



Project Title

PerceptiGen

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PerceptiGen: Transforming Images into Descriptive Text

PerceptiGen is a web-based software that uses cutting-edge AI technology to analyze images and generate detailed descriptive text.

What, Why, and How of PerceptiGen

What

PerceptiGen is an AI-powered software that transforms images into detailed descriptions.

Why

It helps users understand and communicate the content of images more effectively, making information accessible to everyone, regardless of visual ability and disability

How

Uses a advance computer vision Api
Resource provided by Microsoft
Azure



Key Features of PerceptiGen

● Image Recognition

PerceptiGen can identify objects, scenes, and emotions in images.

● Text Generation

It generates accurate and descriptive text based on the image content.

● Customization

Users can adjust the level of detail and style of the generated text.

Utility and Motivation

Accessibility

PerceptiGen makes images accessible to people with visual impairments.

Education

It helps students understand visual information and explore historical archives.

Content Creation

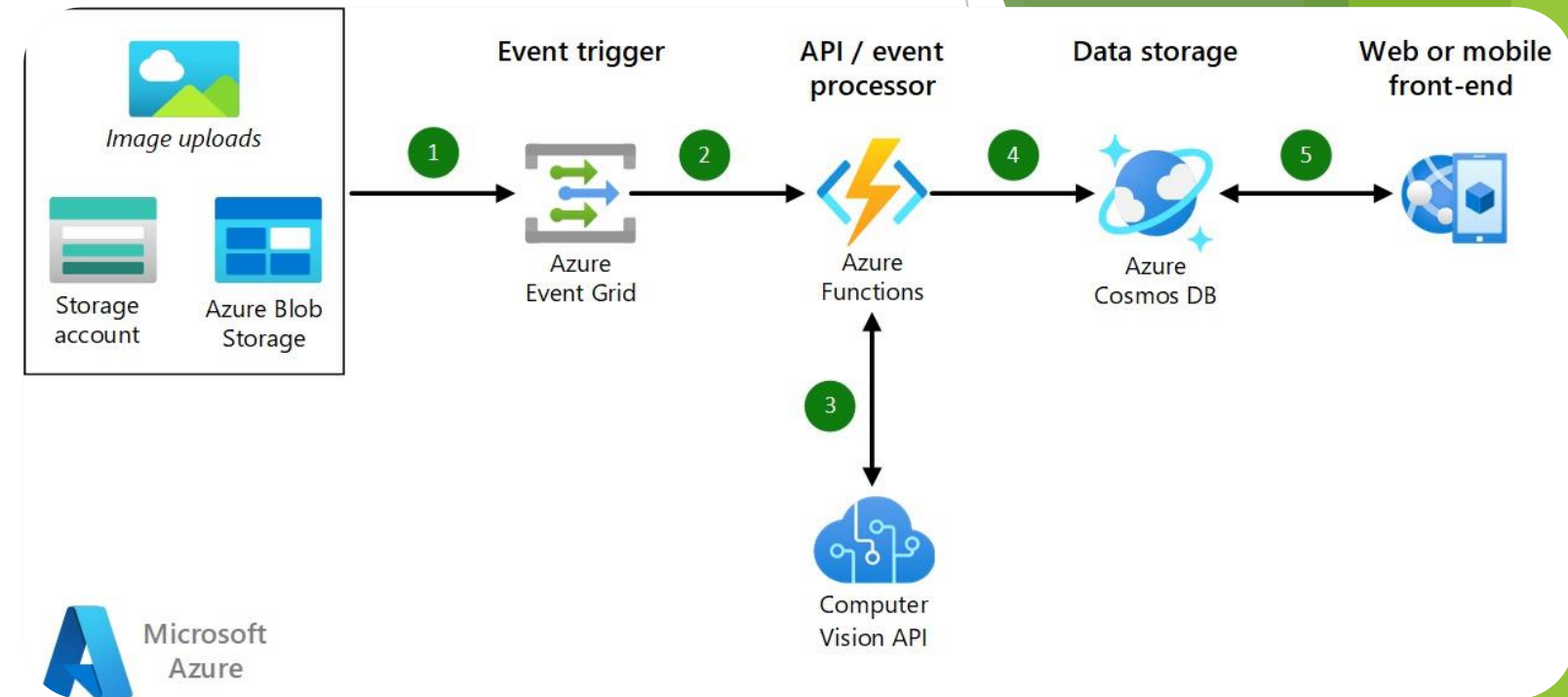
It assists content creators in generating captions, descriptions, and alt text for their images.



