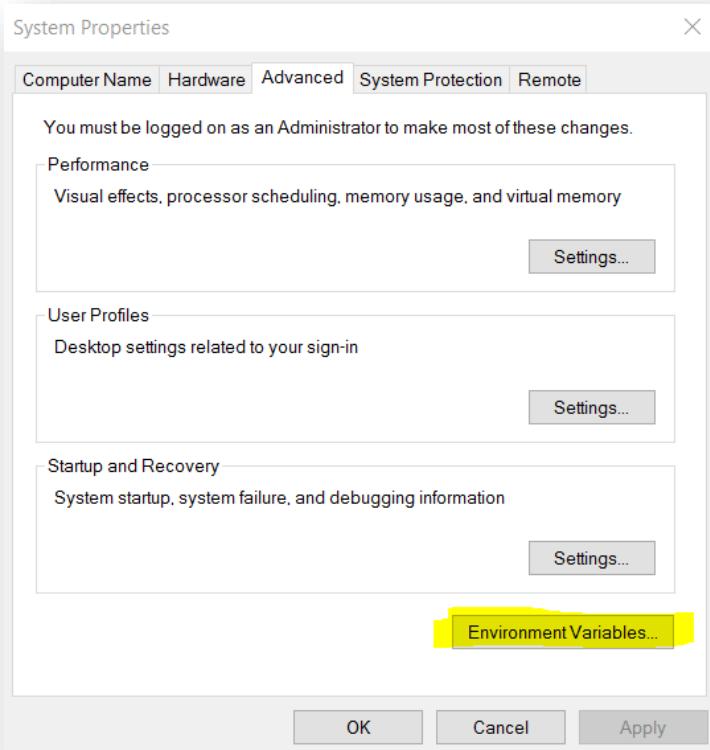
22. Press okay
23. Next go to File>>Settings>>and select “File Watchers.” Click the plus sign to add and choose Pug/Jade then hit apply and okay.
24. Then if issues saving in jade may need to enter the following in the terminal

```
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\node_modules\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)
```

25. If you are having issues with this step, you can open event log and choose fix it, then make sure Pug/Jade is selected as shown below:



26. Then run the gulp by pressing the play button on the top right
27. Download mongoDB from <https://www.mongodb.com/download-center#community>
28. 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



29. Next you need to restore the database to the latest instance. Start by opening the command line prompt and enter the following: mongorestore.exe –drop –d test <then paste directory where stored from eEVA>>mongodump>>select folder with most recent date and then test> See below for example:

```
Command Prompt
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

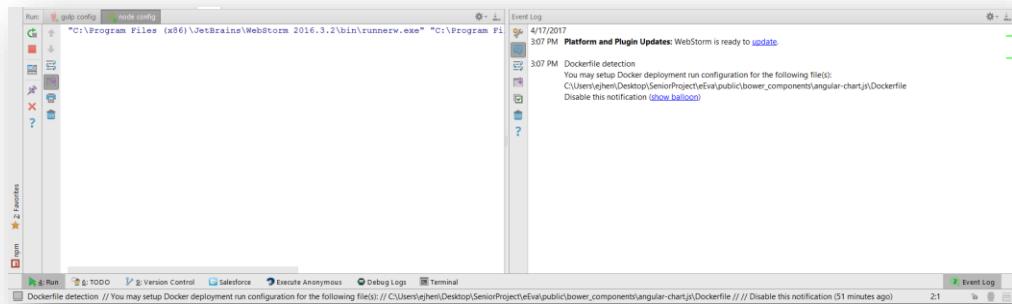
C:\Users\ejhen>mongorestore.exe --drop -d test C:\Users\ejhen\Desktop\SeniorProject\eEva\mongodump\mongodump-2017-04-04_15-35\test
```

A screenshot of a Microsoft Windows Command Prompt window. The title bar says 'Command Prompt'. The window displays the following text:
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\ejhen>mongorestore.exe --drop -d test C:\Users\ejhen\Desktop\SeniorProject\eEva\mongodump\mongodump-2017-04-04_15-35\test

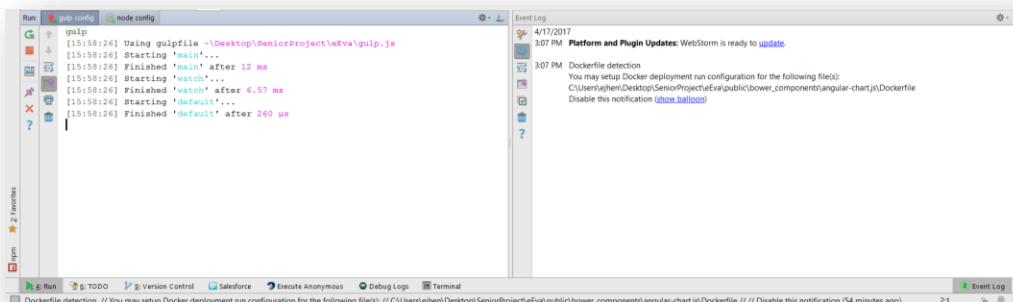
30. Then want to run the website to start using, go into Webstorm, and choose Nodejs, then select play button to run. Then do the same for gulp.

