

AI-based Front-End Generation

# POC Requirements.

Internship Assignment Document

Internship at  
iO Digital

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## Table of Contents.

<b>1.</b>	<b>Context</b>	<b>4</b>
1.1	Introduction	4
1.2	Purpose of POC	4
1.3	Target audience	4
<b>2.</b>	<b>Functional Requirements</b>	<b>6</b>
2.1	User stories	6
2.2	MoSCoW	7
<b>3.</b>	<b>Technical Requirements</b>	<b>8</b>
3.1	Frontend technologies	8
3.2	Backend technologies	8
3.3	Coding standards	9
3.4	AI models	9
3.5	Integrations	10
3.6	Infrastructure	10

## 1.1 Introduction

This document shows the requirements for the Proof of Concept (POC). The goal of this document is to define the objectives, scope, and functionalities of the POC. By giving an overview of these requirements this document helps with the development and make sure it is inlign with the desired outcomes.

## 1.2 Purpose of POC

The proof of concept is a small scale test to see the possibily of a tool for creating temporary theme/promotional web pages. Its main goal is to validate the concept by confirming whether the proposed tool can effectively take on the challenges of building these types of web pages.


The POC will also look at the technical possibility of developing a tool like this. This is done by looking at aspects like integrating AI models, generating content automatically, and designing a user friendly interface. Gathering user feedback is another important aspect of the POC. By interviewing potential users important information about the tool's functionality and usability can be gained.

Lastly the findings and feedback collected for the POC will be helpful for future development for the project. This makes sure that the tool meets the user needs which increasing its chances of success.

## 1.3 Target Audience

The POC is targeted at marketing teams, both within iO Digital and those of its clients. This includes people involved in different aspects of marketing, like campaign planning, content creation, and page development. The main goal is to help these teams by giving them a simple and efficient way to build temporary theme pages.

To better visualize the target audience two personas have been created. The personas are based on the interviews that have been done with the end users.



**Jasper van den Berg**

Age  
32

Occupation  
Marketeer

Location  
Eindhoven

### About

Jasper is a creative and results focused marketer, he helps to runs different campaigns and projects that help to create brand awareness and engagement. He has a background in marketing strategy and digital communications and loves dynamic environments where he can combine insights with innovative ideas to achieve marketing goals.

### ♥ Likes

- Creative brainstorming sessions
- Trying out new tools and ideas in marketing
- Working with different teams to launch projects

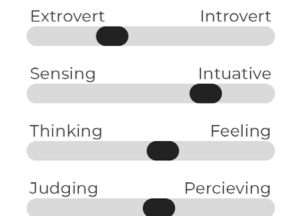
### ☹ Dislikes

- Tedious manual tasks
- Inefficiencies in development processes
- Repetitive work

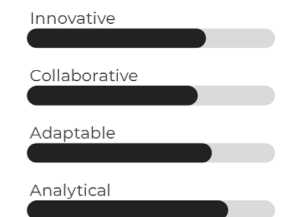
### Goals

- Streamline and speed up the development process of web pages.
- Improve efficiency within the marketing team by automating repetitive tasks.

### Personality




### Traits



### Uses Software

Storyblok



**Bas de Wit**

Age  
25

Occupation  
Marketeer

Location  
Utrecht

### About

Bas is a webshop marketing professional with a deep understanding of online campaigns and product promotions. With years of experience in digital marketing, he is dedicated to finding innovative ways to improve processes and maximize efficiency. Bas is known for his strategic thinking and attention to detail, always wanting to deliver great results.

### ♥ Likes

- Analyzing campaign performance to optimize strategies
- Exploring new technologies
- Experimenting with AI in marketing campaigns

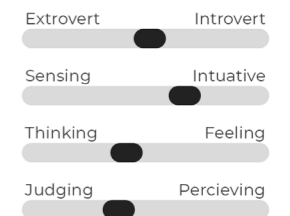
### ☹ Dislikes

- Disorganized workflows
- Outdated marketing strategies
- Redundant processes

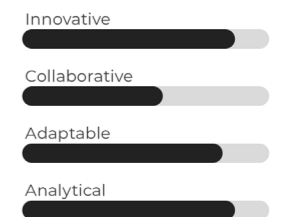
### Goals

- Improve efficiency in translating concepts to web pages.
- Streamlining workflow processes for increased productivity.

