



المدرسة الوطنية للمهندسين بقرطاج

Ecole Nationale d'Ingénieurs de Carthage

Mutual Fund Portfolio Managment DApp



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Outline

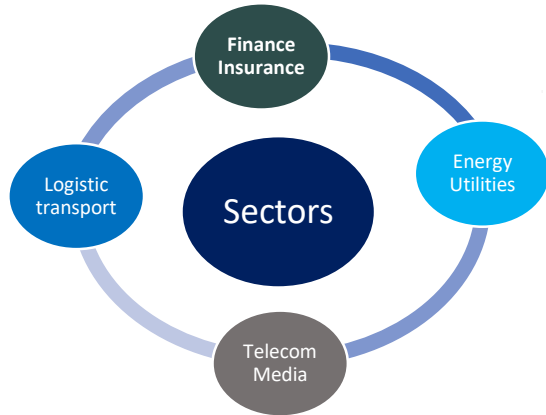
- 1 Project scope
- 2 Requirements' Analysis
- 3 Solution design
- 4 Realization
- 5 Conclusion and perspectives

Project scope

Presentation of Talan Group



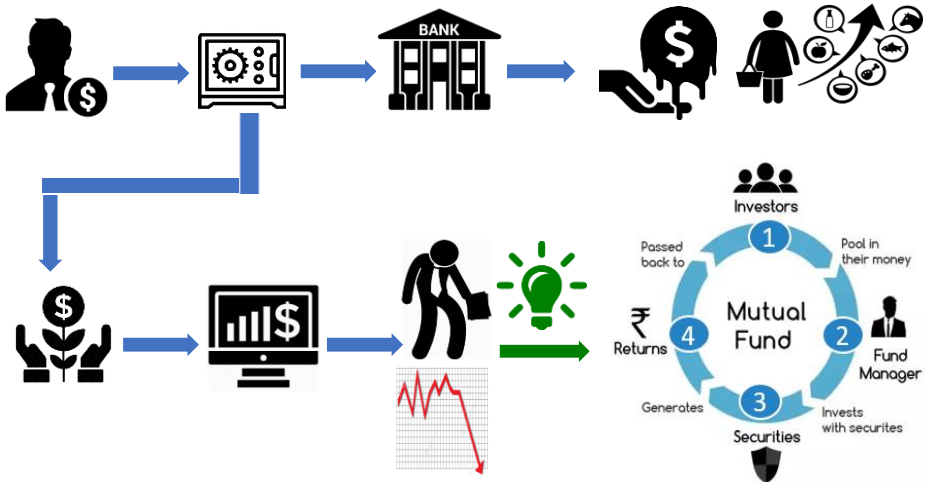
- Nearly 15 years of success
- Expects to reach a revenue of 310 Million Euro in 2019
- 18 Implantations
- 3000 Consultants



Project scope
Requirements' Analysis
Solution design
Realization
Conclusion and perspectives

Presentation of Talan Group
Context and problematic of the project
Related solutions
Proposed solution
Adopted methodology

Context of the project



Problematic of the project

- Centralized model
- Multiple intermediaries
- Cumbersome procedures
- Lack of transparency

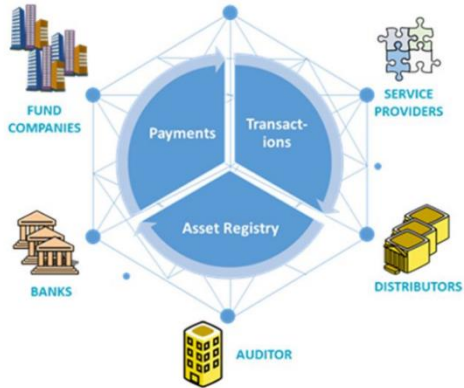
Related solutions



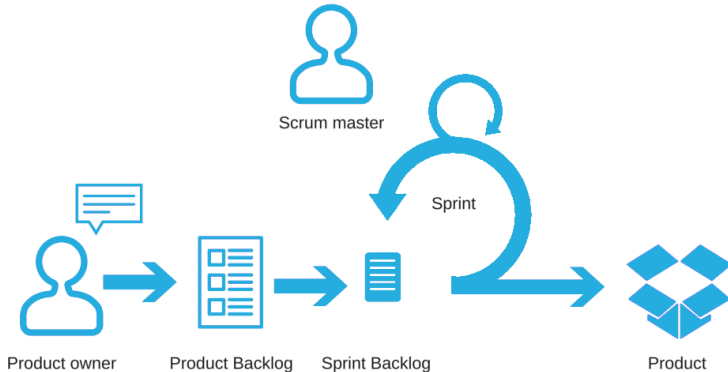
- Global funds network based in London
- switch their fund trading system into a clearing service using its Blockchain DMI
- will act over 1,800 calastone's customer in 41 markets
- In progress of their implementation

