

TEAM PIONEERS
MISWA
(POST-MORTEM REPORT)

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IDEA

Starting from the very beginning of this term, After one or two meeting with our supervisor(Mikaela), and talking to few employees from company named "SAFER", we came up with a vision of what we were going to demonstrate in our project.

The idea, though simple, was quite useful for any company dealing with truck drivers to deliver stuff from one place to another.

PREREQUISITES

According to the the pre-requisites we were supposed to make an android app that could help increase safety for truck drivers.We came up an idea of helping companies assign missions to their truck drivers to deliver stuff from one place to another, also giving directions on the map to that place ,and easiest way to contact their customer and company.The driver would be able to see the list of missions assigned by the company and as they start driving they would get directions and phone numbers for company and customer.

DEVELOPMENT

After deciding on the vision, the actual task was to implement it in a working project. In addition to the android application which was the main focus of our project, we also agreed on developing a website to manage and deal with data in the app and database. Keeping in mind the need of our project and the total number of people in our group, we decided to split up in 2 group(3 student each) to work on app and website simultaneously.

Early Stages

Our project was divided into two parts

1. Android App
2. Website development

Though both tasks were different but quite dependent on each other, so everyone was welcomed to help others out. We wanted to divide the task equally between every member, but before actually getting started with work, one of the group member dropped out of the course.We somehow managed and then two people were left to work on android.The web team decided to use PHP as the programming language, in addition to some JavaScript ,HTML and CSS for adding style. While the code written for android app was in java.

When we were adding content in the database we made sure that the information stored there will applied to both the web and the app. So after discussion within the group we made tables in the database at the very beginning of our first sprint.

1. Development on Android Application

We started of by making paper prototypes of all the screens to keep a clear idea of how we wanted everything to look at the end with their complete functionality. Our main idea was to have an application revolved around navigating with voice recognition.

Mariam (Mahboob) started doing all the actual app functionality and Elena was supposed to to do the voice recognition.

2. Website development

In the beginning the group was split between guys and girls. The guys were supposed to work on the website and started studying php. But then we hit a stand still. No progress was being made and the communication between the two groups was very poor. So we decided to re-arrange the groups to get ahead a little bit on the web development. Mariam (Jobe) joined Fisnik and Siavash for web development.

At first Mariam Jobe started of with doing most of the web development. Guys didn't show up at the agreed meeting times which started to cause some tension and irritation in the group dynamic. The issue was brought up in the sprint meetings on several occasions and nothing changes until Håkan and Morgan joined the meeting, and the group was told to let only guys do work for one sprint.

BETA PRESENTATION

Before the beta version the group started working better together and the communication was improved tremendously. For the app development Mariam (Mahboob) managed to complete a lot of stuff. She made the login and managed to implement google maps into the app as well made the missions list. As she working she found out that she needed to write api's to make the connection with the database . since connection of android application with phpmyadmin was not possible directly, so she started off by writing api's in php. The server to upload these api's was used of a random company she knew.

Web development had been bit efficient after we had a sprint meeting where Håkan and Morgan had joined as mentioned earlier. They told us to let Mariam (Jobe) to take a step back and let the guys work. For a whole week she wasn't allowed to touch the code, she could only stand by and help if the guys needed any help, so Fisnik and Siavash stepped up. Since they had already studied php the previous weeks they were able to start working right away. We started by making the really simple forms and worked more on the back end. Fisnik was able to do the backend but Siavash was struggling a little bit in the beginning. The reason we started having progress was because people started showing up and took their responsibility and did what they were supposed to. It was easier to make decisions since everything was gathered in one place and if we encountered errors we helped each other to solve them.

After that sprint Mariam (Jobe) also started to work together with the guys to prepare a beta version of our project. We managed to fix the add, edit and delete employee. We also found a nice html template which we modified to fit our vision more. By the time of beta version website was reached to good potential.

Presentation of our project at the beta version had lot of functionality that was supposed to be done, and we got some feedback from Håkan and Morgan about things we could improve, including

- having the calling buttons displayed on the same screen as the map
- Disregard the functionality of having the app block calls and messages.
- Adding maximum zoom to the map

They told us we had good ideas but that we might have been too optimistic and should focus on delivering the most important parts and do them really well instead. But the spirit of the group was down again after the beta version.

