# VisionUX User Guide

## Getting Started

VisionUX is an AI-powered video analysis platform that helps you understand and analyze video content through various tools and an interactive chat interface.

### Interface Overview

The application has three main sections:

1. Upload Panel: For uploading videos or using camera input
2. Video Viewer: Displays the video and analysis visualizations
3. Chat Interface: AI-powered chat for interaction and analysis

## Basic Workflow

### 1. Video Input

Upload Video:

* Drag and drop your video file into the upload area, or click to select
* Primary supported format: MP4
* Other formats (AVI, MOV, WEBM) may work but might have compatibility issues with the viewer or OpenCV processing
* Maximum file size: 100MB
* Recommended video length: 10-20 seconds for optimal performance
* This is a proof of concept - users can experiment and report any issues

Note: Camera functionality is currently disabled and will be included in future releases.

### 2. Analysis Features

#### Scene Analysis

1. Click the "Scene Analysis" button or ask in chat: "Describe the video"
2. The system will ask for confirmation
3. After confirmation, it will:

* Analyze key frames from the video
* Provide a detailed description
* Store the analysis for future reference

Example conversation:

User: Describe the video  
Assistant: Would you like me to perform a scene analysis for more details?  
User: Yes, let's do it  
Assistant: [Provides detailed scene description after analysis]

#### Object Detection

1. Request via button or chat: "Let's do object detection"
2. Wait for processing to complete
3. View results by:

* Toggling "Show Object Detection" switch
* Playing the video to see highlighted objects
* Asking specific questions about detected objects

Example conversation:

User: Let's do object detection  
Assistant: Object detection completed. Please toggle the Show-Object-Detection  
 button and play the video to see the results!  
User: How many vehicles were detected in frame 100?  
Assistant: [Provides detailed count based on analysis]

#### Edge Detection

1. Initiate via button or chat: "Let's do edge detection"
2. After processing:

* Toggle "Show Edge Detection" switch
* Play video to see edge highlights

Example conversation:

User: Let's do edge detection  
Assistant: Edge detection completed. Please toggle the Show-Edge-Detection button and play the video to see the results!

### 3. Interactive Chat

The chat interface allows natural language interaction with the system. You can:

#### Ask Analysis Questions

* Request general descriptions
* Query specific frames or scenes
* Ask about detected objects
* Get analysis summaries

Example queries:

"Summarize the analysis"  
"What are the frames used for analysis?"  
"How can I use this video?"  
"How many vehicles were detected?"

#### Toggle Visualizations

* Control visualization overlays through chat
* Switch between different analysis views
* Get guidance on using visualization features

## Pro Tips

1. Analysis Workflow

* Start with scene analysis for overall understanding
* Use object detection for specific item identification
* Apply edge detection for boundary/structure analysis

1. Chat Interaction

* Be specific with frame numbers when asking about details
* Use natural language for complex queries
* Ask for clarification if needed

1. Visualization

* Toggle between different visualizations to compare results
* Use pause/play to examine specific frames
* Combine different analysis types for comprehensive understanding

## Common Tasks

### Video Analysis

1. Upload your video
2. Request scene analysis
3. Review the initial description
4. Ask follow-up questions
5. Use specific tools (object/edge detection) as needed

### Important Note on Current Limitations

1. Video Requirements

* Keep videos short (10-20 seconds) for optimal processing
* MP4 format is recommended for best compatibility
* Other formats may work but are not guaranteed
* Test videos thoroughly before critical use

1. System Scope

* This is a proof-of-concept implementation
* Users are encouraged to experiment and report issues
* Camera functionality will be available in future releases

## Troubleshooting

### Common Issues

1. Video Upload Fails

* Check file size (max 100MB)
* Verify supported format
* Ensure stable internet connection

1. Analysis Not Starting

* Confirm video is properly loaded
* Check if previous analysis is complete
* Try refreshing the page

1. Visualizations Not Showing

* Toggle visualization switch off and on
* Ensure analysis is complete
* Reload the video if needed

### Getting Help

* Look for system messages in chat
* Check error messages for specific issues
* Use natural language to ask for help in chat

## Best Practices

1. For Best Results

* Use clear, well-lit video content
* Keep videos under 10 minutes for optimal processing
* Wait for each analysis to complete before starting another

1. Efficient Analysis

* Start with scene analysis for overview
* Use specific tools based on your needs
* Combine multiple analysis types for deeper insights

1. Chat Interaction

* Be specific in your questions
* Reference frame numbers when relevant
* Build on previous analysis results

## Feature Limitations

* Frame-specific analysis requires full video processing
* Real-time analysis may have slight delays
* Some analysis tools may not work simultaneously
* Stop the video before performing any actions

Remember that VisionUX is designed to be interactive and intuitive. Feel free to experiment with different combinations of tools and queries to get the most out of your video analysis.