RothScope Iteration 1

CS495 Capstone Project 2025

Summary of Project

RothScope is a web app that helps financial advisors determine the best strategy for converting clients' tax-deferred retirement accounts, like 401(k)s, into Roth IRAs based on their individual goals and tax situations.

Client Info + Feedback

The client:

- Moneytree; a financial advising application provider

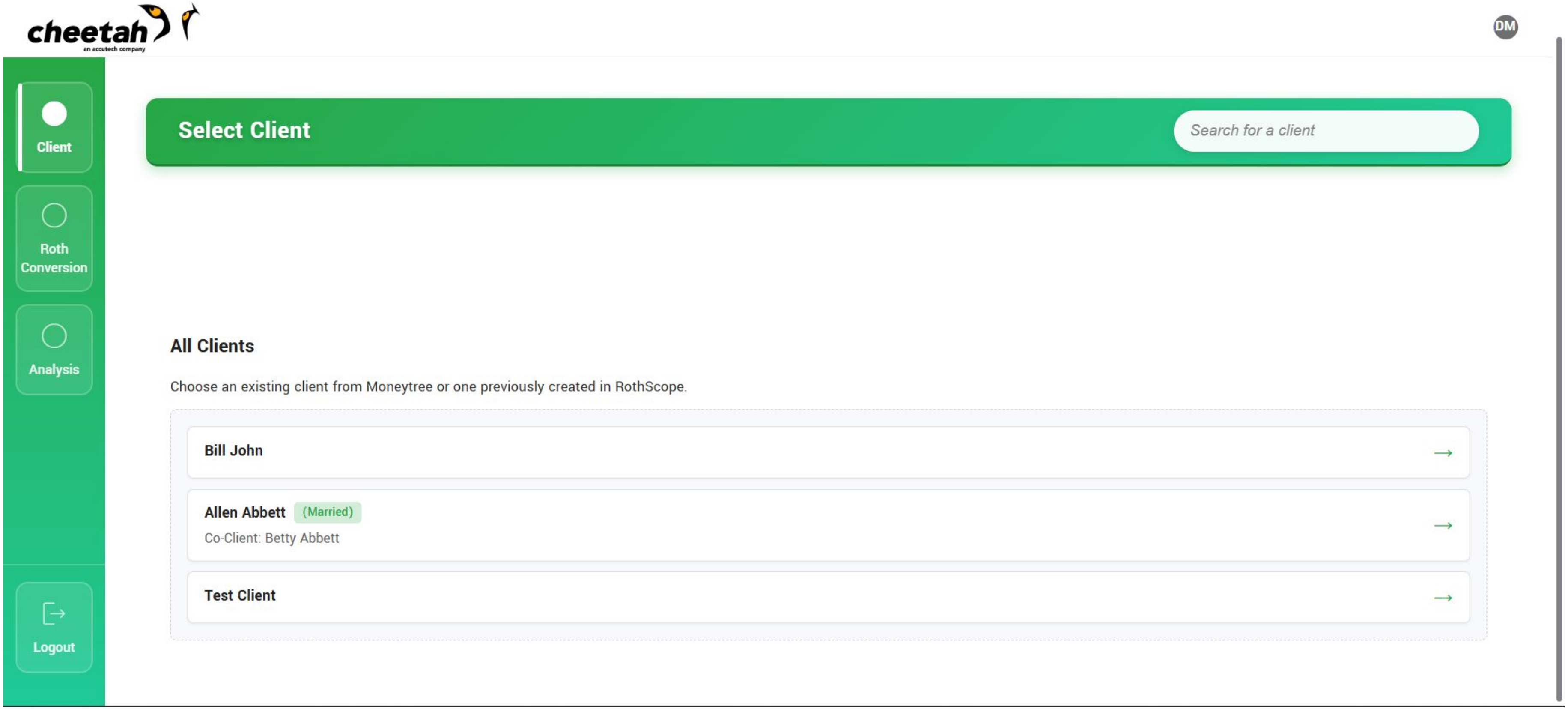
Client mentors:

- Alex Long - Product Lead
- Evan Knapke - Technical Mentor

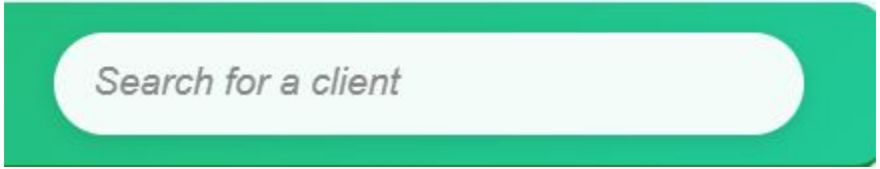
Feedback:

