

Release Summary

Product Name: Backtesting Engine, Team Name: Simple Strategies

Date: 12/2/25

Key user stories and acceptance criteria:

- As a user I want to be able to sign up and login to my simple strategies account
 - **Scenario 1: A new user is able to successfully sign up**
 - Given the user is on the create account page (clicking on login in the home page then clicking create account)
 - When they enter a valid username, email, and password
 - And click "Create Account"
 - Then the system creates a new account
 - And the user is prompted to verify their email and receives a verification code in their email
 - Then the user should be able to input their verification code and be redirected to the profile page
 - **Scenario 2: A returning user is able to successfully login**
 - Given the user has a verified account
 - When they enter valid credentials on the login page
 - Then they are logged in and redirected to their profile
 - **Scenario 3: A returning user inputs a typo and fails to log in**
 - Given the user is on the login page
 - When they enter an incorrect email or password
 - Then an error message appears, where the user will be prompted to enter their information again
 - And the user remains on the login page
- As a user learning more about strategies, I want to be able to visualize the results of a buy-and-hold strategy on a certain stock
 - **Scenario 1: A user is able to successfully run their strategy and see the result**
 - Given the user is on the create a strategy page and has selected a strategy
 - When they input a valid stock ticker and date range
 - Then a chart is displayed showing buy-and-hold performance
 - And the total return percentage is displayed at the top
 - **Scenario 2: The user inputs an invalid ticker and tries to run the strategy**
 - Given the user enters an invalid stock ticker

- At the bottom of the create ui it should say “invalid ticker”
 - And no graph is shown
- As a user, I want to be able to progress through levels and see my progress on my profile
 - **Scenario 1 : A new user starts learning**
 - A logged in new user navigates to the page for Level 0 by clicking “Learn”
 - The user reaches level 0
 - The user sees the first page of level 0 (“What is a market?”) and then can navigate through the rest of the level, completing activities to test their understanding
 - The user fully progresses through pages in level 0 and successfully completes it
 - They receive a popup message notifying them of their level completion, and then can navigate back to their profile or through level 1
 - Upon completion of level 0 the user should see their level be incremented when going back to their Profile page
 - The user should also be notified of unlocking the buy and hold strategy, the “Create” tab no longer has a lock on it
 - **Scenario 2 : An existing user wants to continue learning**
 - A logged in existing user navigates to level 1 by clicking “Learn”
 - They are automatically taken to level 1 because their progress is saved
 - The user reaches level 1
 - The user sees the first page of level 1 (“What is a strategy?”) and then can navigate through the rest of the level, completing activities to test their understanding
 - The user fully progresses through pages in level 1 and successfully completes it
 - They receive a popup message notifying them of their level completion, and then can navigate back to their profile or through level 2
 - Upon completion of level 1 the user should see their level be incremented on their profile
 - The user should also be notified of unlocking the SMAC strategy, and can view it after clicking the “Create” tab.

- As a user, I want to run Monte Carlo simulations on my modified strategies so that I can assess their robustness and variability.
- **Scenario 3 : A user wants to revisit a specific level/lesson**
 - A logged in user navigates to their profile
 - They can then click the Learn button on the sidebar
 - This will take them to the Learn tree that displays all the lessons for each level in the overall curriculum
 - The user can click through lessons and select a specific lesson they want to revisit
 - They will not be able to click on or visit any lessons they have not yet unlocked
 - Otherwise, they will be taken to that specific lesson
- As a user, I want to be able to store my strategies so I can conveniently access them later
 - **Scenario 1: The user is able to successfully save a strategy**
 - Given the user is logged in and on a strategy on the create page
 - After running their strategy, the user is able to input a name for their strategy (optional) and can click the “Save Strategy” button
 - After clicking “Save Strategy”, the user’s strategy is added to the “my strategies” tab
 - **Scenario 2: The user loads a saved strategy**
 - Given the user is logged in and on the create page
 - When they click the “my strategies” button in the top right
 - Then all previously saved strategies are displayed
 - And if they click “load” on a particular strategy
 - Then their saved strategy will be loaded in with all of the saved parameters
- As a user, I want to see related news articles about the stocks and strategies I’m viewing so that I can understand the current market context.
 - **Scenario 1: Display Relevant News on Create Page**
 - Given the user is logged in and on the create page and has entered a valid ticker
 - Then the 5 most recent articles relevant to the ticker as per yFinance are displayed at the bottom on the page
 - If they click on the article, they should be redirected to the article in a new tab
 - **Scenario 2: The user accesses the News Page**

- Given the user is currently on the News page
 - Then they should see 10 recent news articles from popular tickers as well as the daily stock chart for said stock
 - Then if they click on the article, they should be redirected to the article in a new tab
- As a user, if I want the ability to reset my password in case I forget it
 - **Scenario 1: User is able to successfully reset their password**
 - User clicks on the forgot password in the login pop up
 - User will be sent a email with a code
 - The pop up with update to where user can enter a code and they can write down their new password
- As a user, I want to run Monte Carlo simulations on my modified strategies so that I can assess their robustness and variability.
 - **Scenario 1: The user tries running a basic monte carlo simulation**
 - Given the user is logged in and has saved strategies
 - When the user navigates to the Monte Carlo simulation page
 - And selects a saved strategy from the dropdown
 - And configures the simulation parameters (mode, time horizon, number of simulations)
 - And clicks the "Run Simulation" button
 - Then the system validates the strategy is eligible for simulation
 - And then displays a progress indicator while the simulation runs
 - And shows the simulation results including statistics and visualizations
 - **Scenario 2: User encounters an error**
 - When an error occurs (e.g., insufficient data, invalid parameters)
 - Then a clear error message explains the issue
 - And suggests how to resolve it
 - **Scenario 3: User is not sure how to use the simulation**
 - When the user hovers over specific parts of the simulation
 - Tooltips will be displayed that explain how these different parts of the simulation work

Known Problems:

- The tree inside the lesson isn't scrollable and won't move up

Product Backlog:

- Improve the loading speed of lessons from db
- Add a chatbot that can answer questions the user might come across about strategy, stocks, and lessons