

CSCI 4448 Project Part 3

1. Team:

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

2. Title: Decision Tree Visualization and Learning Tool

3. Project Vision: 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.

Project Description: 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.

****See Updated Class Diagram and Completed Class Diagram Appended to Back****

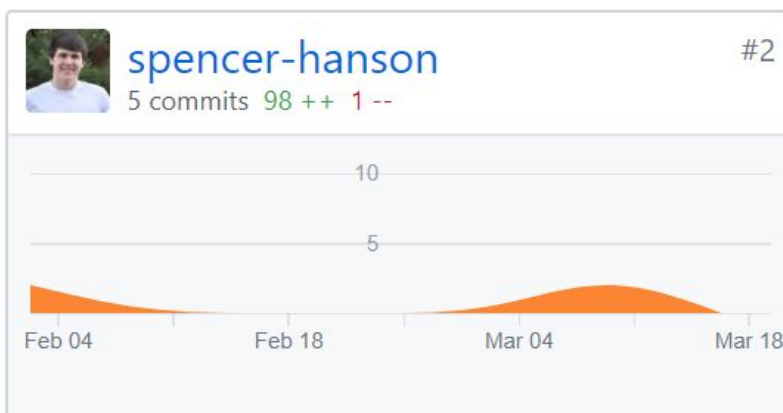
4. Summary: We have implemented the classes and logic needed to perform create new surveys, and generate a decision tree. We plan on continuing to implement code for the survey, and implement a MVC for updating our user interface.

5. Breakdown:

- a. Spencer Hanson
 - i. Basic skeleton for project
 - ii. Implemented code for SurveyAdmin
 - iii. Implemented code for SurveyResponse
- b. Taylor Jesse
 - i. Implemented all code for Survey except for convertSurvey() method

- ii. Implemented all code for Question except for convertQuestion() method
 - iii. Implemented all code for Answer except for convertAnswer() method
 - iv. Wrote tests to make sure all methods in Question, Answer, and Survey were working properly in Main class
- c. Sam Reed
- i. Configure and setup Apache Maven for project management and public Java library use
 - ii. Implement code for SurveyTree
 - iii. Implement code for buildTree method for creating decision tree

6. GitHub Graph:





7. **Estimate Remaining Effort:** We estimate that the coding for our project is roughly 40% done at this point. We implemented the basis of creating a survey and making a resulting decision which is the bulk of our project. We estimate that the other 60% will be from connecting everything together, setting up the database, creating the UI view, and connecting it to our model via a controller. We have some basic test cases in main that tests the functionality of creating Survey, Question, and Answer objects. These tests just test each method within those class and makes sure they work properly. We currently do not have any visuals implemented that show our system in action.
8. **Next Iteration:** For the next iteration, we plan on focusing on creating our UI (View) and Controller. We plan on creating a very basic user interface so that we can begin to incorporate specifics of our use cases into our model. We will implement a Controller class that will handle the buttons and user input from the UI and translate it to creating Surveys, Questions, and Answers in our Model that we currently have implemented. Lastly, we plan on initializing our database in order to have login and user storage functionalities.

9. Part 2 Class Diagram

10. Updated Part 2 Class Diagram

****Attached below are the class diagrams. The first class diagram is the corrected class diagram from part 2 of the project, the second class diagram is the class diagram reflecting the work we have done so far****