- Clean and clear UI
- Easy to follow the information
- Great for 1st iteration

Home Page Features



Search Bar

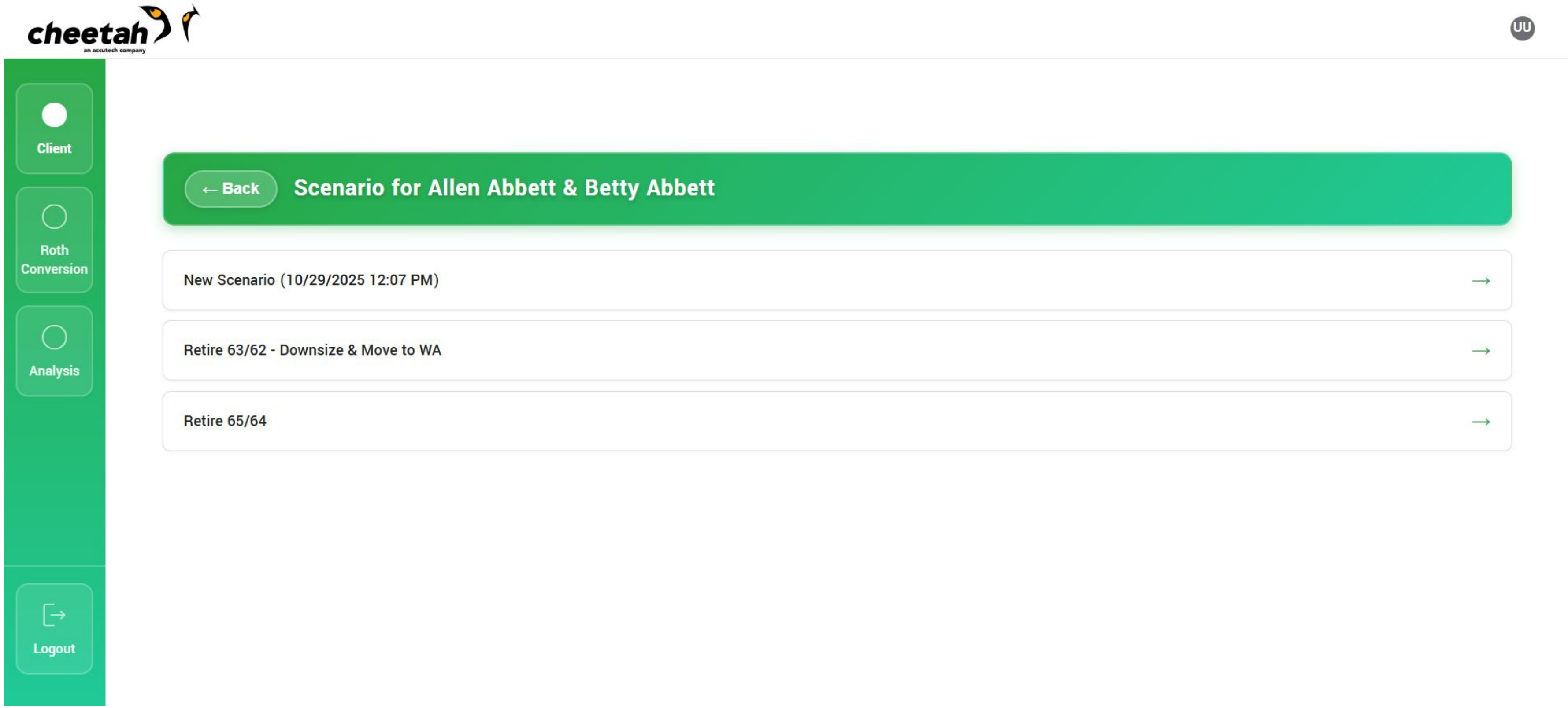


The client search bar allows financial advisors to quickly find specific clients by typing their name. As you type, the list automatically filters to show matching results.

Client List

The client list displays all clients linked to a financial advisor, allowing quick selection to view or manage each client's Roth conversion scenarios.

