
Crime Scene Investigation

Scene Documentation

Accident Reconstruction

Related terms: scene preservation, forensic analysis, vehicle dynamics.

Definition: A systematic process that uses physical evidence, measurements, and scientific principles to determine the events leading up to a collision.

Example: Investigators measure skid marks, examine vehicle deformation, and apply physics formulas to estimate speed.

Practical application: Helps courts understand liability and informs safety improvements.

Challenges: Degraded evidence, environmental factors, and limited witness reliability can hinder accuracy.

Aerial Photography

Related terms: drone imaging, orthophoto, remote sensing.

Definition: Capturing images of a crime scene from an elevated platform to provide a comprehensive overview.

Example: A UAV flies over a homicide scene, producing high-resolution images that reveal the layout of evidence.

Practical application: Assists in mapping scene boundaries, planning evidence collection routes, and documenting changes over time.

Challenges: Weather conditions, regulatory restrictions, and battery limitations affect deployment.

Annotation

Related terms: labeling, notes, diagramming.

Definition: Adding descriptive text, arrows, or symbols to photographs or sketches to clarify the significance of evidence.

Example: An investigator marks a bullet-hole on a wall photo with an arrow and a note indicating "entry point".

Practical application: Enhances communication among team members and ensures consistent interpretation of visual data.

Challenges: Over-annotation can obscure original images; maintaining legibility in crowded scenes is difficult.

Artifact

Related terms: evidence, item, object.

Definition: Any physical item found at a scene that may hold evidentiary value, whether directly related to the crime or incidental.

Example: A broken glass fragment recovered near a victim's body.

Practical application: Artifacts are catalogued, photographed, and preserved for laboratory analysis.

Challenges: Distinguishing relevant artifacts from background debris requires careful judgment.

Baseline Survey

Related terms: initial assessment, scene overview, preliminary documentation.

Definition: The first systematic walkthrough of a crime scene to record general conditions before detailed evidence collection begins.

Example: Documenting the overall layout of a burglary scene, noting entry points and large objects.

Practical application: Establishes a reference point for later measurements and helps maintain scene integrity.

Challenges: Time pressure may lead to missed observations; investigators must balance speed with thoroughness.

Chain of Custody

Related terms: evidence handling, integrity, tracking.

Definition: A documented chronological record showing the seizure, control, transfer, analysis, and disposition of evidence.

Example: A log entry noting that Officer Smith transferred a blood sample to the forensic lab at 09:15.

Practical application: Guarantees that evidence presented in court is unaltered and authentic.

Challenges: Gaps in documentation, improper labeling, or unauthorized access can compromise admissibility.

Contour Mapping

Related terms: topographic survey, elevation model, gradient analysis.

Definition: Creating a detailed representation of a scene's surface variations using contour lines to illustrate height changes.

Example: Mapping the slope of a hillside where a body was discovered to understand potential movement paths.

Practical application: Assists in reconstructing events such as falls or vehicle trajectories on uneven terrain.

Challenges: Requires precise measurement tools; dense vegetation can obstruct accurate data collection.

Digital Photogrammetry

Related terms: 3-D modeling, structure from motion, virtual reconstruction.

Definition: The process of generating three-dimensional models from overlapping two-dimensional photographs using specialized software.

Example: Producing a 3-D model of a crime scene to allow virtual walkthroughs by jurors.

Practical application: Enables measurements of distances, angles, and volumes that are difficult to obtain on-site.

Challenges: Requires high-quality images, adequate overlap, and computational resources; lighting inconsistencies affect results.

Documentation Protocol

Related terms: standard operating procedures, SOP, guidelines.

Definition: A set of predefined steps and formats that investigators follow to record scene information consistently.

Example: Using a checklist that mandates photograph, sketch, and narrative for each evidence item.

Practical application: Promotes uniformity across cases, facilitating training and quality control.

Challenges: Rigid protocols may limit flexibility in unique or rapidly evolving scenes.

Evidence Log

Related terms: inventory, register, tracking sheet.

Definition: A written or electronic record that lists each piece of evidence, its description, collection time, and storage location.

Example: Entry for a shoe imprint labeled "Exhibit 12-A", collected at 10:22, stored in evidence locker #3.

Practical application: Provides accountability and quick retrieval of items for analysis or courtroom presentation.

Challenges: Human error in data entry, illegible handwriting, and failure to update status promptly.

Field Sketch

Related terms: diagram, rough drawing, scene layout.

Definition: A hand-drawn representation of a crime scene made on-site to capture spatial relationships before formal photographs are taken.

Example: Sketching the position of a weapon relative to a victim's body on a floor plan.

Practical application: Offers immediate visual reference for investigators and can be used to supplement photographs.

Challenges: Accuracy depends on the sketcher's skill; scaling errors can mislead later analysis.

Forensic Photography

Related terms: crime scene imaging, documentation, visual evidence.

Definition: The disciplined practice of capturing images that accurately represent the scene, evidence, and context for investigative and legal purposes.

Example: Using a macro lens to photograph a fiber on a suspect's clothing.

Practical application: Provides objective visual records that can be examined repeatedly without disturbing the scene.

