

CSCI 4448 Project Part 2

1. Team:

- a. Taylor Jesse
- b. Samuel Reed
- c. Spencer Hanson

2. Title: Decision Tree Visualization and Learning Tool

3. Summary: Our project's goal is to provide a web service to facilitate building a decision tree. When a user creates an account and logs in, we plan on providing tools to help create a survey that will focus on a specific decision. This will involve a list of questions and possible answers regarding situational attributes. Once a user creates a survey, we plan on generating a link so that the user can easily distribute the survey in order to accumulate sample data. Once there is a sufficient amount of sample data, the user can create a decision tree visualization of the result. We'll apply basic entropy information theory on the sample data in order to show the user what the decision pathway looks like from the individuals who took the survey. The ultimate goal is to provide an easy way to model decision making processes and show an informative visualization.

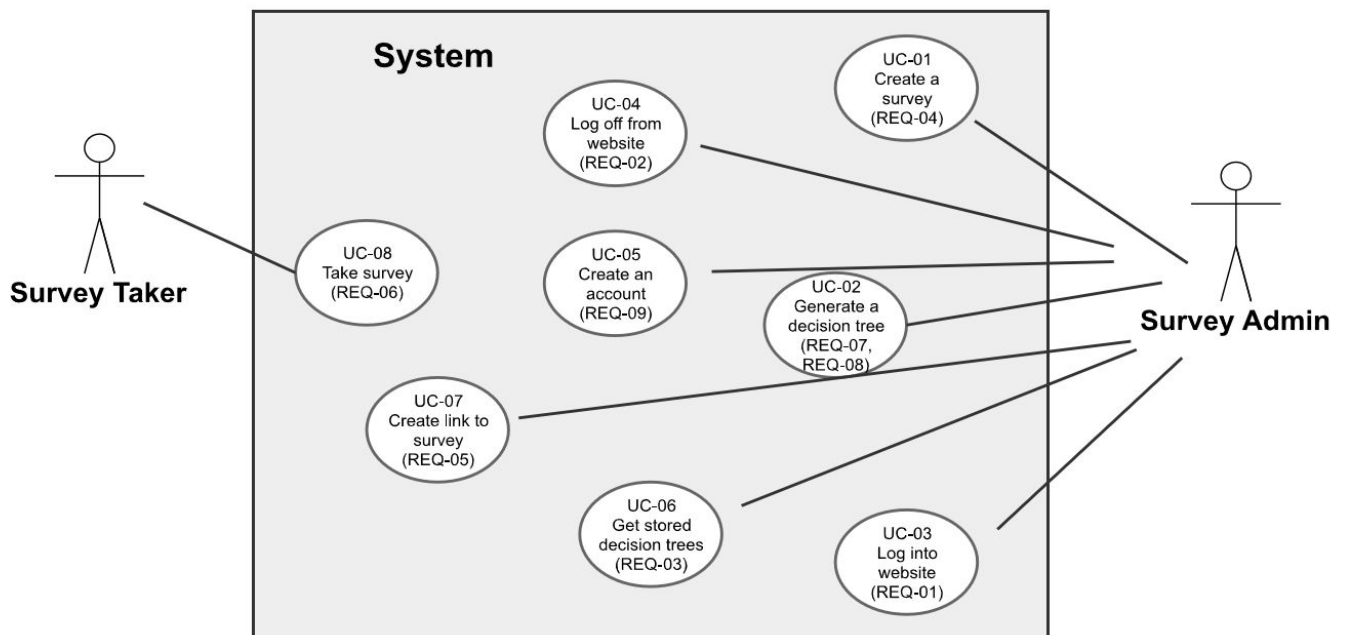
4. Requirements:

Requirement ID:	Description:
REQ-01	As a survey admin, I want to log on so that I can access my surveys and decision trees.
REQ-02	As a survey admin, I want to log off when I am ready to exit the website.
REQ-03	As a survey admin, I want to save my surveys and decision trees so that I can access them at a later time.
REQ-04	As a survey admin, I want to create a survey so that I can use it as a template for sample data.
REQ-05	As a survey admin, I want to create a link to a survey so that I can send it to other users to take.
REQ-06	As a survey taker, I want to take a survey so that I can contribute to creating sample data.
REQ-07	As a survey admin, I want to create a decision tree so that I can

	understand the decision making process of my survey.
REQ-08	As a system admin, I want to see a visualization of a decision tree so that I can see and understand the results of my survey.
REQ-09	As a system admin, I want to create an account so that I can access the website's tools.