FURTHER PROGRESS

After the beta presentation we had decided on what changes would be made. Mariam (Mahboob) started implementing those in the app. Mariam (Jobe) continued with the website and with the help of Fisnik they tried to make it more user friendly and more visually satisfying.

Elena was still working on the voice recognition. Though it had been hard for her to implement the voice recognition but she decided to continue doing it until the last week when she finally decided to let it go. It consumed too much time that could have been used in other areas of the development process. The last week her and Mariam (Mahboob) started looking more into how to get the simulator working. Mariam

(Mahboob) managed to implement the speed into the working app that received signals from the AGA simulator . Elena then started working on receiving the signal for parking brake, but unfortunately we didn't manage to implement that before the final presentation. But apart from that everything else in app and the website was completed for the final presentation.

Two days after the final presentation we managed to integrate the parking brake signals into the app and then we started working on the documentation.

TECHNIQUES AND PRACTICES

We used different techniques throughout to accomplish the final product of our project. We decided to go with the agile process, since we had an idea of what we wanted to do but we wanted to be able to change the requirements as the project went along. Which proved to be a good decision later on as we changed a lot of requirements after the beta version. The requirements were based on what the teachers told us and then we made our own which you can read in our Vision.

Scrum:

We worked with scrum in this project where we divided the work into several tasks for every sprint. A sprint was 2 weeks long so we started each sprint with a sprint meeting where we agreed upon which tasks we would do for the sprint and added them in “**Pivotal tracker**”, which was a great tool for this type of project, every task was given a different velocity and if the velocity raised more than 8, that task was then divided into two different tasks. At the beginning of each sprint meeting/planning we spoke about three things that were positive for the sprint and three negatives. In the beginning the negative things that kept on repeating themselves was lack of communication and not being co-located. And the positives were finishing all the tasks we set up in time and having good resources.

StandUp Meetings:

We decided on having daily standup meetings so that everyone was in tune with what every group member was doing and what they were planning to do the next day. In the beginning the daily stand ups didn't work at all. It was hard to find a time that would work for all group members since some people had extra jobs on the side and others wanted to leave early. At this time the attendance level in the group was also very low so the daily standups lost their purpose. But when the development started to improve, so did the daily stand ups. Everyone had a good idea of what was going on. And we

could see this as a result at the sprint planning meetings, Being co-located, and having better communication reformed the group.

- There were advantages to using scrum. We liked the fact that we could always keep track of what everyone else was doing and setting tasks for each sprint makes it much clearer of what to do and breaking the tasks down into smaller tasks, makes it easier to focus on what needs to be done to get to the target goal. And the meetings allows us to review each sprint before moving on to the next and forces us to make proper testing. It also allowed us to change the scope of the project at any point during the process.
- The disadvantage of using Scrum was probably how difficult it was to plan and structure the project. The daily scrum meetings were dependent on the group members to participate actively and maintain consistency and communicate well which we had a major problems with.

Overall scrum was an efficient practice, since we always delivered all of our tasks in time and it forced us to communicate which was a positive factor. For upcoming projects we would like to use scrum again. For bigger projects it might be hard to use since it can be hard for bigger groups to keep track of what everybody else is doing as communication is one of the key points to make scrum work.

Test driven development

In our project we used some form of TDD. We made a really simple form in app and website and wrote the backend just to make sure that was working before we actually started to make a proper UI. This was so helpful since we wrote all the backend code for the web before we began looking for a template and once we found one that we liked we just implemented the backend to it. In some areas we modified the code a bit to fit the UI but it was usually just minor things. The test driven approach was really helpful in this case.

Technical Issues

During the project the few people in the group faced certain technical issues, Elena's computer broke down and it took her more than when she finally got a laptop from another student. This was quite frustrating when she couldn't work much for a week. Maraim Mahbbob computer crashed 3 days before the submission, but by then all the technical work was done, He then managed to work on public computer to write documentation.

