Feature 1: Manage Authentication

Epic 1: Sign-Up to Rabbidity

User Story 1: As a user, I want to sign-up with an e-mail address.
User Story 2: As a user, I want to sign-up with Google, Twitter, Facebook account.
User Story 3: As an admin, I want to verify user information.

E1.US1

Task 1: Developing a field to obtain user information including e-mail address, password, username, phone number, profile photo (optional) etc.
Task 2: Coding necessary form validations.
Task 3: Deciding on the database platform.
Task 4: Developing the infrastructure of the database platform.
(Epic 1 – Task 3 dependency)
Task 5:Writing the registration information received from the user to the database.
(Epic 1 – Task 1, 4 dependency)

E1.US2

Task 6: Writing the registration information received from the user to the database.
(Epic 1 – Task 5, 8 dependency)
Task 7: Completion of front-end development and linking to existing page.
(Epic 1 – Task 5, 8 dependency)

E1.US3

Task 8: Validating user information format.

Epic 2: Log-In to Rabbidity

User Story 1: As a user, I want to log-in with an e-mail address.
User Story 2: As a user, I want to log-in with Google, Twitter, Facebook account.
User Story 3: As a user, I want to reset my password.

E2.US1

Task 1: Developing a field to obtain user input of e-mail and password.
Task 2: Comparison of log-in information with database.
(Epic 1 – Task 3 dependency)

E2.US2

Task 3: Verifying the information from the relevant platform.
Task 4: Comparison of log-in information with database.
(Epic 2 – Task 2 dependency)
Task 5: Completion of front-end development and linking to existing page.
(Epic 2 – Task 2 dependency)

E2.US3

Task 6: Verifying the compatibility of the e-mail address with the e-mail addresses in the database.

Feature 2: Manage Account Preferences

Epic 3: Change user preferences

User Story 1: As a user, I want to change e-mail preferences.

E3.US1

Task 1: Developing and testing the user preferences page.
Task 2: Updating preferences in the database.

Epic 4: Edit user profile

User Story 1: As a user, I want to change my e-mail or phone number.
User Story 2: As a user, I want to change my username or password.
User Story 3: As a user, I want to delete my profile.

E4.US1

Task 1: Developing and testing the user profile page that has edit buttons for each of personal information.
Task 2: Checking the suitability of the fields updated with constraints information. (Epic 1 – Task 2 dependency)
Task 3: Writing up-to-date information for the database. (Epic 4 – Task 2 dependency)

E4.US2

Task 4: Checking the suitability of the fields updated with constraints information. (Epic 1 – Task 2 dependency)
Task 5: Writing up-to-date information for the database. (Epic 4 – Task 4 dependency)

E4.US3

Task 6: Redirecting to the profile screen when a request is selected from the menu. (Epic 4 – Task 1 Dependency)
Task 7: Deleting all user-related information from the database. (Epic 1 – Task 5, 6 dependency)

Feature 3: Manage Outputs

Epic 5: View analysis of the historical data

User Story 1: As a user, I want to see historical dashboard.

E5.US1

Task 1: Determining the input parameters and finding reliable resources for historical prices and Brent Petrol news data and acquiring permissions when needed.
Task 2: Controlling data quality and completing necessary preprocessing operations. (Epic 5 – Task 1 dependency)
Task 3: Creating a database for both historical prices and textual data. (Epic 5 – Task 2 dependency)
Task 4: Retrieving historical prices and textual data from database. (Epic 1 – Task 3 dependency)
Task 5: Performing descriptive analytics, including visualization and categorization of the data. (Epic 5 – Task 4 dependency)
Task 6: Building the Power BI dashboard with the analysis of the historical data. (Epic 5 – Task 5 dependency)
Task 7: Deploying the BI dashboard to the website. (Epic 5 – Task 6 dependency)

Epic 6: View technical information

User Story 1: As a user, I want to see the data sources.
User Story 2: As a user, I want to see used model information.

E6.US1

Task 1: Preparing a section in the BI dashboard for informing users about the data sources. (Epic 5 – Task 7 dependency)

E6.US2

Task 2: Preparing a section on the website for the models used for forecasting. (Epic 7 – Task 5 dependency)

Epic 7: View forecast & investment advice

User Story 1: As a user, I want to get advice based on inputs.
User Story 2: As a user, I want to see the forecast prices.
User Story 3: As a user, I want to see the forecast dashboard.

E7.US1

Task 1: Selecting candidate ML/DL models for that utilizes our data for forecasting.
Task 2: Training the models on each candidate model. (Epic 7 – Task 1 dependency)
Task 3: Validating and testing the models based on accuracies. (Epic 7 – Task 2 dependency)
Task 4: Comparing the selected models with baseline models via back testing. (Epic 7 – Task 3 dependency)
Task 5: Forecasting future Brent Crude prices with the selected model - *if it performs significantly better than the baseline.* - (Epic 7 – Task 4 dependency)
Task 6: Displaying forecasted prices with a time-series graph. (Epic 7 – Task 5 dependency)

E7.US2

Task 7: Retrieving the risk tolerance and investment duration inputs from the user profile. (Epic 9 – Task 1 dependency, Epic 8 – Task 3, 4 dependency)
Task 8: Developing a case-based decision support tree based on the inputs of forecasted price, risk tolerance and investment duration.
(Epic 7 – Task 5, 6 dependency)
Task 9: Deployment of the decision support tree on the website.
(Epic 7 – Task 7 dependency)

E7.US3

Task 10: Building the Power BI dashboard with the forecasts of the data.
(Epic 7 – Task 5 dependency)
Task 11: Deploying the BI dashboard to the website. (Epic 7 – Task 9 dependency)

Feature 4: Manage Inputs

Epic 8: Manage risk tolerance

User Story 1: As a user, I want to take the risk assessment test.
User Story 2: As a user, I want to be able to adjust risk level manually.

E8.US1

Task 1: Finding the proper survey for the risk assessment test.
Task 2: Buying or getting permission for using the selected risk assessment test.
(Epic 8 – Task 1 dependency)
Task 3: Deploying and testing the risk assessment test to the website.
(Epic 8 – Task 2 dependency)

E8.US2

Task 4: Developing and testing the range form for selecting the risk tolerance value as input.

Epic 9: Manage investing period

User Story 1: As a user, I want to be able to select investing period.

E9.US1

Task 1: Deciding on the investing period options.
Task 2: Developing and testing the radio form for selecting the investing duration.
(Epic 9 – Task 1 dependency)

Feature 5: Manage Communication

Epic 10: Receive customer support

User Story 1: As a user, I want to access the frequently asked questions.
User Story 2: As a user, I want to contact customer support via e-mail.
User Story 3: As a user, I want to contact customer support via phone.

E10.US1

Task 1: Writing possible question and answer pool for FAQ.
Task 2: Deploying the FAQ to the website. (Epic 10 – Task 1 dependency)

E10.US2

Task 3: Creating customer support field receiving message and email information.
Task 4: Share contact information on the website footer.
(Epic 10 – Task 3 dependency)

E10.US3

Task 5: Getting a phone number for customer support.
Task 6: Share contact information on the website footer.
(Epic 10 – Task 5 dependency)