



VIT[®]

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

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REAL TIME MOBILE APPLICATION

Abstract:

This project focuses on real-time mobile application for image processing for enhancing GPS camera-captured images, enabling the extraction and manipulation of location information displayed at bottom of the image. The system employs advanced image processing techniques to isolate the location component in real-time, ensuring minimal delay in user interactions. The extracted location component remains movable without affecting the main image, providing a dynamic and interactive user experience. The project integrates computer vision, image segmentation, real-time processing, and user interface design to achieve its objectives.

Outcome:

The primary outcomes of this project include:

1. Real-Time Location Extraction:

Implementing real-time algorithms for accurate and efficient identification and extraction of the location information from GPS camera-captured images. This involves utilizing optimized text detection and segmentation techniques to isolate component.

2. Low-Latency Processing:

Ensuring minimal processing delay during the extraction and manipulation of the location information, allowing users to interact seamless with the movable component in real-time.

3. Image Preservation:

Employing techniques like inpainting or seamless cloning in real-time to maintain the main image's quality and appearance, even as user manipulate the location component.

4. Interactive User Interface:

Designing a responsive and intuitive user interface that enables users to freely move, resize, and customize the appearance of the extracted location component while observing immediate updates in real-time.

5. Dynamic Updates:

Enabling instant updates to the location component's position and appearance as users interact with it, providing a fluid and engaging user experience

6. Customization Options:

Allowing users to dynamically customize various aspects of the location component in real-time, such as font style, color, transparency, and position.

7. Seamless Integration:

Integrating the real-time image processing capabilities seamlessly with the GPS camera application, enabling users to engage with the enhanced images without disruptions.

8. Export and Sharing:

Providing users with options to save or share the enhanced images, preserving the manipulated location component as desired.

In summary, this project successfully enhances GPS camera-captured images in real time by extracting and allowing interactive manipulation of the location information through mobile app. Users can easily customize and explore this component without affecting the main image's quality. The innovative combination of image processing, real-time updates, and user interface design creates a dynamic and engaging experience, offering new possibilities for interacting with location-tagged images. This project showcases the potential of real-time image processing and user interaction, contributing to improved usability and visual appeal while setting the stage for future advancements in similar applications.