5. Use Cases

a. Use Case Overview Diagram



b. Use Case Documents

Use Case ID:	UC-01
Use Case Name:	Survey Admin Can Create Survey
Description:	Survey admin can input title, questions, and possible responses and the system will produce a survey.

Actors:	Survey Admin
Pre-conditions:	Survey Admin must have created an account and must be logged in.
Post-conditions:	Survey Admin has a new survey available on their dashboard.
Frequency of Use:	On Demand

Flow of Events:	Actor Action		System Response
	1	Click “Make New Decision Tree Survey”	Prompt for name of survey
	2	Enter name and click 'OK'	Redirect to survey question editor
	3	Click “Add Question”	Adds new question box to the UI
	4	Fill in question	
	5	Click “Add Possible Answer”	Adds a new answer box to the UI
	6	Fill in answer	
	7	Click “Submit”	System saves survey and redirects to homepage

Variations: 5. and 7. User clicks “Add Question” again and is redirected to 3

7. User clicks “Add Another Possible Answer” and is redirected to 5

Exceptions: 7. User hasn't filled out answers for a question, display error

Developer Notes: Each survey has a unique ID, so you can have non-unique names.

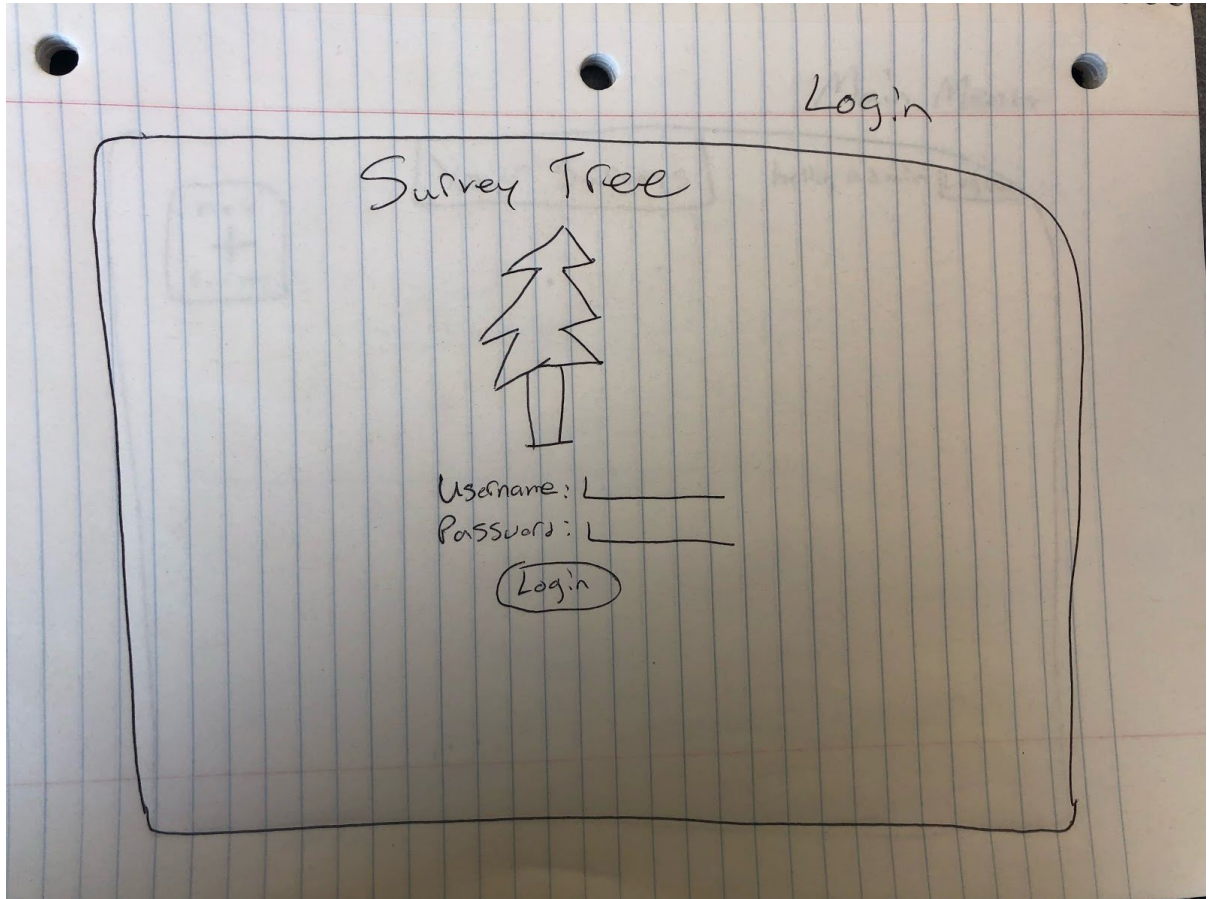
Each question is created with a default of two answers.

