

ELRC: Sprint 1 Retrospective (2/5 - 2/16)

1. Team Roles

Customer

Dr. Beverly Irby Dr. Matthew Etchells

Product Owner

Chengyuan Qian

Scrum Master

Jacob Mathes

Developers

Yi-Ting Lee Minseo Park

Andres Santiago Jacob Mathes

Brandon Nguyen Jacob Valdiviez

Chengyuan Qian

1.1. Contributions

Name	Points	
Jacob Mathes	3 (+3)	15%
Chengyuan Qian	3 (+3)	15%
Andres Santiago	9	23%
Brandon Nguyen	6	15%
Minseo Park	6	15%
Yi-Ting Lee	3	7%
Jacob Valdiviez	3	7%

2. Project Summary

This project is the start of a journey to bring the Synergistic Leadership Theory, a modern take of leadership theory, into a practical and interactive web application. The mission is to develop a

platform that not only educates on the theory but also allows users to access leadership effectiveness through The Organization and Leadership Effectiveness Inventory (OLEI).

Stakeholders include Drs. Beverly Irby and Matthew Etchells, alongside a team of students committed to transcending traditional, male-dominant leadership paradigms. The platform will feature an animated, interactive tetrahedral model representing the theory's core factors: Leadership Behaviors, Organizational Structure, External Forces, and Attitudes, Values, and Beliefs. This tool will facilitate a deeper understanding of leadership dynamics but also generate personalized leadership style analysis.

3. Sprint Achievements & Backlog

Goal

The goal of this sprint was to establish the ground works for the project. This included setting up the development environment, studying about the Synergistic Leadership Theory, creating initial UI/UX designs, and designing the data model.

Selected User Stories

- Feature 1: Development Environment Setup

Points: 3

Assigned To: Chengyuan Qian Jacob Mathes

Time Est.: 1 Weeks

[As a] development team,

[So that] we can start developing the leadership style analysis tool efficiently,

[I want to] set up our development environment with all necessary tools and dependencies.

- Feature 2: Leadership Theory Study

Points: Unestimated (Research)

Assigned to: Chengyuan Qian Jacob Mathes

Time Est.: 2 Weeks

[As a] development team,

[So that] we can accurately implement its principles into our tool,

[I want to] study Synergistic Leadership Theory in-depth (or in a nutshell?).

- Feature 3: Initial UI/UX Design

Points: 3

Assigned To: Brandon Nguyen Minseo Park Andres Santiago

Time Est.: 2 Weeks

[As a] UI/UX designer,

[So that] we have a clear visual direction for our project,

[I want to] create initial wireframes for the web application.

- Feature 4: Data Model Design

Points: 3

Assigned to: Jacob Valdiviez

Time Est.: 2 Weeks

[As a] backend developer,

[So that] we can efficiently store and process user inputs,

[I want to] design the data model for storing leadership survey responses.

- Feature 5: Data Submission

Points: 3

Assigned to: Andres Santiago Minseo Park Brandon Nguyen

Time Est.: 2 Weeks

[As a] school leader,

[So that] I can receive an analysis of my leadership style based on the Synergistic Leadership Theory,

[I want to] input my leadership style data through a survey on the website.

- Feature 6: Analysis Result Presentation

Points: 3

Assigned to: Yi-Ting Lee

Time Est.: 2 Weeks

[As a] school leader,

[So that] I can understand my alignment or misalignment within the four factors of the theory,

[I want to] see my leadership style analysis presented visually.

