



THE GBM-APP

The GBM group is a team of six students of different countries who meet each other several times a week to make a web-application for patients who suffer from Glioblastoma Multiforma, the most feared brain cancer which cannot be cured. The Web-App consists of detailed information about the cancer itself, a forum where directly concerned people or their relatives can exchange views, statistics and a visualizations of treatment plans.

The students Martina, Clara, Andrea, Xavier, Sicco and Simon, work on this project in the scope of the EPS, the European Project Semester of the FH St.Pölten in the 6th

semester. This topic is very sensitive and therefore the team members have big responsibility. In addition each member is a specialist in another field and is needed in the team. Martina is a front-end-programmer, Clara writes the User Manual and the documentation, and helps Andrea – the Designer – out. Xavier is the Usability Tester and makes also general interactive statistics to the topic.

What is Glioblastoma

Glioblastoma multiforme (GBM), WHO classification name „glioblastoma“, also known as Grade IV Astrocytoma, is the most common and most aggressive malignant primary brain

tumor in humans, involving glial cells and accounting for 52% of all functional tissue brain tumor cases and 20% of all intracranial tumors. GBM is a rare disease, with an incidence of 2–3 cases per 100,000 person life-years in Europe and North America. It presents two variants: giant cell glioblastoma

and gliosarcoma. About 50% of the patients diagnosed with GBM die within one year, while 90% within three years.

Treatment can involve chemotherapy, radiation and surgery. Median survival with standard-of-care radiation and chemotherapy with temozolomide is 15 months. Median survival without treatment is 4½ months. Although no randomized controlled trials have been done, surgery remains the stan-

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dard of care.

GBM

In order to give those people a better overview about what they actually have and what standard treatment steps they might go through, the European Project Semester team creates such an app, customized to their needs. They are working in cooperation with a group of the master's program Digital Health Care. The DHC group is supposed to provide all the data and information about the patients' needs.

„The GBM-App - an exclusive product that concentrates on the needs of GBM patients!“

The

whole Web-Site is a collection of general and very basic and also detailed information about the disease. All in all the Web-App tries to translate complicated expressions of professionals into a "language" that is better understood by patients. The App has a glossary that holds the explanations to technical terms. The forum makes it easy to communicate with other people, who have the same issues. Also relatives and friends can use the forum to cheer somebody up or encourage people. You can make threads for instance about the latest therapy approaches and create posts with pictures. Like mentioned, the GBM group has also visualized standard treatment plans, to gain understanding of those. Such cycles are not always easy to compre-

hend and to follow – not only for patients, but also for indirectly affected persons. You can click through the treatment and read information about each step. The students have put a lot of effort into the App. We have asked them some questions which we show in the next paragraphs.

CLARA

Did you have any expectations for the project? What were those?

At the beginning of the project I really thought that after this semester I would know how to program a little, but then I realized is too difficult and as the requirements of the project were pretty high in terms of programming, therefore I considered that we have no time to play around. Regarding the project itself, we had a very high target to reach in a short time and with no support from





internal customer; this made our job more difficult, but finally we achieved the basic milestones which in my opinion it is a fact we should be proud of.

How did you get along with the whole team?

I enjoyed working with the other team members as our team was pretty international and we also have different characters and we are persons with different skills. I think this helped each other to improve our communication skills, made us more tolerant and in this way we could learn a lot one from each other in both professional and cultural or personal way.

What was your biggest personal key success factor in the project?

I think that the biggest personal success factor of the project was the team itself and our ability to communicate despite the fact that English is not the mother tongue of any of us and also because we come from countries with different cultures. In order to provide a good deliverable first we have to be a team and to work as a team. And in my opinion we achieved it pretty easy.

Was the project a success?

Bottom line, I think that the project was a success because we achieved the milestones we had set and also because every team

member did his best in terms of communication, skills and the given output.

XAVIER

What expectations did you have for the project?

First of all I thought I would had to be the whole semester learning how to program, because our goals required a high level of programming skills, but later I saw that I could help pretty much just learning a bit of it and doing the easy things so the members with better skills could have more time to work on the most difficult staff. In addition I had more time to learn and help with other

aspects like data visualization, research, design or documentation.

What did you like the most till now?

In general I must say that team spirit was what I liked more. We helped a lot each other and we learnt a lot about each other meanwhile having fun together. Being more

“I think it was my greatest personal challenge.”

concrete what I liked the most was learning how to make charts for statistics data visualization using Google-charts and making them. I had fun doing them and I was feeling good because it is something we needed and I got a good and nice result at the end. I think it was my greatest personal challenge.

Was the project a success?

In my opinion the project was a success because we achieved the principal and most important goals established at the beginning. The biggest problem we had was the communication with Digital Health Care students and receiving data from their part, and that is the weakness point of the project. But that is something that will be easily solved when we will have the data, so it seems a bigger problem than it really is.