Use Case ID:	UC-02
Use Case Name:	Survey Admin can generate a decision tree
Description:	Survey Admin is able to use user responses to surveys to create a decision tree and the system will provide a visualization of the resulting tree.

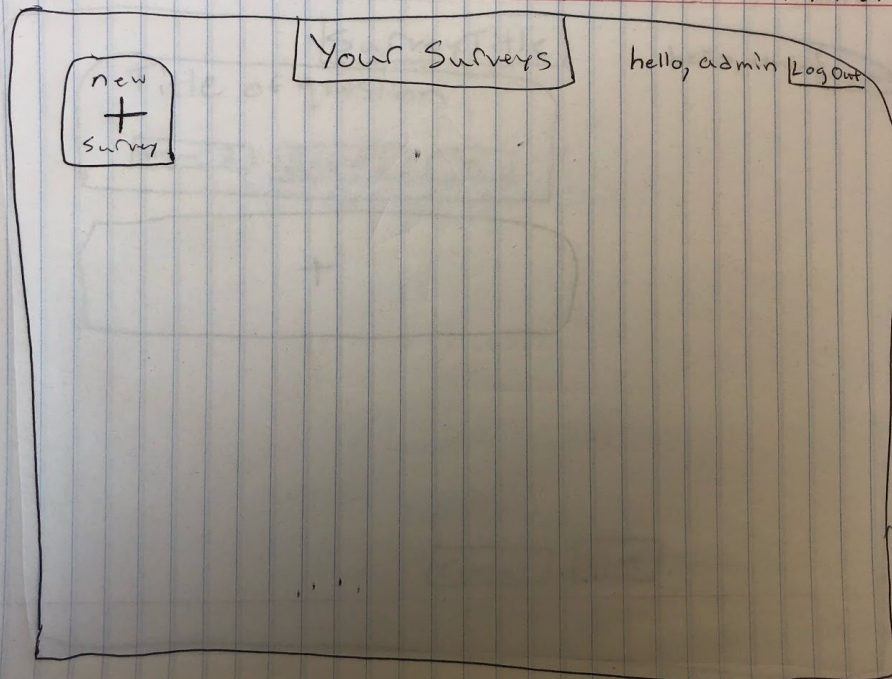
Actors:	Survey Admin		
Pre-conditions:	Survey Admin must have created an account and must be logged in. They must have a completed survey with at least one response stored.		
Post-conditions:	Survey Admin has a visualization of a decision tree based on a given survey on their dashboard.		
Frequency of Use:	On Demand		
Flow of Events:	Actor Action		System Response
	1	Click “...” when hovering over specific survey	System will show user survey options
	2	Click “Make New Decision Tree”	System creates new decision tree and displays message of success
	3	Click “...” when hovering over specific survey	System will show user survey options
	4	Click on “View Tree”	System redirects to visualization of newly created decision tree.
Variations:	3. The user doesn’t wish to see visualized decision tree; use case is then finished.		
Exceptions:	2. If there is no data inputted into the survey yet, display error message.		
Developer Notes:	The sequence diagram for this use case does not show the trivial portion of interacting with the UI menu and focuses more on the system details of translating data and building the decision tree.		

6. Activity Diagram (see page 10 and 11)

7. UI Mockups



Main Menu



Survey Editor

SurveyTitle

Title of question

answer 1

answer 2

+

+

Cancel

Save

hello, admin Logout

Main Menu




hello, admin [Logout](#)

