Changes justification on

“Show me” project



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*The current document is meant to act as a changes justification booklet for “Show me” project. The Code Ninjas team has been working on the project for quite a while already, so they have decided that will be more beneficial for them if they switch their working style.*

*Due to this fact, the group has decided to create a document, which will be given to their client and teacher. This document is expected to act as an official explanation of all changes that are being made and will be made on the initially created Project Plan.*

As an initial agreement, the Code Ninjas group has created a Project Plan. Inside this project plan, important information as planning, estimation, project justification has been put. The document has been approved by both sides – client and teacher.

After having worked for quite a while on the project, the group has decided to choose a new way for their work. The need for that came from the fact that, not every group member has the same set of skills and knowledge. However, the main point of this project, is that everyone can benefit in many ways, so everyone can learn from what is being done.

In order to accomplish that goal, the team has decided to introduce some changes, on what has been previously mentioned in the project plan document. Back then, it was said that, there will be strict milestones with deliverables. The problem with this comes from the fact that, not at every point the group knows what will be done in the future, and what kind of problems might arise. Due to this fact, the group has decided to introduce a new planning. The new planning still follows the “Spiral” model, but has some enhancements over it.

Basically the work is being done on iterations of two weeks. During those two weeks there are couple of meetings, where the group members work together. There are meetings for planning, for working, for progress discussions, for demonstrations and retrospectives.

Another factor that must be mentioned is that the group will be delivering their products in each two weeks. This means that every iteration ends with a demonstration in front of the client and teacher. Basically at the beginning of each iteration, there will be a planning session, where the team is going to decide on what they are going to work for the next two weeks. After the planning session, the team is going to inform their client and teacher what to expect from them for those two weeks. When the end of the iteration is approaching, the team is going to send an invitation to the client and teacher for the demonstration. Therefore the project will follow more “iterative” direction, rather than “waterfall” one.

The team is not going to prepare any documentation such as: class diagrams, sequence diagrams and test documents in advance. Every iteration will have own planning. Every iteration will have own deliverables. If an iteration has to do with project architecture, then one of the deliverables for this iteration will be indeed project architecture document. Same applies for class diagrams, sequence diagrams and test cases. Since already mentioned, the group is going to work with often planning sessions. If there is a plan to develop some functionality for the next two weeks, then there will be created test cases, test scenarios, and those will be delivered to the client by the end of the iteration.

As a summary:

The project will change its direction from being “step by step waterfall” to being “iterative process”. Documents such as diagrams, plans, cases will not be delivered in advance. Reason for that is because those documents get outdated very soon and they need to be updated all the time. The team members agreed on a solution that they will create the needed documents, whenever they are needed, and they will deliver those documents whenever needed.

# Changes to the C4 model

During this sprint we decided to change few things in our C4 model. The things we changed are as follows:

* Authentication instead of authorization
* Introduce a new service called “DataService” that will be used by the Authentication service and the Payment service to interact with the PostgreSQL database.
* Replace MongoDB with Redis

## Authentication instead of authorization

This change is needed due to the different meaning of the words authentication and authorization. Authentication is the process of verifying who you are. In our case login/registering a user (on both sides – the web client and the mobile app). Authorization on the other hand, is the process of verifying that you have access to something. Gaining access to directory/resource based on the configured permissions. The change is necessary in order to avoid confusion in the future among people involved in the project.

## The DataService

This new service is needed because we want to use the code first approach to connect to the PostgreSQL database. Using Code First means that the entities will be generated first and later put inside the database. The DataService will prevent conflicts due to a record not been available at the moment of request.

## Replacing MongoDB with Redis

The purpose of MongoDB is to store data permanently. After careful consideration we determined that using it for storing the stream is not really practical. The reason is that after some time the stream will be removed, because another stream will need the space thus we won’t keep data permanently for a long period of time. To simplify things, we decided that Redis will be more appropriate to use for the video stream. Redis is an in-memory data structure that can be used as database, cache and message broker. The reason for switching from MongoDB to Redis is that the second can process the streamed data faster than the first one, the implementation is easy and works well when the data sources are distributed. [1]

1. Kumar, Roshan. (2017, August 2). How to use Redis for real-time stream processing. Retrieved from <https://www.infoworld.com/article/3212768/database/how-to-use-redis-for-real-time-stream-processing.html>