Webstorm terminal output for successful run of node config:



The screenshot shows the Webstorm IDE interface. The top navigation bar includes tabs for 'Run' (highlighted), 'gulp config', and 'node config'. The main workspace shows a file named 'runner.exe' with code. The bottom toolbar has icons for Run, TODO, Version Control, Salesforce, Execute Anonymous, Debug Logs, and Terminal. The right-hand panel is the 'Event Log', which displays a message from 4/17/2017 at 3:07 PM: 'Platform and Plugin Updates: WebStorm is ready to update.' Below it, another message from the same time says: 'Dockerfile detection You may setup Docker deployment run configuration for the following file(s): C:\Users\ejhen\Desktop\SeniorProject\eEva\public\bower_components\angular-chart.js\Dockefile Disable this notification (show balloon)'.

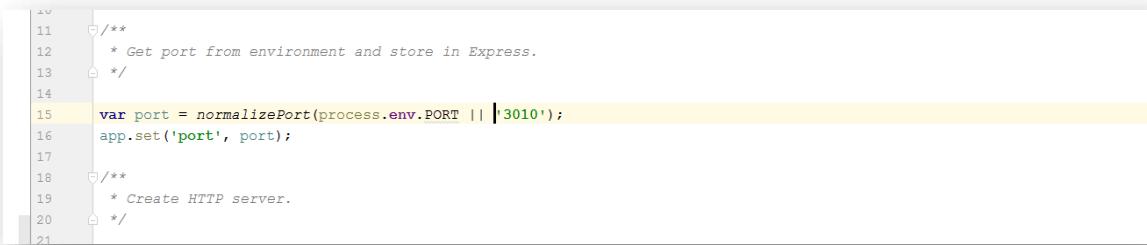
Webstorm terminal output for successful run of gulp config:



The screenshot shows the Webstorm IDE interface. The top navigation bar includes tabs for 'Run' (highlighted), 'gulp config', and 'node config'. The main workspace shows a file named 'gulpfile.js' with code. The bottom toolbar has icons for Run, TODO, Version Control, Salesforce, Execute Anonymous, Debug Logs, and Terminal. The right-hand panel is the 'Event Log', which displays a message from 4/17/2017 at 3:07 PM: 'Platform and Plugin Updates: WebStorm is ready to update.' Below it, another message from the same time says: 'Dockerfile detection You may setup Docker deployment run configuration for the following file(s): C:\Users\ejhen\Desktop\SeniorProject\eEva\public\bower_components\angular-chart.js\Dockefile Disable this notification (show balloon)'.

31. Ensure Mongo is running by opening the command line prompt in C drive and run the following command: \$ mongod

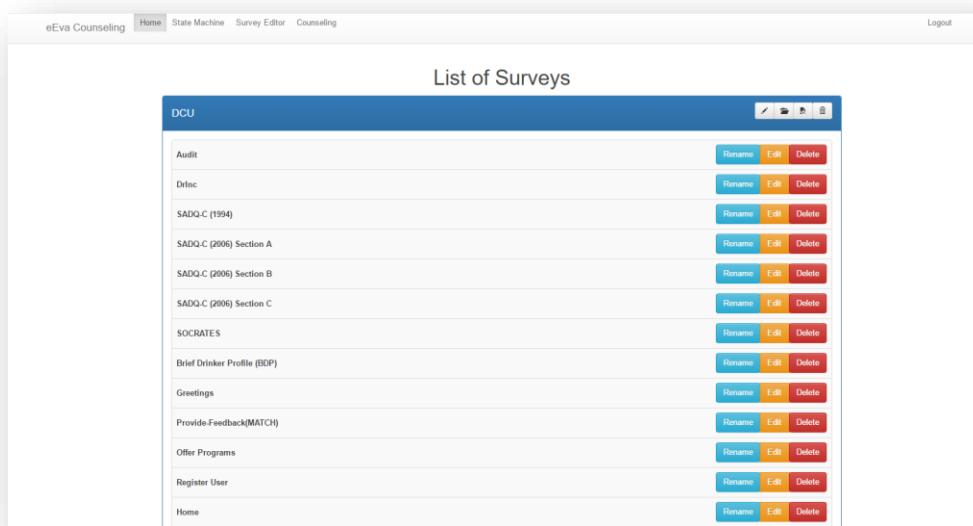
32. Then can open web browser and go to: <http://localhost:3010/#/> NOTE: if it doesn't work, may need to check that port number is correct. Can access value in eEva>>bin>>www file in the var port as shown:



```
11  /**
12   * Get port from environment and store in Express.
13  */
14
15  var port = normalizePort(process.env.PORT || '3010');
16  app.set('port', port);
17
18  /**
19   * Create HTTP server.
20  */
21
```