- Feature 7: Theory Exploration

Points: 3

Assigned to: Andres Santiago

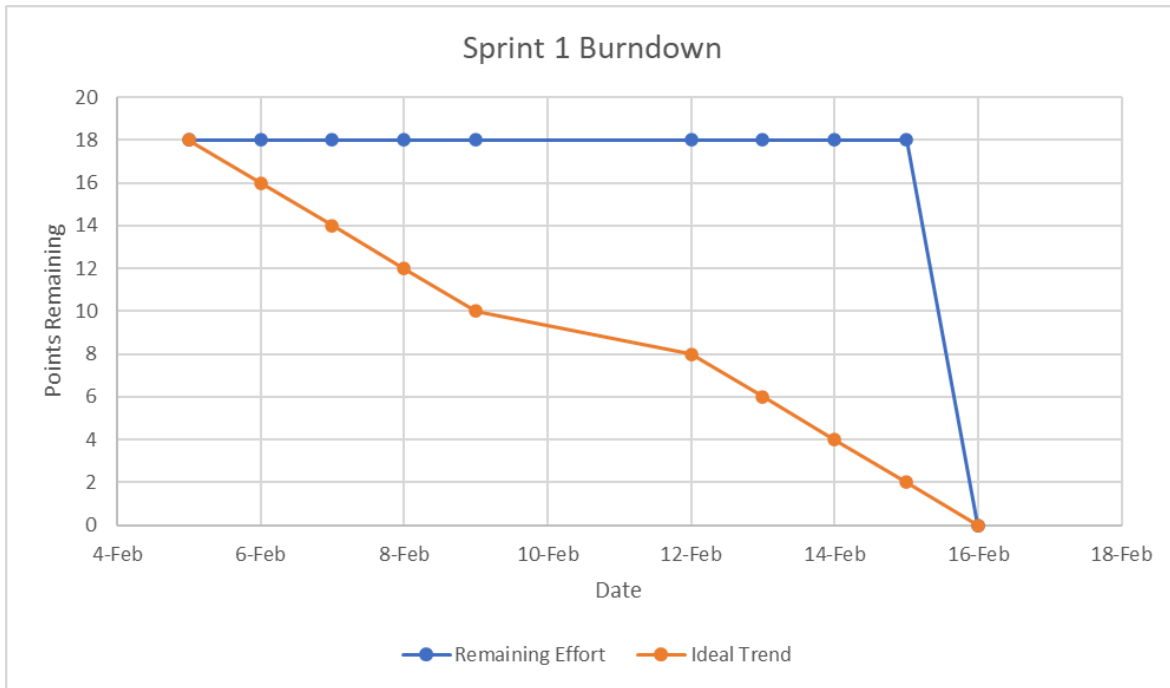
Time Est.: 2 Weeks

[As a] visitor to the website,

[So that] I can learn about its principles and how it applies to educational leadership,

[I want to] explore information about the Synergistic Leadership Theory.

Burndown

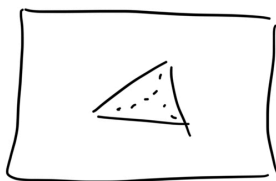


4. Design Diagrams

survey_responses	
<input type="checkbox"/> user_id	integer
<input type="checkbox"/> leads_by_example	integer
<input type="checkbox"/> ability_to_juggle	integer
<input type="checkbox"/> communicator	integer
<input type="checkbox"/> lifelong_learner	integer
<input type="checkbox"/> high_expectations	integer
<input type="checkbox"/> cooperative	integer
<input type="checkbox"/> empathetic	integer
<input type="checkbox"/> people_oriented	integer
<input type="checkbox"/> created_at	timestamp(6)
<input type="checkbox"/> updated_at	timestamp(6)
<input checked="" type="checkbox"/> id	bigint

survey_profiles	
<input type="checkbox"/> user_id	integer
<input type="checkbox"/> first_name	varchar
<input type="checkbox"/> last_name	varchar
<input type="checkbox"/> campus_name	varchar
<input type="checkbox"/> district_name	varchar
<input type="checkbox"/> created_at	timestamp(6)
<input type="checkbox"/> updated_at	timestamp(6)
<input checked="" type="checkbox"/> id	bigint

Synergistic Leadership



See how aligned your leadership
is with your organization.

Take the Test

(Go to survey page)

Learn Leadership

(Go to about page)

Feature 3 Mockup: Wireframe for Web app. homepage

About Synergistic Leadership

Developed in the 90s to provide a more diverse systematic view of leadership.

This survey allows participating organizations to analyze 'fit' between leadership style and expectations.

[Take the Survey](#)

(Go to survey page)

Feature 7 Mockup: Webpage for Learning more about S.L. Theory

Leadership Survey

④



- ☐ Strong Disagree
- ☐ Disagree
- ☐ neutral
- ☐ agree
- ☐ Strong agree

②



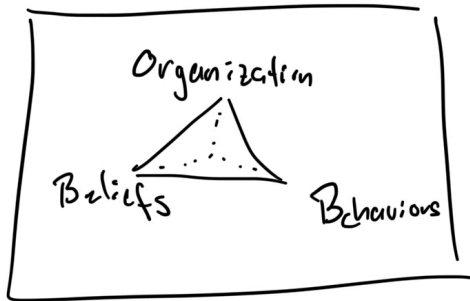
⋮

Analyze your Leadership

(Go to Analysis page)

Feature 5 Mockup: Leadership Data Submission

Your Leadership Style



(interactive model ↗)

You are aligned
with your organization.

Feature 6 Mockup: Analysis Result Presentation

5. Code Quality Evaluations & BDD/TDD Review

SimpleCov reports 100% percentage coverage from RSpec and Cucumber tests.

