

EdTech Mobile App

How developing a mobile learning app with an ML-powered recommendation engine to provide each student with a relevant mentor empowered a US startup to set a foundation for a future educational ecosystem and increase students' engagement by **43%**.

Challenge

The customer was looking for an IT partner - a technological and methodological expert who could help not only to create the product but also would assist in its market entry strategy. The idea was to develop an ecosystem which would fulfil the following functions:

- giving everyone an opportunity to get a full-fledged academic education;
- giving a possibility to get competencies that are in demand through the concept of bite-sized learning;
- providing recruiters with access to the app so that they could estimate students' competencies and soft skills at an early stage and make a decision about interviewing the candidates.

Tasks

Having a good idea, the customer, however, didn't have any preliminary developments or a mere vision of how this idea can be embodied. The project was vague in terms of the interim goals, requirements, and technologies. Therefore, our team got a vast area of responsibility: we had to work out the vision and the business case of the product, deliver the design and, all in all, take part in the development as product owners.

The app was supposed to be the first fragment of the future ecosystem and was expected to:

- help the students get the necessary information in a particular domain;
- help the students choose people who might become their mentors;
- have a motivational constituent for the users who can be mentors.

Team

A line-up always matters but it becomes of vital importance on projects characterized by a high level of ambiguity. In order to ensure the optimal communication from the very beginning, we provided the customer with a wide range of team roles who are highly qualified experts specialized in solving particular classes of tasks: Business Analyst, UX/UI designers, Backend Tech Lead, Data Scientist, Solution Architect and Project Manager.

Solution

During the Discovery Phase we developed the solution which implied:

- the possibility to publish the materials on the app and share them with other students;
- chat functions, enabling students to interact with each other;
- a machine-learning model which takes into account the views of learning materials, other users, "likes", etc. and, based on this information, recommends the most relevant mentors;
- the content management functionality;
- the system of rewards with gamification elements and a gradual immersion of the user into the platform.

Key features



machine-learning module



chat functionality

Value

In the result of close collaboration with the customer, *instinctools team has created a mobile application which provides access to all sorts of educational materials and allows to get consultations from people, whose career is a matter of interest for the users. Moreover, our company has gained excellent experience in developing recommendation systems that seek to predict the "rating" or "preference" a user would give to an item. Being welcomed in a variety of areas by giants such as Netflix, YouTube, Amazon etc., the benefits of these systems are now available for *instinctools clients.

Technologies

- Java 11
- Docker 17.05 CE
- Amazon Linux release 2
- AWS EKS 1.14 (Kubernetes)
- AWS ECR
- AWS RDS (PostgreSQL 11.5)
- AWS Route 53
- AWS SQS
- AWS Pinpoint
- AWS Cognito
- AWS SES
- AWS S3
- Ansible
- Jenkins
- Terraform
- SonarQube
- Kubectl 1.14.7
- Helm 2.14.3
- Python
- Bash

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