33. Then log in as administrator and can begin working on state machine and survey editor.
For administrator credentials please check with your product owner.

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

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

The screenshot shows a web-based application titled "eEva Counseling". The main menu includes "Home", "State Machine", "Survey Editor", "Counseling", and "Logout". The current page is titled "List of Surveys" and displays a grid of survey names under the heading "DCU". Each row in the grid has three buttons on the right: "Rename" (blue), "Edit" (orange), and "Delete" (red). In the top right corner of the grid header, there is a blue button labeled "Add Form". A red arrow points to this "Add Form" button.

Survey Name	Action Buttons
Audit	Rename Edit Delete
DrInc	Rename Edit Delete
SADDQ-C (1994)	Rename Edit Delete
SADDQ-C (2006) Section A	Rename Edit Delete
SADDQ-C (2006) Section B	Rename Edit Delete
SADDQ-C (2006) Section C	Rename Edit Delete
SOCRATES	Rename Edit Delete
Brief Drinker Profile (BDP)	Rename Edit Delete
Greetings	Rename Edit Delete

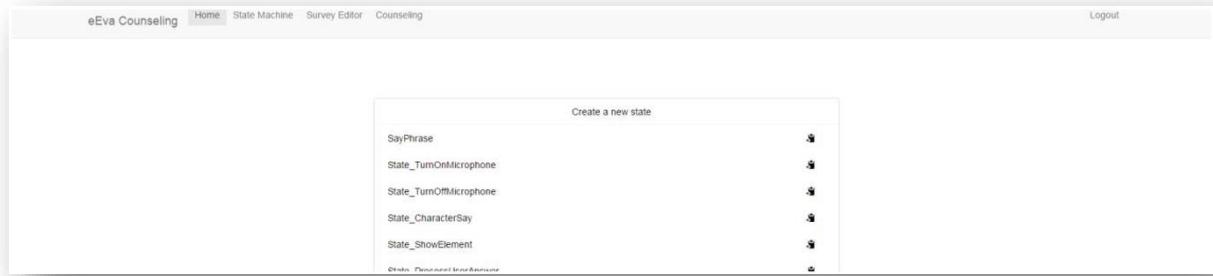
Desired elements can be selected to complete form, and then administrator must select “Update” button:

The screenshot shows a user interface titled "Example". At the top, there is a toolbar with several buttons: "Add Question/Answer", "Add Checkbox", "Add TextArea", "Add Feedback", "Add FeedbackList", and "Add Content". Below the toolbar, there is a large, prominent orange button labeled "Update".

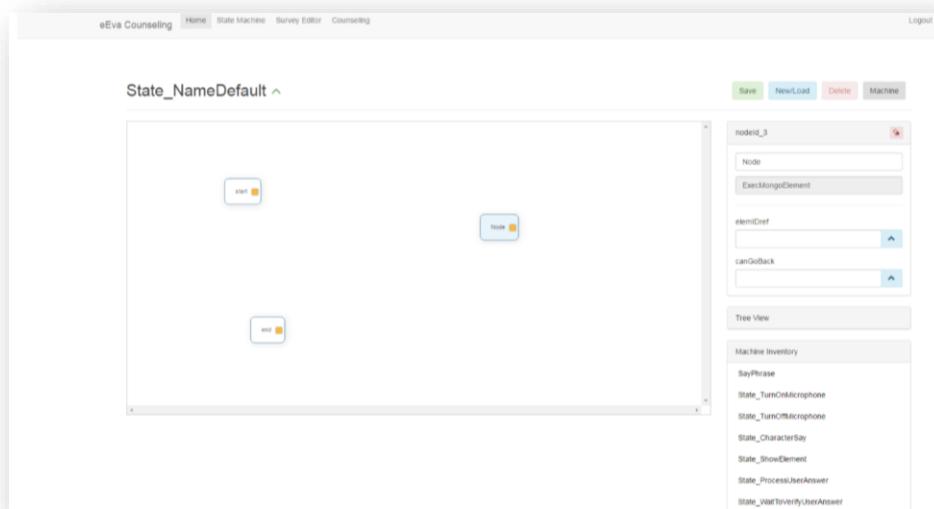
Adding a single answer line into a Question/Answer element creates a button, which can be used to create “Next” buttons. With additional answer choices, the counselor will read the question and display multiple choice bubbles for the user to select from.

