

Creating an MVP And Iterations

False Notes of the internet MSc #PPE23-P-238

Issues :

What's the best way to thwart fake comments on the Internet? How can we raise awareness of this problem among the sites concerned, encouraging them to identify and then delete fake profiles?

Context :

For 38% of those surveyed, consumer ratings and reviews on the Internet are by far the most important source of information before deciding to make a purchase (Trustpilot data). At the same time, the DGCCRF states that 35% of reviews are not genuine. These fraudulent practices affect all sectors of activity: hotels, entertainment, clothing, automobiles, household appliances, etc.

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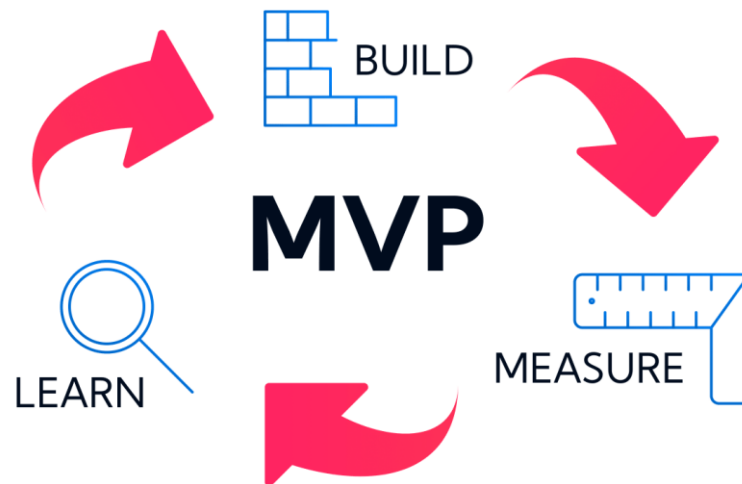
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Introduction

The Minimum Viable Product (MVP) for our fake review detection application represents the first concrete step in our project. Initially conceived in the form of Proof of concept during the first semester, it was then developed into a complete version during the second semester. This document describes our methodical approach to creating a functional MVP and underlines the importance of gathering user feedback early in the process. By combining an initial version with a subsequent final version, our aim is to validate our concept, demonstrate the technical viability of our solution and guide our development in line with real user needs.



MVP description

The MVP of our fake review detection application starts with a proof-of-concept (PoC) version developed with Jupyter Notebook. This initial version illustrates the core functionality of fraudulent review detection. Created in the first half of the year, this prototype embodies our concept and presents the algorithm's workflow. It describes the review submission process, data analysis and detection of fake reviews.



1 - Proof-of-Concept (PoC) phase:

Illustration of Features: The PoC version, developed with Jupyter Notebook, visualizes the main features and interactions of our solution. It shows how comments are submitted, analyzed and how false comments are detected by the algorithm.

Concept validation: This initial phase enabled us to validate our ideas by testing the false review detection algorithm. Thanks to this demonstration, we were able to gather valuable feedback from stakeholders before continuing development.

2 - Transition to the Functional Digital Version :

- **Feedback-driven development:** After validating the PoC and gathering feedback, we began the digital development phase. This functional version of the application incorporates the lessons learned from the demonstration phase.
- **Technologies used :** To ensure efficient design, we used tools such as Figma to create interactive prototypes and mock-ups. This approach facilitated the transition from PoC to a fully functional digital application.



3 - MVP objectives :

- **Validation of Viability:** The main objective of the MVP is to demonstrate that our concept is viable and that our algorithm can reliably detect false reviews.
- **Feedback Gathering:** By making our MVP available to users at an early stage, we can gather constructive feedback to guide future application development.
- **Demonstrating functionality:** The MVP must prove that our solution is technically feasible, and that the detection algorithm works effectively.
- **User Experience:** We want to ensure that our user interface is intuitive and easy to use, guaranteeing rapid and positive adoption of our solution by users.



Development

Our solution will use machine learning techniques to analyze the content of reviews and identify those that appear suspicious. It will take the form of a Minimum Viable Product (MVP), comprising an initial prototype, a minimum functional version, a robust backend, and an intuitive user interface. This MVP will enable us to quickly validate basic functionality, testing solution with users and iterate to improve our final product, which will become an essential tool for guaranteeing the integrity of online reviews.