Scenarios Page Features

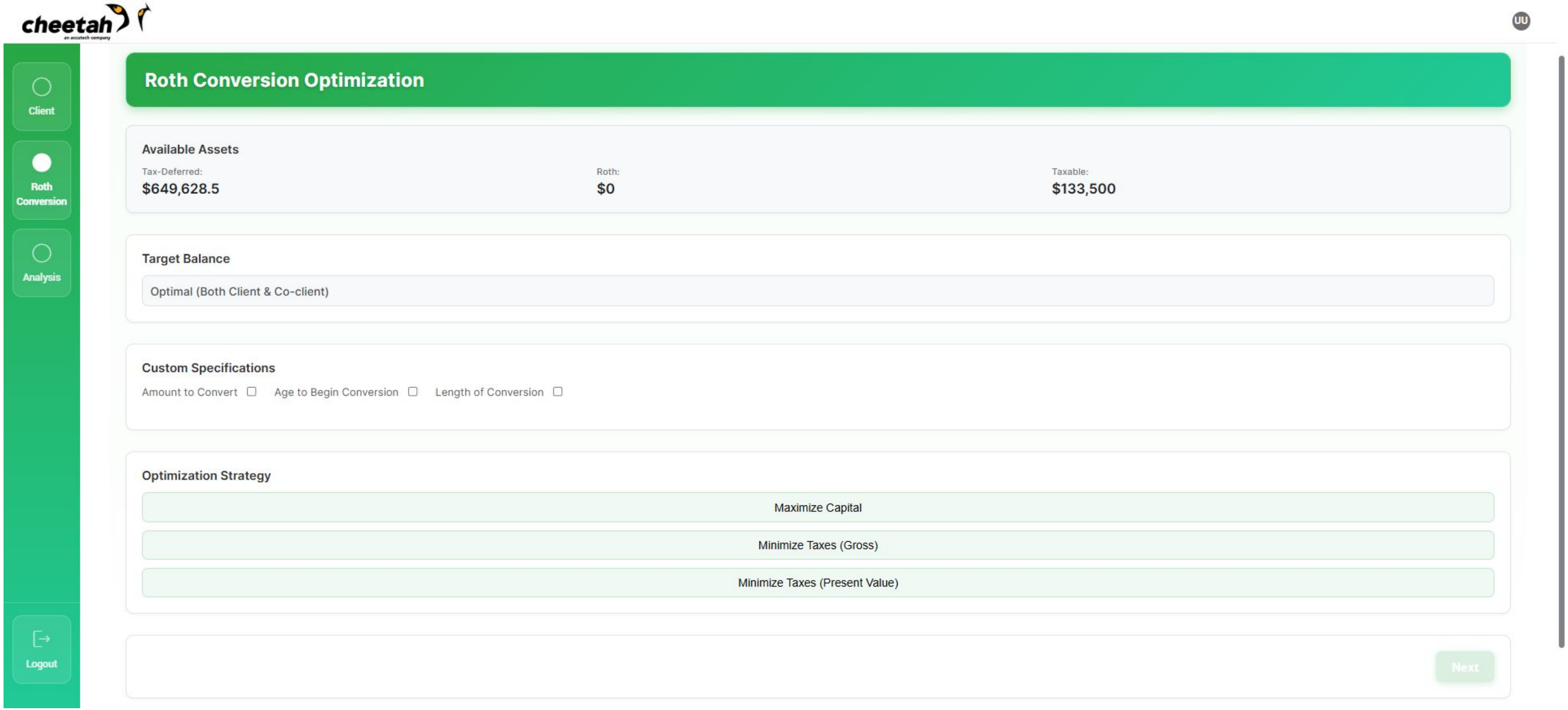


Scenarios List

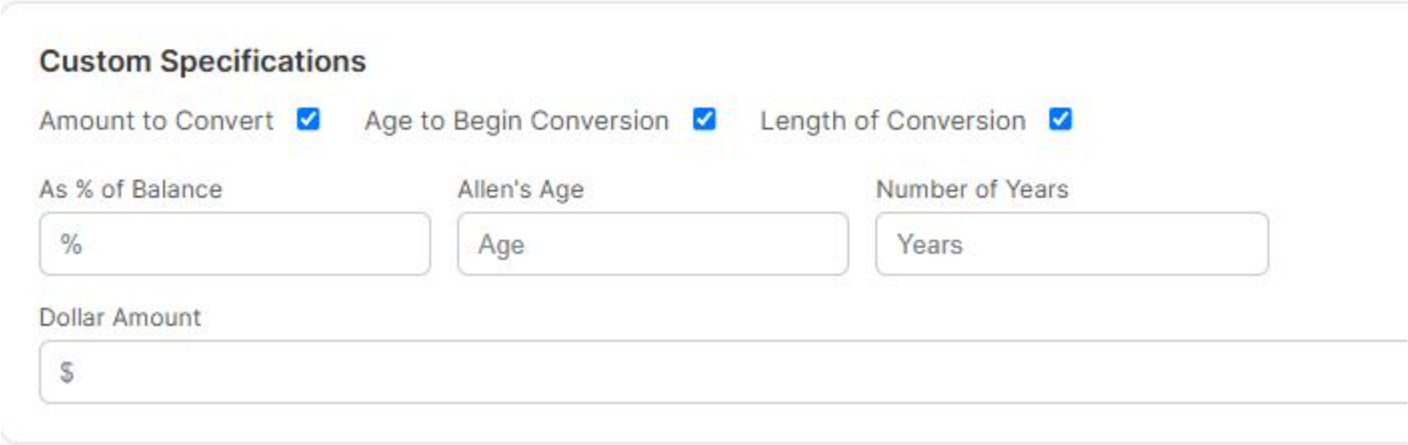
- New Scenario (10/29/2025 12:07 PM) →
- Retire 63/62 - Downsize & Move to WA →
- Retire 65/64 →

The scenario list displays all Roth conversion scenarios created for a specific client, allowing advisors to review, compare, and manage different optimization strategies.

Roth Conversion Optimization Page



Custom Specifications



The custom specifications feature allows advisors to input personalized financial details and preferences for each client to generate tailored Roth conversion scenarios.

Optimization Strategy

Optimization Strategy

Maximize Capital

Minimize Taxes (Gross)

Minimize Taxes (Present Value)

The optimization strategy feature identifies the most tax-efficient plan for converting funds from a traditional 401(k) to a Roth account based on each client's financial data.

Optimization Results Page

cheetah

Client

Roth Conversion

Analysis

Logout

Recommendation

To minimize total taxes paid on conversions, we recommend converting $10,000 annually starting at age 59 for 7 years. This strategy will convert a total of $70,000 with an estimated tax liability of $7,000, projecting a final retirement capital of $834,037.

Optimization Strategy

Minimize Taxes (Gross)

Optimal Conversion Parameters

ANNUAL AMOUNT:	START AGE:	CONVERSION YEARS:
$10,000	59	7

Financial Impact

TOTAL CONVERSION:	TOTAL TAX LIABILITY:	PROJECTED CAPITAL:	BASELINE CAPITAL:	IMPROVEMENT:
$70,000	$7,000	$834,037	$813,666	$20,372 (2.50%)

Year-by-Year Breakdown

YEAR	AGE	CONVERSION	TAX	TAX RATE	TAX-DEFERRED	ROTH BALANCE	TOTAL CAPITAL
