Research Document

Name: Mitran Matei-Cristian

Student Number: 4207734

Date: 28.10.2021

Problem

A boxing league company called BoksTime needs a web application in order to offer its clients (viewers, boxers, coaches) a better user experience and create a community.

Main Question

How can BoksTime create a full-stack web application that satisfies the needs of every type of user (viewer, boxer, coach) whilst providing a great user experience?

Sub questions

1. What development platforms could BoksTime use to reduce development time and application complexity?
2. What data source would be best to be connected to the development platforms?
3. What functionalities should BoksTime implement in order to provide a great user experience?
4. What functionalities should BoksTime implement to satisfy each type of user’s needs?

Methods

* What development platforms could BoksTime use to reduce development time and application complexity?

1. Best good and bad practices (to find out what development platforms to use to reduce time and complexity we should find out what best works in other full-stack web applications and what doesn’t work)
2. Design Pattern Research (to achieve reduction of development time and application complexity we should understand the design pattern and create a design document with architecture diagrams)
3. Community Research (to achieve reduction of development time and application complexity we should consult with a trusted online community)

* What data source would be best to be connected to the development platforms?

1. Expert Interview (setting up an interview with an expert of the ICT domain to shed some light on the best data source to be connected in this situation)
2. Literature Study (finding information and practices in books related to the ICT domain would help us in choosing the best data source)

* What functionalities should BoksTime implement in order to provide a great user experience?

1. Brainstorm (to provide a great user experience we should brainstorm functionalities that meet the user requirements)
2. Prototyping (to provide a great user experience we should develop prototypes and modify our web application according to the feedback received)
3. Explore User Requirements (to better know what functionalities should be implemented we should consult the user requirements document)

* What functionalities should BoksTime implement to satisfy each type of user’s needs?

1. Product Review (by reviewing the product before deployment and ensuring perfection, we can satisfy each type of user’s needs)
2. System Test (by solving every system error before product deployment we can further ensure perfection)
3. Survey (by creating a survey we can check if the user’s needs are met and if not, modify our web application)

Results

* What development platforms could BoksTime use to reduce development time and application complexity?
  + From the research methods above, we concluded that we will use Java Spring Boot for the backend and ReactJS for the frontend.
* What data source would be best to be connected to the development platforms?
  + From the research methods above, we concluded that we will use MongoDB as the data source connected to the development platforms.
* What functionalities should BoksTime implement in order to provide a great user experience?
  + From the research methods above, we concluded that the functionalities we will implement (more below) should be easy-to-use and efficient.
* What functionalities should BoksTime implement to satisfy each type of user’s needs?
  + From the research methods above, we concluded that we should implement the following functionalities for viewers (live chatting, watching live fights, seeing league information), for boxers (chat system with coach, seeing statistics about himself and other potential opponents) and for coaches (chat system with all their fighters, statistics about their fighters to better improve training).

Conclusions

* Answer: BoksTime can create a full-stack web application that satisfies the needs of each type of user whilst providing a great user experience by making sure the functionalities implemented meet the user requirements and the web application is easy-to-use and understandable.
* The research performed in this document is concluded in this chapter and the main factor while researching was making sure the actual research is valid for this web application.

Recommendations

* The study has shown that Java SpringBoot is one of the most efficient backend development platforms. To make sure of efficiency, Java SpringBoot is one of the development platforms recommended.