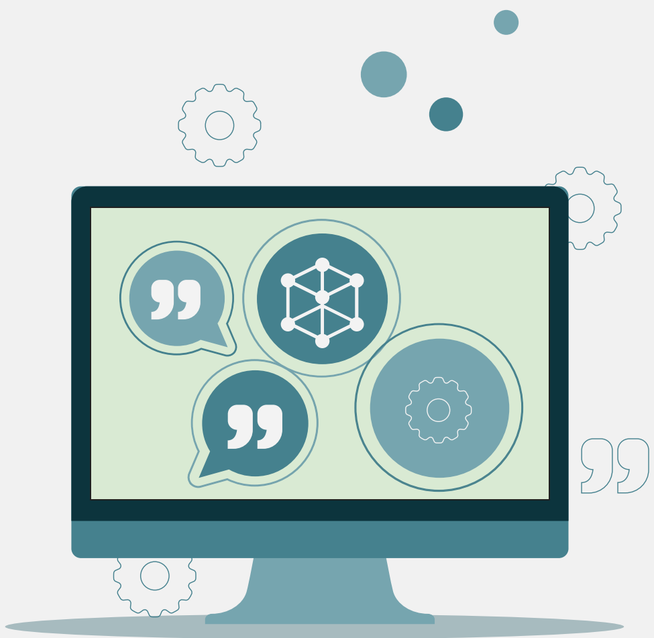
SmarTask

Bigger companies, faster scheduling



Team

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Gabriel Teixeira	107876
João Monteiro	114547
Vitalie Bologa	107854
André Fernandes	103252

01 Project members

Rafael Kauati
- DevOps Master

Gabriel Teixeira
- Team Manager

Vitalie Bologa
- Architect

João Monteiro
- MLOps

André Fernandes
- Product Owner

Project advisors

Amaro de Sousa

Luís Seabra Lopes

José Moreira

02 Context

- Manage several employees schedules
- Over several workspaces
- Over several weeks

03 Major goals and expected results

Set of algorithms

Which allow using heuristics, meta-heuristics and optimization methods to automatically generate new schedules

The system

That allows the generation of the schedule by a named algorithm. Should also support the addition of new methods

Web app

To display the generated schedule and visual features to help the developer analyze the better option

04 Challenges to overcome

Efficiency Number of company employees

Deal with specific company rules

System extensibility/compatibility

05 Task list

Task 1

Analysis over similar services

Task 2

Requirement gathering with the company

Task 3

Architecture planning of the overall system

Task 4

Web interface development

Task 5

Development and testing of at least one heuristic algorithm

Task 6

Development and testing of at least one metaheuristic algorithm

06 Task list

Task 7

Development and testing of at least one optimization algorithm

Task 8

Development and testing of the REST API and extensible interface

Task 9

Integration of the backend with the frontend

Task 10

Evaluate performance of the developed algorithms

Task 11

Intuitive documentation for future developers

07 Related works

08 Calendar

25/02

Team formation, project analysis, schedule creation and microsite setup.

11/03

Requirements, architecture design, research, user personas, API planning and UI prototyping.

25/03

Backend connection, API and frontend development, first algorithm implementation and initial bug fixes, start of backend implementation + ext. interface.

08/04

First algorithm evaluation, second algorithm development, and frontend-backend integration, continuation of of backend development + ext. interface.

06/05

Second algorithm finalization, extensible interface improvements, third algorithm implementation, and testing.

20/05

Third algorithm completion, final optimizations, finalization of the ext. interface , system integration, and documentation review.

03/06

Final system completion, performance tests, and preparation of demo, video, and technical report.

09 Communication plan