



PROJECT PLAN

PSV Dynamic Audio

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INTRODUCTION

In this project plan you can find all details regarding to the problem(s) of the client, and how we (Greenhouse Lab Inters fall 2020) are going to approach this project, which methods we are going to use, and which problems we will face along the way.

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THE COMPANY

Greenhouse is a brand & performance agency with more than 500 experts in data, media, creation and tech. Since they have invested in talent and good ideas since 2006, Greenhouse has become the innovative, creative and enterprising agency that our clients ask for. Greenhouse is a WPP agency. Their tag line is: "INNOVATION, DEDICATION and FUN". Greenhouse provide their clients with a head start as they put them in the forefront of marketing by providing them with a smarter way to give their brand the competitive edge it needs to outsmart the market.



On the website, Greenhouse offers the following services:

- Conversational
- CXO
- Create Concepts
- Data insights & optimisation
- Marketing transformation
- Marketplaces development
- Media strategy
- Performance marketing
- Marketing technology

As you can see, Greenhouse offers a wide variety of services. This makes it also a successful company.

The client

The company we are doing this assignment for is the football club PSV located in the heart of Eindhoven. PSV was founded in 1913 as a sports club of Philips employees. The name PSV stands for Philips Sport Vereeniging, or in English Philips Sports Association.

PSV's main services and products are of course tickets to matches in the stadium and merchandise. But they also do tours through the stadium and museum, offer sports clinics for the younger generations and have their own e-sports competitions for FIFA and League of Legends.



THE ASSIGNMENT

Assignment description

Due to the recent Pandemic everything has changed, and we are introduced to a new normal. Sports is not happening at all and there are no ongoing football matches from last 6 months. Given the circumstances it is difficult for PSV to continue FAN engagement or to connect with them on an emotional level. PSV want to take advantage of the current trends and do something in the field of personalised marketing by sending personal messages to fans on their birthday's or during holiday/festive season. PSV want us to come up with an idea that uses synthesised audio pf PSV players that can be used for various marketing campaigns. Speech synthesis is one of the recent trends and greenhouse want to develop more on it so that they can use it internally in future.

Goal of the assignment

Because of COVID19, PSV is having a hard time connecting with their fans. With this assignment, we can give them something to make the connection again. At this point, we are thinking about making a Giving the fans a more personalised online experience to make them feel more connected to the PSV brand. With techniques like this PSV can stay the most innovative football club of the nation.

The goal is to send PSV Fans personalized messages from PSV players using Dynamic audio to improve fan engagement.

Analysing the assignment

HOW MIGHT WE COMMUNICATE WITH THE PSV FANBASE IN A MORE PERSONALISED WAY SO THE PSV FANBASE FEELS LIKE THEY HAVE A PERSONAL CONNECTION WITH THE BRAND.

WHO IS CAUSING THIS PROBLEM?

The problem is created by all the companies that use personalised emails with the name of the customer in their mails. Since almost every company is doing this at this moment, it doesn't feel special anymore for the people receiving it. So, PSV needs to step up the game to keep ahead of the competition. And to keep surprising their fans with creative ways to deliver their message.

WHEN IS IT A PROBLEM?

It's a problem when PSV tries to send out mails to their fans. People will feel like they are just another number in their database receiving an automated email that goes out to everyone.

WHERE DOES THE PROBLEM OCCUR?

On online services like social media and emails, when people see other clubs posting so much or doing creative things for the fans it hits them if they do not get something similar, also it is an opportunity to do innovative things and then your fans will be happier and share these things.

WHAT IS THE ROOT CAUSE?

Nowadays everything is becoming more and more digital, so all processes are automated. Also, if you have a very big fanbase it is impossible to have personal conversations with every single one of them.

WHAT ARE THE CONSEQUENCES?

Fans lose the personal connection with PSV. Which will result in making people feel like customers instead of friends of the club. This is bad since people are less likely to buy merchandise and/or stadium tickets.