2025	59	$10,000	$1,000	10.00%	$684,402	$10,700	$544,534
2026	60	$10,000	$1,000	10.00%	$721,611	$22,149	$585,005
2027	61	$10,000	$1,000	10.00%	$761,423	$34,399	$628,310
2028	62	$10,000	$1,000	10.00%	$804,023	$47,507	$674,645
2029	63	$10,000	$1,000	10.00%	$849,605	$61,533	$724,225
2030	64	$10,000	$1,000	10.00%	$898,377	$76,540	$777,274
2031	65	$10,000	$1,000	10.00%	$950,563	$92,598	$834,037

Back to Home

Thoughts and Feelings About Iteration 1

Dustin

- There were alot of technical difficulties that were solved by the technical mentor
- It was stressful losing group members and being on time crunch while trying to understand their APIs
- I think overall it was a successful first iteration

Alli

- A lot of technical difficulties in the beginning, mentor + client were very helpful
- Schedule call with client in beginning to do initial dev environment setup
- Overall very proud of this iteration

Noah

- The curse of Docker and HTTP certs haunts us all
- Stressful at first
- It looks good to me

Continued

What kind of properties of quality software did you sacrifice for the sake of functional software?

Usability + Security - We had to sacrifice small quality of life features that may not have been fully functional to deliver a product that was 100% functional. There was some minor UI we had to give up on due to making this functional. Security took a slight backseat.

How do you plan to approach iteration 2?

Continue to build on the strong foundation created in iteration 1, work in smaller PR's, and break down our functional requirements in smaller chunks. More frequent pair-programming meetings


NO STRESS
JUST VIBING