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:



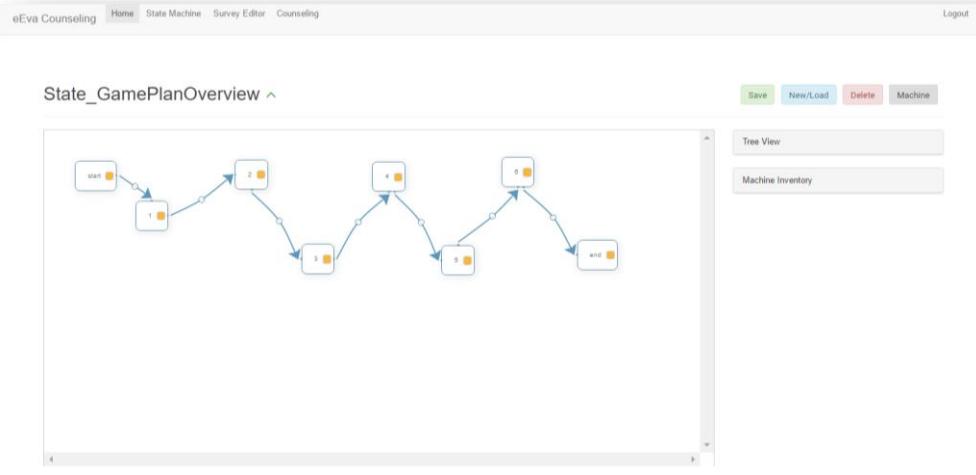
To create a new state machine, must create empty states denoting the start and end, and then execMongoElements can be added to be filled with the content created in the form.



The state Name can be edited by clicking the State_NameDefault, and then once entered, a check mark is selected to save:

```
{
  "_id": "58e2777c23710972844f2916",
  "name": "State_GamePlanOverview",
  "label": "Game Plan Overview",
  "primitive": false,
  "before": "",
  "execute": "",
  "init": {
    "params": []
  },
  "during": "",
  "states": [
    {
      "name": "start",
      "id": "nodeId_1",
      "plumbLeft": "50px",
      "plumbTop": "50px",
      "class": "578556a240b955321046043d",
      "params": []
    },
    {
      "name": "end",
      "id": "nodeId_2",
      "plumbLeft": "870px",
      "plumbTop": "1790px",
      "class": "578556a240b955321046043d",
      "params": []
    }
  ],
  "transitions": [
    {
      "source": "start",
      "target": "1"
    },
    {
      "source": "1",
      "target": "2"
    },
    {
      "source": "2",
      "target": "3"
    },
    {
      "source": "3",
      "target": "4"
    },
    {
      "source": "4",
      "target": "5"
    },
    {
      "source": "5",
      "target": "end"
    }
  ]
}
```

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



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

Shortcomings/Wishlist Document and other documents

Despite eEVA now containing the complete Drinker's Checkup content, and a nicer looking interface, there are still many features that are desired for future implementations. The system faces some issues with browser compatibility, and finds itself crashing because of plugin errors, or certificates that need to be updated.

eEVA already has a lot of information stored in its database, but one very important thing that is missing, is the storage of user input. Ideally, the future of this application will involve users that will be able to create their own accounts, as well as save their preferences. Based on that, the system needs a way of storing each user's input independently into the database, to be retrieved whenever necessary. This, of course involves additional concerns such as security and privacy of the data being stored.

Another feature that will be required in the future, is a way to dynamically change counselors in between sessions without losing any progress. That involves some work from the Visage lab, as well as some unity tweaking. It is confirmed that many more characters are on the way and will be soon added to eEVA. Many of those characters have been designed and modeled, to represent different ethnic groups, in hopes of targeting those users who may be more open interacting with a specific character of a specific cultural background. With that in mind, there is the desire to give different characters, different voices and state machines, for more in depth and unique experiences. Refer to pending user stories, for a more detailed list of some of the user stories that may be implemented soon.

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