

## **Laboratory of advanced programming 2021/2022**

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### **MarketFuture**

#### **Idea:**

The main objective of this project is providing a distributed web platform used by the users to get informations about stock markets, their trends and possible future trends of a stock via a specific component, moreover it will be used to get news related to companies and finance that will be checked to be non-fake via a machine learning component

#### **What the system should do:**

- Fetch news.
- Present news.
- Process news to be sure they are not fake before sending them (ML component).
- Manage authentication of users.
- Present profile page user-dedicated.
- Present stock market trends selected
- Predict possible future stock market trends

#### **Potential Users:**

- Young people that are starting learning about stock markets and finance, and want to know it and have an overview of the current financial market situation over time.
- People that are new to the stock markets and investments, and want to be helped to predict the future stock market trends.
- People interested in being up to date with the latest news about stock markets and companies being sure that those are not fake news.

#### **Main Use Cases:**

- the user subscribes to the system.
- the user logs in to the system.
- the user explores the landing page for reading the not-fake news presented.
- the user accesses the main page to watch the trend of a selected stock.
- the user triggers the stock trend predicting module to receive the predicted possible future of the stock market.
- the user navigates to its profile page for consulting its personal information.
- the administrator of the system, with higher privileges can manage news, user profiles and stocks.

## Architecture:

- Front-end: login + stocks page + user profile page + newspaper
- SQL Based Database.
- RabbitMQ
- Backend : hosting the RESTful Web application.
- News Component: retrieving news and sending those ones that pass a fake-news detector machine learning system. Interacting inter-application using rabbitMQ and queues.
- Stock prediction component: Component used to predict the future stock market trends. Exposed to the other components via REST API's.
- external service accessed via api to get the news
- external service accessed via api to get the stocks data