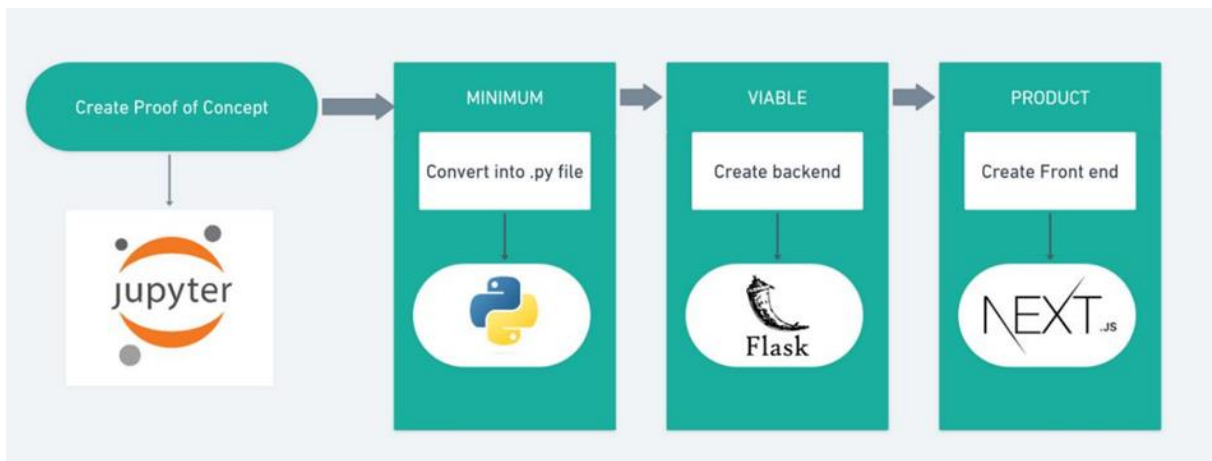


Figure 1: The MVP of our digital product.

Proof of Concept:

- Develop a prototype on Jupyter Notebook to test basic functionality and validate project feasibility.
- Transfer the prototype to a Python file (.py) for a more robust and easily deployable version.

Minimum:

Create a command-line application (CLI) in Python that allows us to:

- Load review data to be analyzed.
- Apply a false review detection model.
- Display analysis results (reviews detected as false).

Viable:

Develop a backend with Flask Python that exposes a REST API to:

- Receive the review data to be analyzed.
- Execute the false critic detection model.
- Return analysis results.

Product:

Create a web user interface with Next.js that allows the user to:

- Load review data.
- Run the analysis to detect false reviews.
- View analysis results.

The development of our MVP for the false review detection application took place in an organized and methodical way, taking advantage of the main tool, Figma, to design and visualize wireframes and mock-ups.

Design methodology

To develop the MVP for our digital product, we adopted a methodical, collaborative approach. Using Agile methodology then created a paper MVP to visualize key functionalities like buttons. After validation, we progressed to a digital version with Figma, focusing on an intuitive user interface. Regular testing enabled us to adjust functionality in real time, ensuring that the final solution was of the highest quality and met the expectations of the users of our digital application.

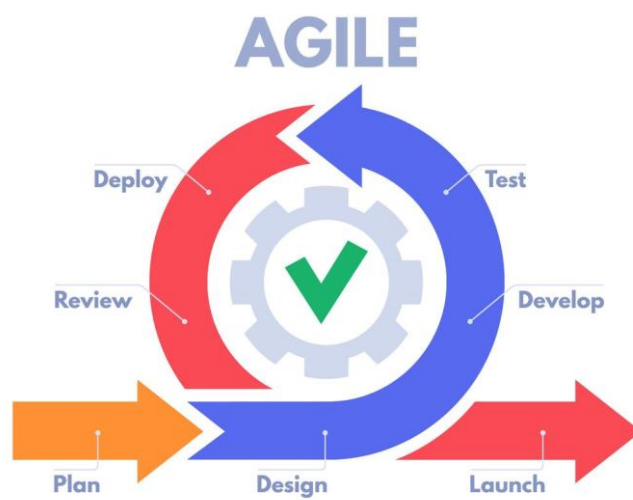


Figure 2 : AGILE methodology schema.

Conception

1. Paper MVP

We produced an illustrative sketch detailing the main functionalities and interactions of the solution for detecting false reviews. The sketch was designed to provide a clear visual representation of the application's workflow, making it easier for stakeholders to understand the solution and gathering valuable user feedback.