Technology used

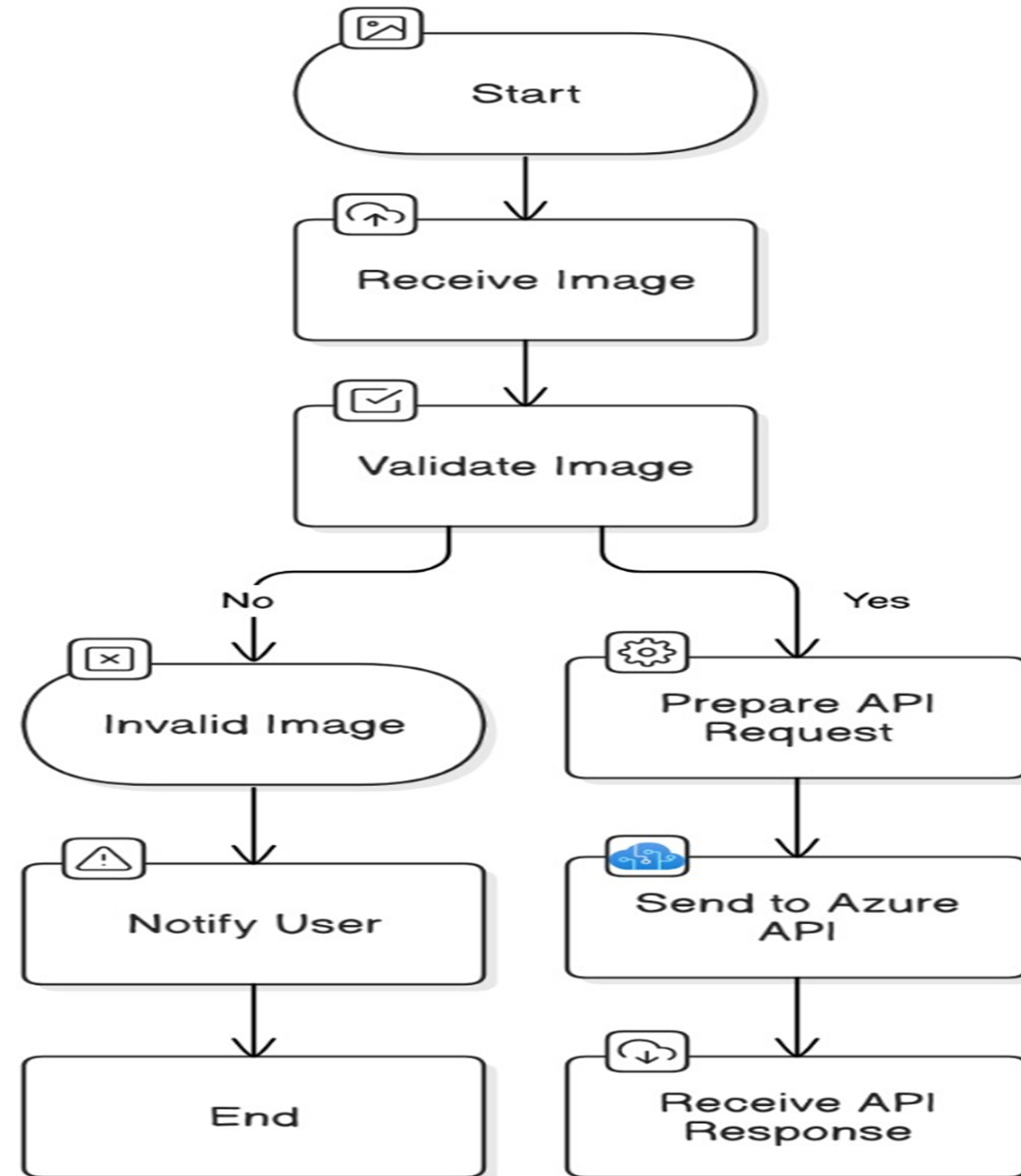


Frontend



Computer vision
(Azure Api)