Project Scope

The final product should be something that solves the problem PSV is facing with current FAN engagement tactics. The solution should be based on Dynamic audio as it is one of the requirements of Greenhouse. A tool that can synthesise voice of one of the PSV players that can be used in order to send birthday greetings to the fans or for other marketing campaigns.

The requirements

- The text to speech program is communicating with the server using an RESTFULL API
- The voice of the speech must match the input voice
- The input should be speech or text
- There is a small toolbox made for the developers
- The message should be possible in English and Dutch

User stories

1. As a developer, I want to be able to communicate with the server using a RESTFULL API, so I can use whatever input I want.
2. As a fan I want the voice to be as realistic as possible, so I believe that it was the football player who said this message.
3. As a developer I want the input to be speech or text, so it is accessible in many ways.
4. As a developer I want the software to have a toolbox, so it is easy to test and use for other people.
5. As a fan I want the message to be English or Dutch so I can always understand the message and it matches the language of the player.

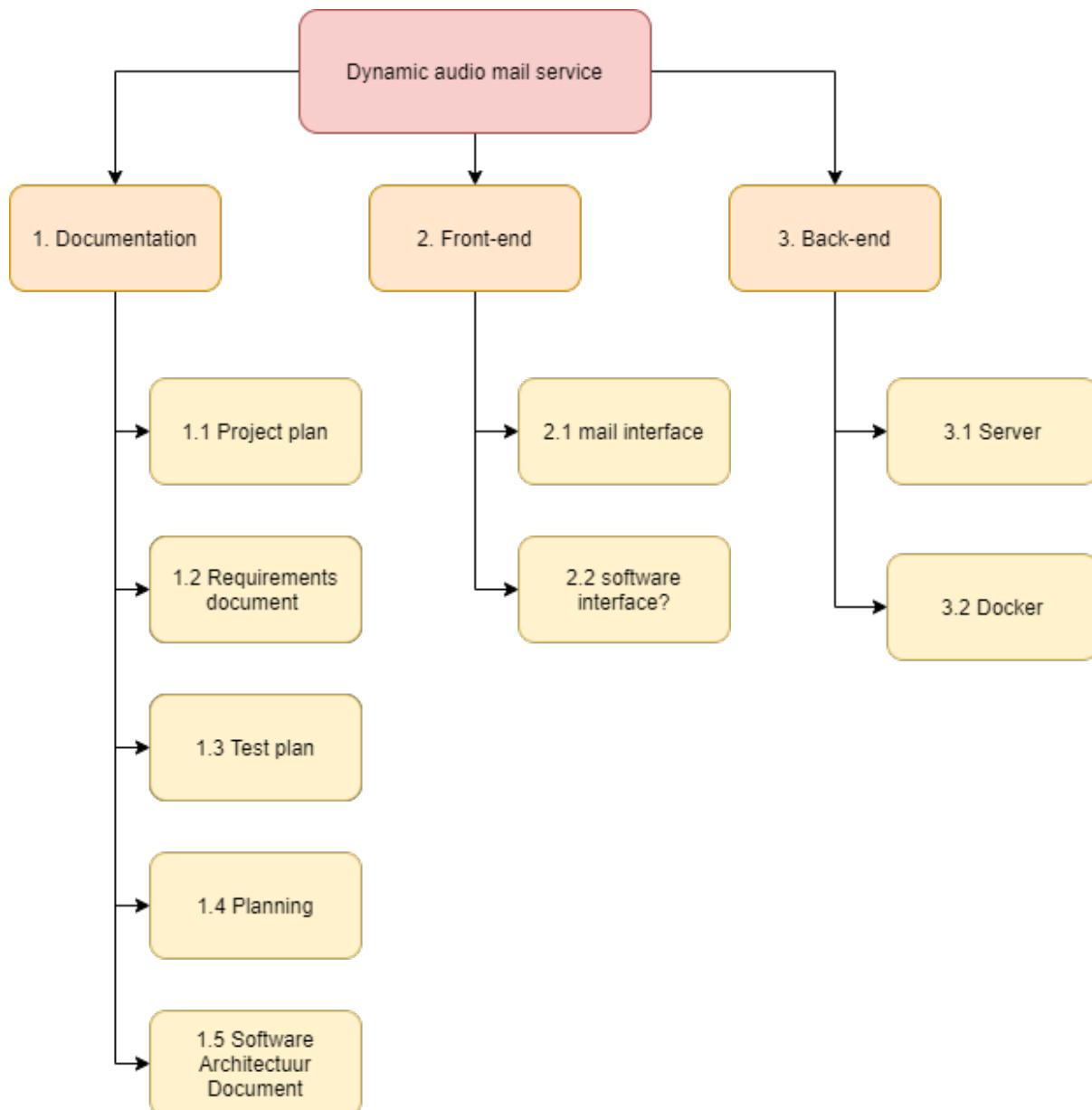
Research questions

- What does PSV already do to improve personalised content?
- What are the trends related to personalized messaging?
- Which tools are currently available?
- How do other football clubs?
 - What can we learn from them?
 - What should we avoid?
- Who is the target audience?
- What resources does PSV have available?
- What communication problems is PSV currently facing?
- what global trends have impact on PSV's situation?
- How do people react to personalised content?
 - Do they like it?
 - Do they believe it's real?
- What will happen if PSV does not use improved personalised content?
- What are the benefits of personalised communication?
- In which ways can you personalize communication?
 - What works the best? / What is the most effective way?

Project Products

The deliverables of the projects are as follows:

- Synthesised speech model (Software)
- Lo-fi Prototype
- Hi-Fi Prototype
- Documentation



APPROACH AND PLANNING

Project method

Project approach is Agile, and SCRUM, which is a subset of agile, will be used throughout the project. Currently, Greenhouse focuses a lot on scrum, and it is being followed by many teams within greenhouse. Also, it is highly prescriptive framework with specific roles and provide more transparency and project visibility.