Proposed solution

- Decentralized model
- Process automation
- Purchase, withdraw shares at current NAVPS

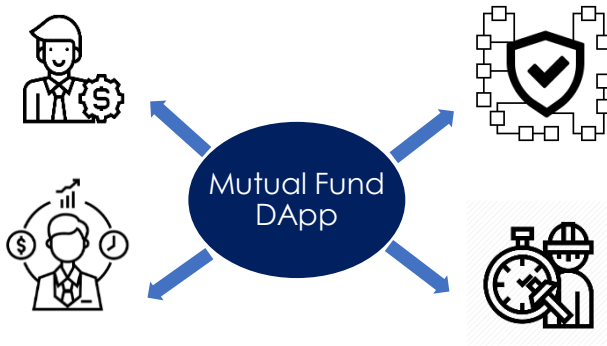


Adopted methodology



Requirements' Analysis

Identification of actors



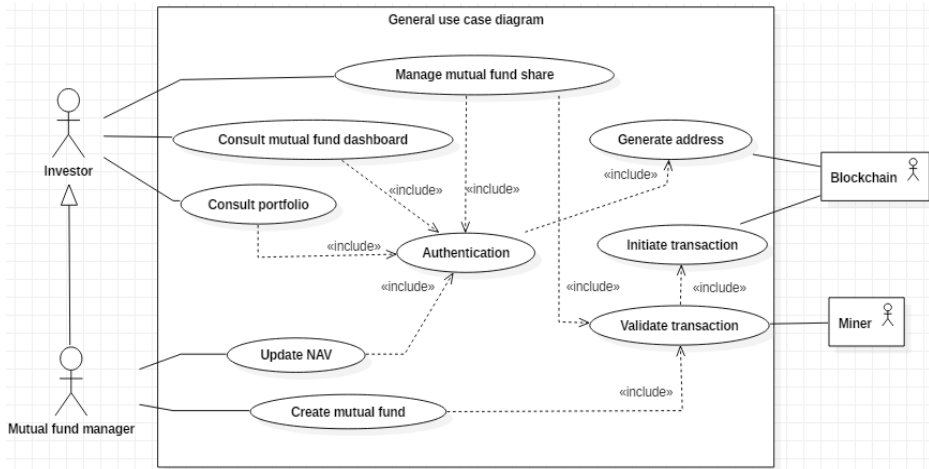
Functional requirements

- Create Mutual Fund Token
- Register Mutual fund
- Update NAV
- Consult Portfolio
- Consult Dashboard
- Purchase/withdraw Mutual fund shares