Code Climate reports 13 issues: 3 are code smells related to excessive complexity and 10 are duplications due to rails generated controllers and views.

Codebase summary

MAINTAINABILITY

A 4 hrs

TEST COVERAGE

A 100%

Repository stats

CODE SMELLS

3

DUPLICATION

10

OTHER ISSUES

0

Code Climate Report

6. Customer Meetings Summary

Meeting 1: Online, 2024-02-13 12 PM

Summary

- Began meeting with introductions from team and project sponsors, Beverly Irby and Matthew Etchells
- Student performance predictions created from data processed by AI models to enable better learning
- Described other projects in the works by ELRC
- Discussed origin of synergistic leadership theory
 - Synergistic Leadership Theory
 - Organizational Leadership Effectiveness Inventory (OLEI)
 - 4 factors - tetrahedral model (Beliefs and Values, Leadership Behaviors, External Factors, Organizational Structure)
 - Consider all 4 factors when evaluating leadership
 - Website contain:
 - synergistic leadership theory information
 - Animated/interactive tetrahedral model
 - Selecting a side of the tetrahedral pulls up information about selected field
 - OLEI processing (input and output)
 - Survey
 - Outputs leadership style analysis from predetermined options
 - Similar to personality analysis sites (Enneagrams, Myers Briggs, etc.)
 - In person meeting - Feb. 13 4pm - 5pm @ Harrington Tower
 - Sponsors will upload relevant documents to shared drive

Feedback

- The sponsors are highly pleased with our meeting preparations and hold a positive outlook on the future of our partnership.

Meeting 2: 715B Harrington Tower, 2024-02-13 4 PM

Summary

- Database Model:
 - A person (principal/superintendent, or candidate for the job) takes a survey, this will create a case number.

- Other evaluators (school board, administrative team, teachers) can use the same case number to fill out surveys evaluating this person.
 - A person can take surveys at different times to reveal the changes in their leadership style.
- Survey Types:
 - A person can take a survey reflecting their own leadership style and estimation of their supervisors, organization, and external community.
 - People from the school board (supervisors), the organization, and the external community can take survey reflecting their opinion on the leadership style
- Survey Analysis:
 - The survey consists of 5 parts, the first part will be compared with the other four parts to give a matching score on the four aspects of the synergistic leadership theory.
 - Questions are correlated across different parts. For example, questions 1-3 in part 1 and question 1 in part 5 all ask about the openness to changes. If the answers in part 1 and part 5 both tend to agree on the openness to changes, then the matching score for the Values, Attitudes, and Beliefs aspect increases.
- Visualization:
 - The four aspects of the synergistic leadership theory correspond to the four faces of a tetrahedron. If the matching score in an aspect is high, its corresponding face is flat; otherwise, the face will bulge out (being convexly curved).
- Others:
 - Annual reminder to the principal to take the survey again.

Feedback

The sponsors are extremely content with our Lo-Fi User Interface Sketches, Storyboards, and the website's framework. They are willing to supply us with additional materials for the website's content.

Meeting 3: Online, 2024-02-20 4 PM

Summary

- The sponsors expressed a desire to query survey information related to their respective teachers or subordinates.
- They discussed the addition of icons and context to accompany the raw survey results, intending to enrich the results with a narrative.
- There was a request for an explanation for each survey question, accessible via a dropdown menu, along with a more comprehensive categorical analysis.
- It was mentioned that using library definitions for explanations of some questions is acceptable (for example, exploring what empathy might look like from the perspective of a high school principal).

- The team agreed on the plan to distribute our Minimum Viable Product (MVP) to actual schools for a testing period of approximately 4-5 weeks before the final report, with April 5th earmarked as the "market launch" date.
- They desire the creation of four boxes to display the raw results of the survey, with narrative explanations provided below these results. Additionally, they want to implement a dropdown menu (or another mechanism) for each question to offer its explanation.
- They wish for principals to have the capability to invite others or share links to the survey and to send reminders to those who have not yet completed the survey.

Feedback

The sponsors were extremely content about our development progress and the communication experience with us. They understood our questions and promised to prepare more materials to solve them.

7. Links

GitHub	https://github.com/tamu-edu-students/csce606-ELRC-Synergistic-Leadership-Theory
Pivotal Tracker	https://www.pivotaltracker.com/n/projects/2690137
Slack	https://app.slack.com/client/T06GRHECJEM/C06GY2R74KX
Live Deployment	https://elrc-app-dfcfc7cd862b.herokuapp.com/