Image to Text Conversion Process



Accuracy and Reliability



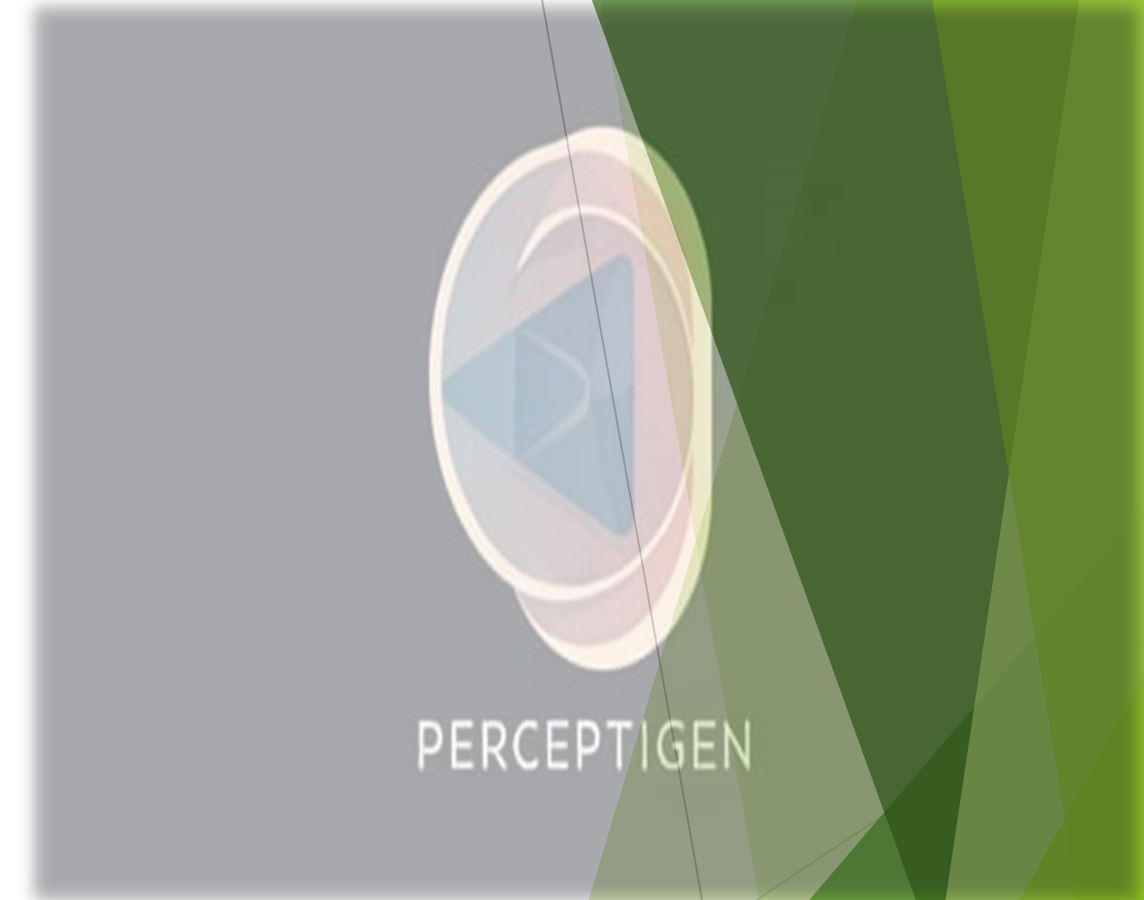
High Accuracy

PerceptiGen's AI algorithms are constantly trained on vast image datasets, resulting in high accuracy and reliability.



User Feedback

The api Resource platform is designed for continuous improvement, incorporating user feedback to enhance accuracy and address specific needs.



Real-World Applications

1

Art

Generating descriptions for paintings and artworks, allowing appreciation for those with visual impairments.

2

Education

Analyzing scientific images, helping researchers understand complex data and communicate their findings.

3

Social Media

Creating accessible content for social media platforms, promoting inclusivity and wider engagement.



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Advantages of Using PerceptiGen

1

User-Friendly Interface

The platform is easy to use, even for those without technical expertise.

2

Fast and Efficient

PerceptiGen generates descriptions quickly, saving users time and effort.

3

Cost-Effective

PerceptiGen offers affordable pricing options, making it accessible to individuals and organizations.



The Future of PerceptiGen





Limitations

- While PerceptiGen is a powerful tool, it's important to recognize that it's still under development. Its ability to interpret complex imagery may be limited, and it may not always capture details or subjective interpretations.
- Future advancements in AI technology will help address these limitations.
- Failed to analyze a particular object inside the image

Conclusion

This project successfully demonstrates the integration of Microsoft Azure's Computer Vision API with a simple yet functional front-end application built using HTML, CSS, and JavaScript. The software allows users to upload an image and obtain a detailed description of its contents, showcasing the capabilities of modern AI-powered image recognition technologies.

Through the implementation of this project, the following objectives were achieved:

- 1.API Integration:** The project showcases seamless communication between the front-end and Azure's AI service for image analysis.
- 2.User-Friendly Interface:** A clean and intuitive interface ensures ease of use, allowing users to upload and analyze images effortlessly.
- 3.Practical AI Application:** This tool highlights how artificial intelligence can be leveraged to understand and describe visual content, opening doors to numerous real-world applications such as accessibility, content moderation, and digital asset management.

The project not only fulfills the functional requirements but also provides a learning experience in working with cloud-based APIs, asynchronous JavaScript operations, and data flow between client and server. It lays a strong foundation for future enhancements, such as multi-language support, advanced analytics, or integration with other AI services.

Thank You !!