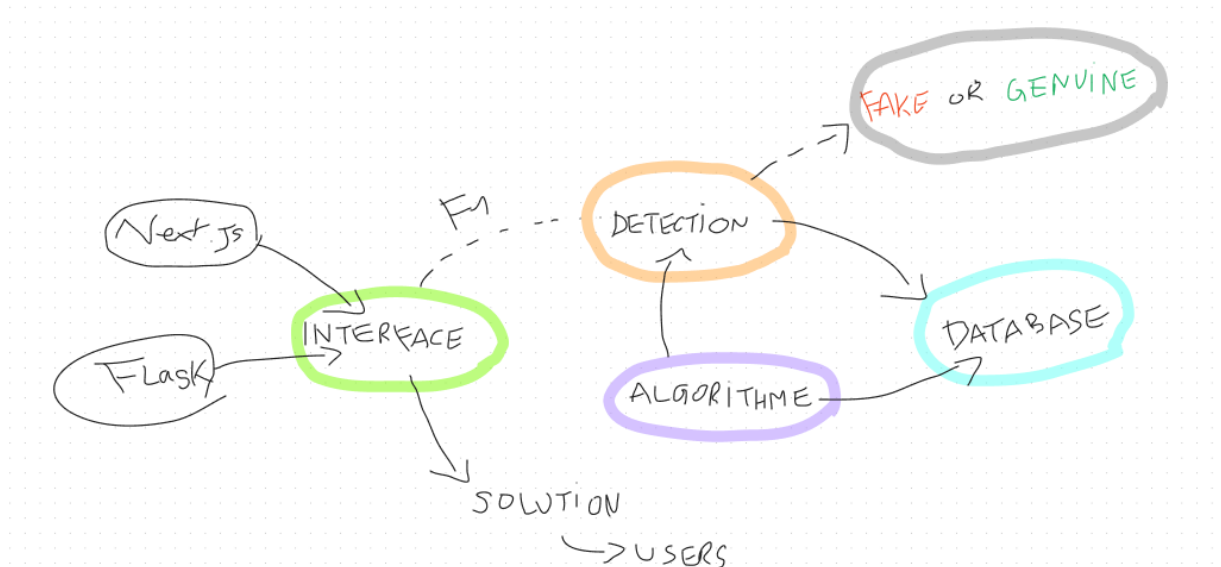


Figure 3 : Sketch of the design development.

2. Digital MVP

We then converted the paper version into a digital version. Each feature represented in the sketches was implemented as a digital mock-up, enabling users to interact with the solution in a way like what they might do in the final version. This digital version of the MVP was used to validate the usability of the user interface.

You'll find a GIF showing the use of our solution in the archive.

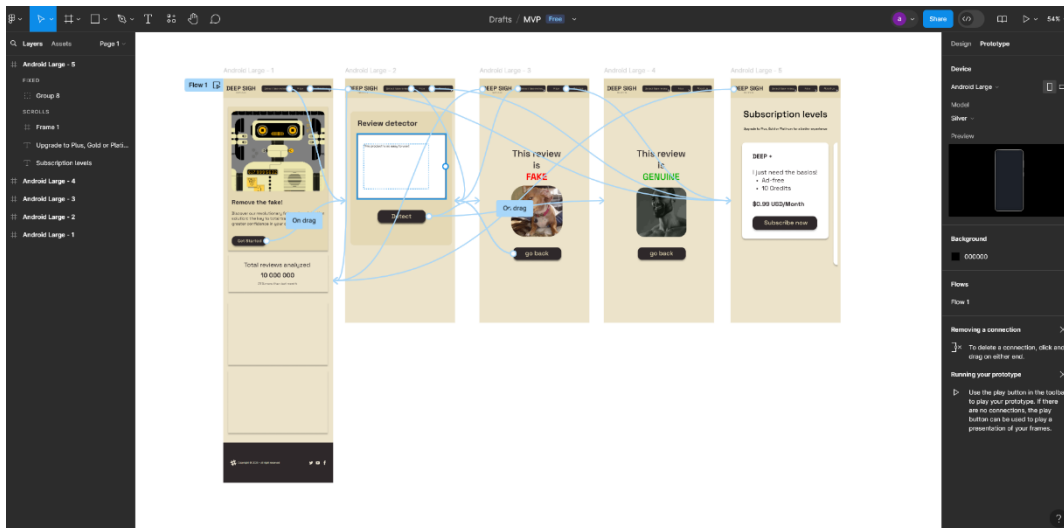


Figure 4 : Conception of the MVP design and user interaction of the app on Figma.

Thanks to Figma, we were able to create a series of detailed mock-ups that clearly illustrate the navigation, layout and user interactions of our web application. This overview enables us to visualize the entire user journey, ensuring that each element is coherent and aligned with our objectives.

Conclusion

In conclusion, the development of the MVP for our fake review detector was guided by a rigorous and collaborative methodology. Through the adoption of AGILE, we were able to transform our proof of concept into entire digital product, by using ideas into a paper MVP faithfully representing the essential functionalities of our solution.

The transition to a digital version using Figma facilitated the creation of an intuitive user interface, while enabling rapid adjustments based on user feedback. Ongoing testing played a crucial role in the iterative improvement of the product, ensuring its quality and relevance to market needs. This process not only consolidated our development approach, but also laid a solid foundation for the future evolution of the application, positioning us favorably to meet future challenges in the field of false opinion detection.

Pictures sources

MVP picture : <https://galadrim.fr/blog/quest-ce-qu-un-mvp>

Objectives picture : <https://fr.freepik.com/photos-vecteurs-libre/objectif>

MVP picture 2 : <https://www.theinnovationmode.com/the-innovation-blog/is-this-a-prototype-or-an-mvp-or-maybe-a-proof-of-concept>

Figma logo : <https://worldvectorlogo.com/fr/logo/figma-5>

Agile picture : <https://etcdigital.fr/blog/quest-ce-que-la-methodologie-agile/>