SICCO

What expectations did you have for the project and have they been satisfied?

I expected a challenge, to learn something new and to work on an interesting project. Also I wanted to make something that would be useful to the community. All of these expectations have been satisfied.

In the very beginning you had a team training. What was it about?

To get to know each other during a physical/mental challenge over 2 days. We went to the Wachau area for some hiking and mental exercises.

What was the biggest challenge concerning the implementation of the brain?

Getting the data! Not only getting the information but also getting it to a useable format ... This we eventually did manually

as soon as we got it.

What was it like to be the team leader of such a productive group?

Easy, all that was necessary was: giving moti-



vation, assigning tasks and getting updates weekly from everyone. The time management we always did together as a group.

Do you think the whole project is a success?

Yes, because DHC is planning on actually using the site so for me it's a success.

Is there any work for the forum/brain that is left open?

Small design changes based on preferences of the users, adding extra data to the brain to make every step clearer.

ANDREA

What expectations did you have for the project?

At first I wasn't really happy with the fact that all my group members wanted to choose this project, because for me it was a very negative topic. But after some time it came out that this is a very cool project, which also can be used in the future and not only for a schools project. But my first expectations were really bad, because I thought it would be a very boring project and I cannot be as creative as I wanted to be. But I had many possibilities to be creative. From the styleguide of the website to the visualization we use now on the website, my creativity had no limits.

What did you like the most till now?

The most think I like is that everyone liked the idea of my brain visualization and that we are also implementing it. I am very proud of that. Another point is that I met very nice people especially the Incoming students from Barcelona, Romania and Belgium. They are very nice and I spend a lot time with them after school. Now we are good friends and want to hold the contact and maybe meet again.

Do you think the team spirit has improved?

In my opinion, our team spirit improved very well. We are all friendly to each other. Sure, we also had some arguments, but they are not so considerable. All in all, we understand very good and we were a very good team.

What have been your challenges as designer?

The biggest challenge for me as a designer was that the topic is very sad and the hardest task was to find a design, which fits to this hard topic. Also the brain visualization was a hard task. I got the idea very fast, but my fears were that the visualization will not suit the website. But in the end we found a nice way to visualize it that it fits to this hard topic.

Was the project a success?

In my opinion the project was a success.



Maybe we should improve our time management, but for this short time we made a fantastic project.

MARTINA

What expectations did you have for the project?

My expectations were completely different to the actual project. At first I thought that the topic will be more scientific and not so user based. I didn't expect that the outcome of the project would be a normal website visualisation as "side work". In my opinion I would have been better if we had focused only on a visualisation.

What did you like the most till now? What do you think went completely wrong?

I like the good working atmosphere. We as a team work good together and there were no big fights or discussions so far. But in my opinion the organisational part of the project went completely wrong. The schedule was a huge mess and some of the classes were not useful for finishing the project.

What was your greatest challenge concerning working in the team and as a front end programmer?

Concerning the project team, the greatest challenge was that all of us have different bases of knowledge. As a result, we had to

split up tasks according to the skills of every project member. This is a very difficult endeavour. Concerning the work as a front end programmer, the most difficult thing was to adapt the code of the visualisation because it is very complicated to adapt code of a predefined structure.

Was the project a success?

I think the project was a very good success. Though the website and the visualisation are not the perfect solution, there is the other aspect of success. It is much more important that all of us learned many things regarding organisation, programming and teamwork. That is what we earned for the future.

SIMON

What expectations did you have for the project?

I didn't really expect much. I just wanted to be surprised. I don't wanted envision every detail of the semester, because in the end there are so many factors that affect the project. I didn't know with whom I'd be working, I didn't know exactly that we're going work on ... There were just too many open questions.

What was your role in the team and did you like what you're doing?

As backend programmer, writing the forum

– as one of my tasks in the team – for the GBM-App, was fun and inspired me for other projects. Furthermore I acted as Git master, so the functioning data exchange within the group was a big concern for me and that worked out better and better.

What was your greatest challenge concerning the teamwork?

The communication between us was a hard piece of work. Different countries, different customs ... We really had to get used to each other and learn to act together.

Was the project a success?

For me, the EPS was a success. I got to know lovely people, with who I also liked to spend time in private. I've improved my programming abilities in Javascript, Ajax and PHP and found my indispensable place in the team. Partly it was challenging to work together in the team and with the Digital Health Care group, but without challenges the team skills would have stayed the same without any improvements. I'm pretty sure, that everyone has learned his/her lessons for other projects in the future and that is one of the aspects that make the project semester such a great success. After all discussions we had, we more and more pulled together and learned to handle communication issues the professional way. I am satisfied with the results we achieved.