### Personality



### Traits



### Uses Software

Storyblok



## 2.1 User Stories

User stories tell what different people would need from the project. These user stories will show what different people like consumers or business owners want from our tool. They'll help to know what features to build and why they're important.

- 1. As a marketer,** I want to create temporary promotional pages quickly and easily, so I can launch campaigns without needing a lot of development resources.
- 2. As a marketer,** I want to customize the theme and layout of promotional pages like adding images, and call to action buttons, so I can effectively convey the message of each campaign.
- 3. As a marketer,** I want to be able to customize the look and feel of promotional pages by using templates or regenerating certain sections, so I can make sure that each campaign has the same brand's visual identity and message.
- 4. As a marketer,** I want to integrate the tool with our existing content management system (CMS) or e-commerce platform, so I can manage and publish promotional pages within our existing workflow.
- 5. As a consumer,** I want to view promotional pages on various devices (desktop, tablet, mobile), so I can access and interact with the content regardless of the device I'm using.
- 6. As a business owner,** I want to minimize the time and resources required to create and maintain promotional pages, so I can focus on other tasks and maximize the return on investment for marketing campaigns.

## 2.2 MoSCoW

To get a clear overview of what needs to be implemented into the application, a list of functionalities has been created based on the research and interviews. This shows what and how important certain features are for this project.

Functionality	MoSCoW
Generate a theme page based on a prompt	Must have
Generate images for the theme page	Must have
Publish the theme page to AWS	Must have
Generate a theme page based on a template	Should have
Set a tone of voice for the content	Should have
Magento integration (include products in the content)	Should have
Storyblok integration (Include links to other articles in the content)	Should have
Regenerate sections based on prompts	Should have
Regenerate images	Should have
Set a styling framework (eg. Tailwind)	Could have
Publish the theme page to Magento	Could have
Publish the theme page to Storyblok	Could have

### 3.1 Frontend Technologies

Based on the interviews done with two experts: the chapter lead and a frontend developer, it is recommended to use standalone React (so no framework like Next.js) in TypeScript as the frontend library. Along with React a component library like shadcn can be used so basic components like inputs, sliders, toggles etc. do not have to be created from scratch. Also there might be a need for certain NPM packages to achieve certain functionalities in the development phase.

Technology
ReactJS (in TypeScript)
shadcn
Needed NPM packages

### 3.2 Backend Technologies

Based on the interview done with the chapter lead, it is recommended to use Python as the backend. This is because most AI technologies make use of Python. Because the backend will be responsible for all the generations and transformations, it is important it is compatible with most AI related packages/technologies. Along with Python certain packages will be used to create an API like FastAPI and to communicate with 3rd party services like Microsoft Azure.

Technology
FastAPI (Python)
Needed PIP packages

### 3.3 Coding Standards

Based on the interviews done with two experts: the chapter lead and a frontend developer, coding standards are setup for the project. In the interview was mentioned that these standards are different depending on the specific framework being used for the project. Because I am using React Typescript and Python, it is recommended to use the their coding standards alongside with a formatter like Prettier or Black (PEP8).

Technology	Coding Standards	Formatter
ReactJS (in TypeScript)	Default Standards with Eslint	Prettier
Python	Default Standards with PEP8	Black

### 3.4 AI Models

Based on the research into the different tools and services out there, two different models have been selected for the project. One for the generation of text/code, and one for the generation of images.

Type	Model
Large Language Model	GPT 4 (OpenAI)
Image Model	DALL-E 3 (OpenAI)

# Technical Rqmts.



## 3.5 Integrations

Based on the interviews with the stakeholders and end users, there is a need for different integrations. Below is show what services need to be integrated and how a connection will be made.

Service	Connection Via
Storyblok	API
Magento	API

## 3.6 Infrastructure

Because the application will include functionalities that need 3rd party services, a list has been made that shows how the infrastructure is setup and what services are used.

Service	Reason
AWS S3 Bucket	To save images and HTML pages.
AWS Cloudfront	To serve saved images and HTML pages.
AWS Amplify	To host the frontend of the application.
AWS Amplify	To host the backend of the application.
Azure OpenAI Studio	To host and interact with the GPT 4 model.
Azure OpenAI Studio	To host and interact with the DALL-E 3 model.