Things went well,Changes we would make in the future.

After the beta presentation it became difficult again to communicate with some people as Fisnik left for his hometown for about two weeks ,so he didn't communicate. Mariam Jobe then handled the website and Mariam Mahboob worked individually on the app.

Some group members didn't take their responsibility and weren't active in the beginning. People were depending on other group members to perform the tasks in hand and didn't step up on their own to ask if there was anything they could do to help or sometimes not even showing up. Sometimes the workload was too heavy on certain group members which caused a lot of tension and irritation in the group. We believed all of us are at the same level of skills, but some work harder to learn what they need to complete, whilst other make a lot of excuses instead of researching and putting in the work. Some members stepped up at the end but the time it took them to get there cannot be justified. We are all equal in this and nothing comes for free to anyone,

Overall we would say that the division of the work was not fairly splitted but at the end we managed to deliver everything that we wanted to accomplish. In the future we would probably rearrange the division of the group earlier if we see that it is not working properly. Perhaps we would also try to communicate differently, in some occasions a phone call might have been necessary or being on people's case a bit more. Since we are dependent on each other to deliver features, each group member has to take their responsibility and if they cannot accomplish a task that have been given to them, it is important not to be afraid to speak up.

INDIVIDUAL CONTRIBUTION FOR WEBSITE

Tasks	Mariam Mahboob	Mariam Jobe	Fisnik	Siavash	Elena	Alireza	Total hours (approx.per person)
phpMyAdmin/M ySQL Server	x	x					10 hours

Sign in		x	x				24 hours
Web database connection		x	x				20 hours
Add employee		x	x				35 hours
Edit employee	x	x					60 hours
Delete employee			x				9 hours
Add mission		x		x			45 hours
Edit missions	x	x					35 hours
Delete mission		x	x				8 hours
Deciding on Design		x		x			10 hours
Handling template		x	x				35 hours
PHP research		x	x	x			60 hours
Dashboard UI		x	x				25 hours
Meetings		x	x	x			30 hours
Total time	20 hrs	190 hrs	95 hrs	30 hrs			

INDIVIDUAL CONTRIBUTION FOR ANDROID APPLICATION

TASKS	Mariam Mahboob	Mariam Jobe	Fisnik	Elena	Siavash	Alireza	Total hours (approx.per person)
Connection with the	x						10 hours

database.							
Web API's for getting customer phone and company phone	X						12 hours
Web Api's to login and getting Ids	X						5 hours
Web Api for getting mission list	X						15 hours
Web Api for changing password	X						14 hours
uploading api's on the server	X						18 hours
User Login	X						10 hours
Change Password	X						9 hours
Making list view							20 hours
Showing missions and address in the list View	X						32 hours
Integrating google maps.	X						28 hours
getting latitude and longitude for current location	X						15 hours
getting location for given final destination address	X						15 hours
drawing(customizing) polyline	X						17 hours
making blue pointer navigate as the user moves	X						10 hours
getting contact for company and customer in a function	X						8 hours
adding call functionality on	X						15 hours

button click							
making interacting screens	x						10 hours
Deciding UI Design	x	x		x			15 hours
getting signals from AGA simulator	x			x			20 hours
getting speed value	x			x			15 hours
getting parking brake status	x			x			20 hours
integrating simulator in the project (switching screens)	x						25 hours
Total Time	335 hrs	5 hrs		30 hrs			

Elena spend her most of the time (about four weeks) figuring voice recognition where she could'nt figure out the way to do it.

INDIVIDUAL CONTRIBUTION FOR DOCUMENTATION

TASKS	Mariam Mahboob	Mariam Jobe	Fisnik	Elena	Siavas h	Alireza	Total hours (per person)
User Manual (website)		x					5 hours
Test cases (websites)		x					5 hours
User Manual (app)	x						4 hours
Test cases (app)	x						4 hours
Developer documentation (app)	x			x			10 hours

Developer documentation (website)		x		x			9 hours
User stories				x			
Post mortem Report	x	x	x	x	x		15 hours
Total Time	40 hrs	40hrs	1 hr	20 hrs	0.5 hr		