Research strategies

Library



To learn more about the techniques used for Dynamic Audio solutions we do a lot of library research online to see how other projects in the past have been done, and to see what works well and what doesn't.

Field



We do field research by trying to look at PSV through the eyes of a PSV supporter. Like following them on social media, subscribing to their newsletter, download their app etc. to see how they currently are communicating with their fanbase.

Lab



To find out which tools/methods works the best for our dynamic audio solution we'll try different approaches to see what works the best for us.

Showroom



Types of showroom research will be when we are going to test prototypes with the target audience to gather their opinions.

Workshop



Research methods

- **Online research**
 - We're doing online research to the existing technologies. We will see what kind of technologies there are and what we can use for our project. We also investigate other people's projects and see how they implemented the existing technologies.
- **Expert interview**
 - We'll interview one or more experts on the domain of dynamic audio to learn more about their past experiences with dynamic audio. We use their knowledge to get a step in the right direction, so we don't do the same research again and make the same mistakes as they did.
- **Problem Analysis**
 - To get a good understanding of the actual problem we ask ourselves a lot of questions. To get answers on these questions we'll need to do a lot of research. In this way we understand why the problem is a problem or find out that the actual problem is something else.
- **User testing**
 - To check if our product(s) provides a solution to the problem we'll need to test this with our target audience to see how they react to our prototypes.
- **Prototyping**
 - We will give a presentation every week to show the product to the product owner. This means we must make a "prototype" every week to see what the product owner thinks of it.

Planning



Week 1 - 3 Problem analysis and Project plan

Week 4 Final project plan delivery

Week 5 - 6 Research phase

Week 7 - 9 Finalizing with client

Week 10 - 15 Development

Week 16 - 17 Testing

Week 17 Final Submission

Week 18 - 19 Tips and tops for the company & Assessment

COMMUNICATION

Client

Every week will start with a weekly presentation with the product owner. Our progress will be presented, and feedback will be given, along with any new idea's.