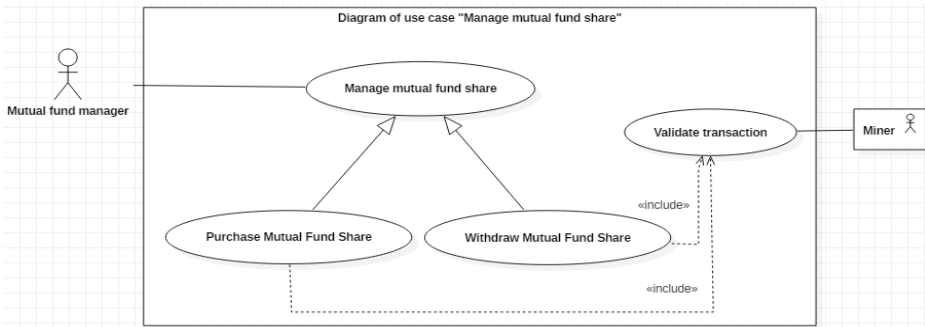
Non-Functional requirements

- Speed
- Security
- Maintainability
- scalability
- Ergonomics

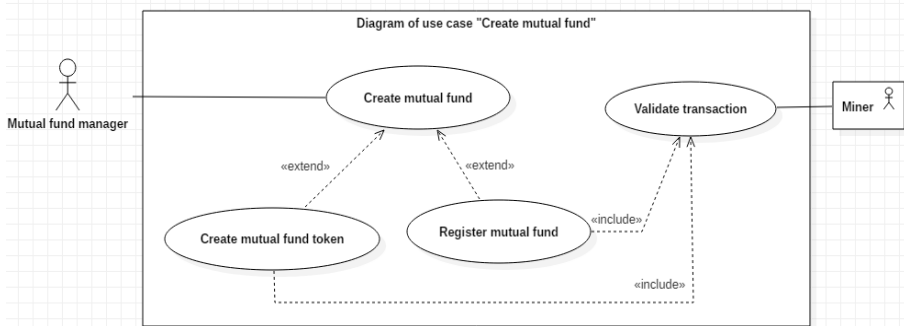
General requirements' specification



Detailed specification

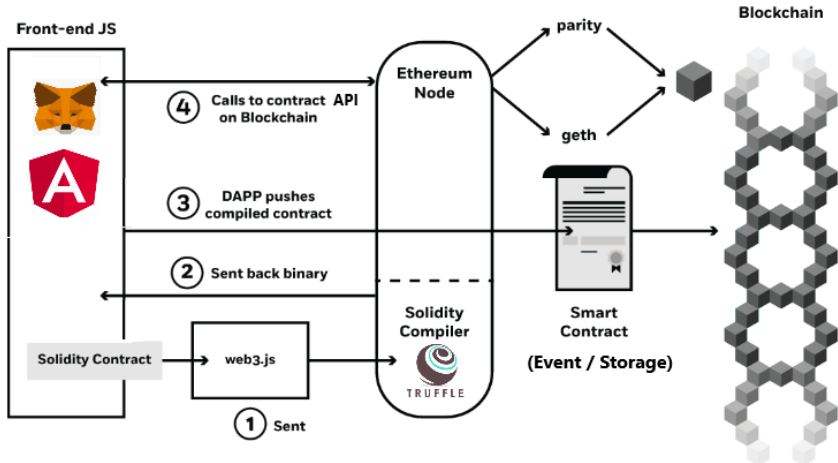


Detailed specification

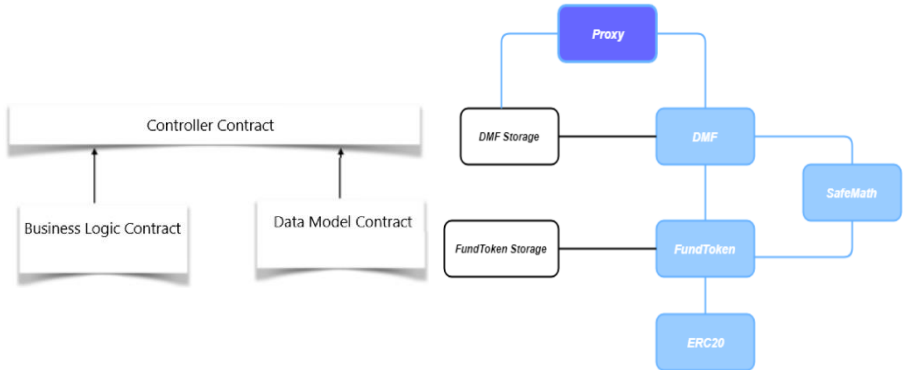


Solution Design

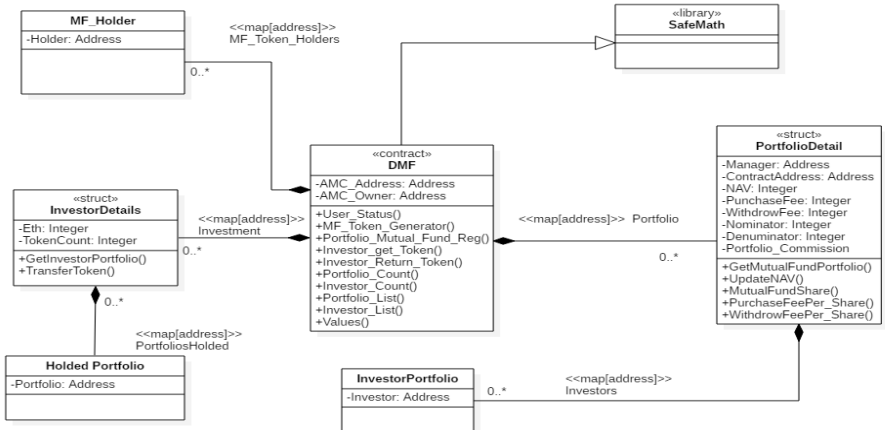
Global System Architecture



Smart Contract Architecture



Smart Contract Structure Diagram



Realisation

Selected Technologies



Ganache



TRUFFLE



Web3.js



Angular

Illustrations

Demo

Conclusion and perspectives

Conclusion

Contributions:

- Improving my professional skills
- Increase my practical and theoretical knowledge

Perspectives

- Automate the KYC and AML process
- Add smart trading component that track market index and update the Mutual Fund NAV automatically
- Add vote component that allows investors to participate in critical decision

Thank you for your attention

Any questions?