# FT5010 - Final-Term Project Guidelines

**Submission:**
**1. Project report (pdf)**
**2. Backtesting Code (ipynb)**
**3. Real-Time Trading code ( python files in a zipped folder)**
**4. Strategy Dashboard code (python files in a zipped folder)**
**5. Presentation Slides (pdf or ppt)**

This final-term project aims to ensure you understand the concepts and can apply what you learned from the lectures to develop strategies, backtest, and deploy them.

1. Same Mid-term group.
2. The project report should contain:
    a. Introduction
    b. Literature review/ research about strategy
    c. Backtesting results
    d. Live trading setup and dashboard information.
        i. Project How to: API Keys, etc
    e. Conclusion of results
    f. Discussion: Comment on your strategy performance (What is missing / how it can be improved further)
3. The strategy can be based on any idea, but it should work on a **group of forex pairs.** Trade the universe of USD pairs only. However, you can add crosses if you are comfortable coding the challenges. The preferred strategy is the one you developed in the Midterm. Just test the same strategy on Forex pairs for final selection. If the variables/parameters used in the mid-term can't be implemented in forex trading, then you need to change the strategy for forex. If you are developing a new strategy, make sure to backtest it.
4. Test the strategy in the vectorized or event-based backtester. We will learn the event-based backtester in lecture 10.
    a. Event-based is preferred but optional. Use an out-of-sample testing approach to avoid biases.
    b. Please optimize in the training period and then test in the testing period. Report the performance of the final selected strategy for both periods.
    c. Report Strategy Risk, Returns, Sharpe, and Drawdown for the strategy. Other performance metrics are bonus/optional.
5. Create a demo Oanda account to run the strategies in a live setup.
    a. For your project, you can create a new Google account for your group to share the credentials.

    b. A local server is okay if you cannot access Google Cloud.
6. Convert the strategy from the backtesting mode to the real-time deployment mode.
    a. You will need to modify the code.
    b. Develop the code with significant comments. Please also describe the idea/strategy in the code at the start. The more understandable your notebook/python codes, the better it will be.
7. Develop a Dashboard using python dash that monitors the performance of the live running strategy.
    a. A Basic dashboard that shows the running strategy description, current PNL, Equity, Open positions, and Risk
    b. The dashboard should have a kill switch that, on click, closes all the open trades.
    c. Compare your strategy performance to a benchmark. A benchmark can be EUR/USD or a fixed risk-free rate.
8. Visualizations are optional but will be a bonus if you do that.
9. Please share the API credentials in the report, as I will test your strategy by running it live. Please do not renew the subscription/API keys after the submissions for one month.

Submission Deadline: 14 April 2024  23:59

Presentation Date: 16 April 2024

A maximum 12 minutes presentation on:

1. Deploy the strategy in real time before the presentations.
2. Demo the live dashboard.
3. Rules of strategy - Entry /Exit / Position Size /Risk Management
4. Variables /Parameters of the strategy
5. What set of parameters do you use to train
6. Any unique idea or feature
7. Results of your strategy. Comparison with the benchmark.
8. Comment on strategy. Strengths and Weakness of your strategy