Your Surveys

Survey Title

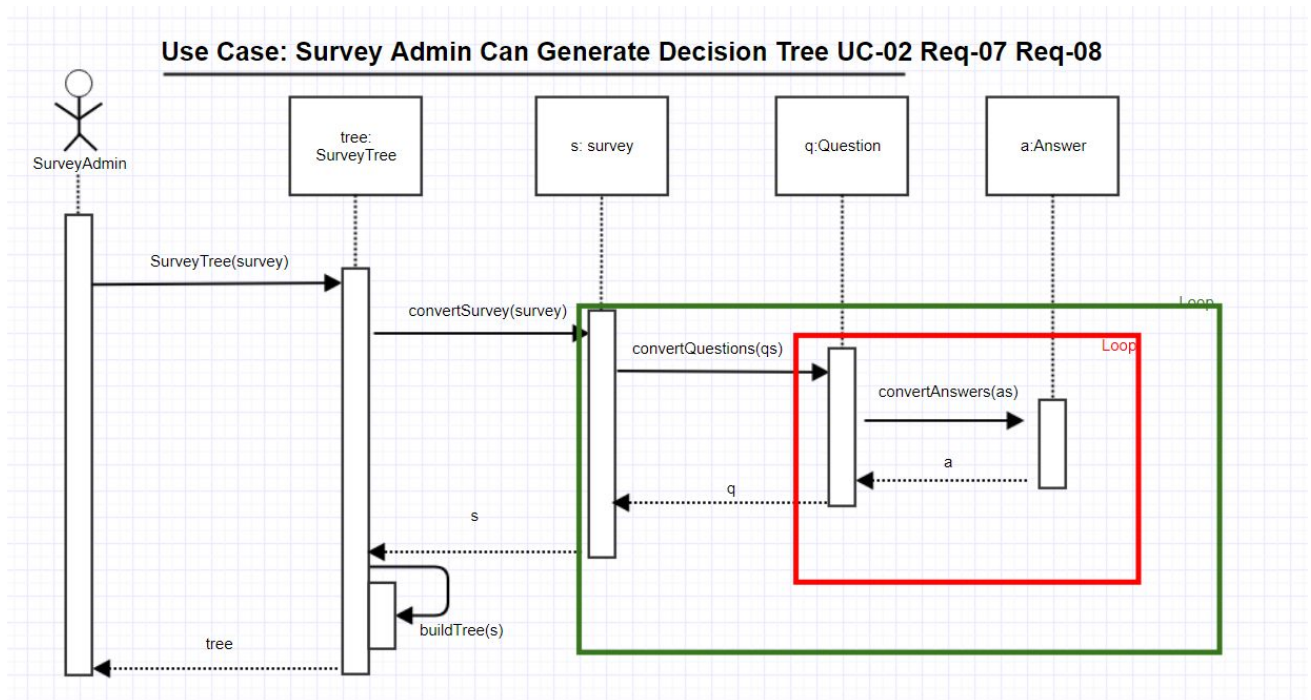
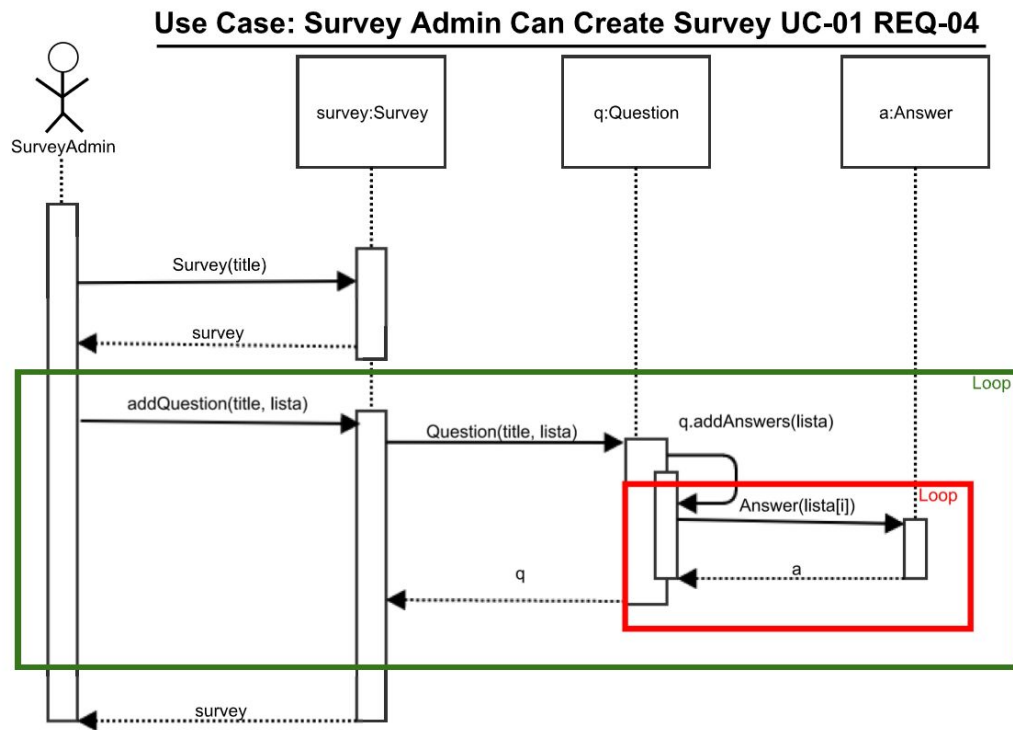
Questions: 1

Responses: 0



new
+
Survey

8. User Interactions



9. Class Diagram - See page 12