Every 3 weeks Joeri and Nina (our contact persons from PSV) will attend the weekly start-up to show our progress and to keep them up to date. Further communication with the client is done via Microsoft Teams.

Internal communication

Every day all developers will start with a daily stand-up where we share our progress and discuss what we are going to do today so everybody knows from each other what they are doing. We use Trello as our digital SCRUM-board where we keep our tasks organised. For quick conversations we use a simple WhatsApp group with all developers. The communication with the intern coordinator from Greenhouse is done via Slack.

Communication plan

NAME	ROLE	Purpose	Type of communication	Frequency
Tim Deynen	Company Tutor	For feedback and weekly updates	At office, MS Teams, slack	Weekly/ whenever required
Tommie	Company Coach	For feedback, guidance and weekly updates	At office, MS Teams	Weekly/ whenever required
PSV	Client	Updates on the situation and product	MS Teams, Email, Stadium visits	Every three weeks.

RISKS

A risk could be that it is very hard near impossible (at this moment with the current technologies) to create a realistic sounding voice that doesn't sound robotic. It also could be possible that the generated voice outputs do not sound like the football players actual voices.

To generate an audio file with a custom message takes processing power, and if you need to do this for 40.000 different people this will take a lot of processing power. It could be that PSV's servers aren't capable of that at this moment.

OTHER

Functional requirements

1. Send personalized messages to fans on their birthday (email, app, TBD.)
2. Audio output should be a generated voice of PSV players
3. It should be secure with user login
4. The voice output needs to sound realistic
5. User should be able to train the model with new voices within the program
6. To be able to edit mail template
7. To be able to add new campaigns
8. An option to select your mail target (who are you sending it to)
9. An option to save a template so the mail can be reused
10. An option to have multiple language output's according to the fan's native language
11. It is possible to record voice inside the program
12. The service is connected to the database, so the fans email addresses are accessible
13. The service is located on a server and connected through REST Service API

CHANGE OF PLANS

Many things changed along the way, things can still change but we managed to finalise the concept with PSV, and we will be implementing that.

Problem with previous Idea

Our team did a lot of research in dynamic audio speech synthesis solution and was not successful in creating a voice clone in Dutch language as of the following reasons:

- Technology is not as far as one would think.
- Cloning service by other companies cost so much up to €89,000.
- Processing power is lacking, when it comes to open-source voice cloning projects
- Finally, the PSV player is not able to record for more than maximum of 2 hours which is less, and the audio output of the clone will sound robotic, which is not acceptable by PSV.

New Idea/Concept

As we were not able to create a personal voice clone given the constraints, we decided to change the concept, which will be as effective as thing, still using dynamic audio. Let's recall our GOAL.

The goal is to send PSV Fans personalized messages from PSV players using Dynamic audio to improve fan engagement

To get there we can still personalize the message with the help of google home audio, using text-to-speech synthesis and prerecord a video from PSV player so that all the personalisation part will be done by google home audio which will sound robotic OfCourse, but people will be aware of that as most people know voice of google now a days.

We worked out a script for the concept, and that will be shot with a PSV player (decided by PSV) and then we will create a program that automates the editing of generated voice and pre-recorded video. For more details: refer to the script.

What's Next?

Although things have changed a lot, our research remains valid and we can still develop a Hi-Fi prototype using a placeholder video, learning outcomes from the vice cloning research helps PSV and Greenhouse with good insights on the technology,

HI-FI PROTOTYPE

The Idea is to create a prototype that concludes the project and later it can be improved to become completely functional for PSV using minimal efforts. The Hi-Fi Prototype will do the following

- Edit Videos (combining pre-recorded video + audio TTS)
- Render automatically
- Host video on Vimeo
- Send video to fans (in testing database) on birthday automatically

Planning

We have created several steps and assigned all the group members for different task to achieve the goal in the given timeline. Below you can see all the details, for a detailed explanation refer to the [trellio](#) board.



NOTES

Everything else including Approach and communication remains the same.