Challenges: Lighting constraints, equipment limitations, and the need to avoid contaminating evidence.

Geographic Information System (GIS)

Related terms: spatial analysis, mapping software, geolocation.

Definition: A computer system that captures, stores, analyzes, and displays geographically referenced data, often used to map crime scenes.

Example: Plotting the locations of multiple burglaries in a neighborhood to identify hotspots.

Practical application: Helps investigators visualize patterns, calculate distances, and integrate multiple data

layers.

Challenges: Requires accurate coordinate data; software complexity may demand specialized training.

Ground-Level Survey

Related terms: terrestrial scanning, laser measurement, tape-measure method.

Definition: The process of measuring a scene's dimensions from a horizontal perspective using tools such as laser distance meters or measuring wheels.

Example: Recording the distance between a broken window and a weapon found on the floor.

Practical application: Establishes precise measurements for sketches, reconstructions, and courtroom illustrations.

Challenges: Obstacles, uneven surfaces, and limited line-of-sight can impede accurate readings.

Helicam Imaging

Related terms: aerial video, stabilized camera, remote observation.

Definition: Using a camera mounted on a helicopter or drone to capture high-resolution video and stills of a scene from multiple angles.

Example: Recording a panoramic video of a large outdoor crime scene to assess evidence distribution.

Practical application: Provides dynamic perspective, useful for large or hazardous locations.

Challenges: Vibration, motion blur, and regulatory compliance for airspace use.

Incident Report

Related terms: narrative statement, case file, initial log.

Definition: A written account that summarizes the basic facts of a crime, including time, location, parties involved, and preliminary observations.

Example: A police officer's report noting a "possible homicide discovered at 2200 hrs, 123 Main St."

Practical application: Serves as the foundation for further investigation and documentation.

Challenges: Incomplete or biased reporting can affect subsequent evidence handling.

Judgmental Photography

Related terms: selective imaging, focus capture, prioritized documentation.

Definition: Photographing only those items deemed most relevant by the investigator, often due to time constraints.

Example: Capturing images of a weapon but omitting peripheral debris.

Practical application: Allows rapid documentation when resources are limited.

Challenges: Risks omitting critical evidence; may be questioned in court for selective bias.

Keyframe Extraction

Related terms: video analysis, frame selection, motion capture.

Definition: Selecting representative frames from a video recording to illustrate significant moments or changes in a scene.

Example: Extracting a frame showing a suspect's entry into a building from surveillance footage.

Practical application: Reduces data volume while preserving crucial visual information for review.

Challenges: Determining which frames are truly significant; may miss subtle details.

Laser Scanning

Related terms: LiDAR, point cloud, 3-D capture.

Definition: Employing laser pulses to measure distances and generate dense three-dimensional point clouds of a crime scene.

Example: Scanning a crime scene to create a precise digital replica of a blood spatter pattern.

Practical application: Enables accurate measurements, virtual reconstruction, and repeatable analysis.

Challenges: High equipment cost, need for skilled operators, and interference from reflective surfaces.

Metadata

Related terms: EXIF data, file information, provenance.

Definition: Data embedded within a digital file that records details such as date, time, camera settings, and GPS coordinates.

Example: A photograph's metadata showing it was taken at 14:23 on 05/12/2024 with a 24-mm lens.

Practical application: Assists in verifying authenticity and establishing a timeline of evidence collection.

Challenges: Metadata can be altered unintentionally; investigators must preserve original files.

Negative Space Documentation

Related terms: background capture, context imaging, ambient recording.

Definition: Recording the areas surrounding evidence to preserve context and spatial relationships.

Example: Photographing the floor area around a shoe print to show surrounding debris.

Practical application: Provides a complete picture of the scene, preventing misinterpretation of isolated evidence.

Challenges: Increases the number of images; may overwhelm reviewers if not organized.

Observation Log

Related terms: field notes, investigator diary, situational record.

Definition: A chronological written record of observations made by investigators during scene processing.

Example: Noting "At 09:45, observed a faint odor of gasoline near the rear entrance".

Practical application: Captures details that may not be evident in photographs, aiding memory and analysis.

Challenges: Handwritten notes can be illegible; omissions may occur under stress.

Photographic Scale

Related terms: reference ruler, scale bar, measurement aid.

Definition: An object of known dimension placed within a photograph to allow accurate scaling of measurements later.

Example: Placing a 30-cm ruler next to a bloodstain before photographing.

Practical application: Enables investigators to calculate size, distance, and area from images.

Challenges: Scale must be parallel to the camera sensor; improper placement leads to distortion.

Quality Assurance (QA)

Related terms: verification, audit, standards compliance.

Definition: A systematic process of reviewing documentation to ensure it meets established forensic standards.

Example: Conducting a peer review of scene photographs for focus, exposure, and completeness.

Practical application: Maintains credibility of evidence and reduces errors in case files.

Challenges: Time-intensive; may be resisted by busy investigators.

Reference Photograph

Related terms: baseline image, context shot, overview picture.

Definition: An initial wide-angle image taken to capture the overall scene before any evidence is moved or altered.

Example: A panoramic shot of a living room before furniture is rearranged for evidence collection.

Practical application: Serves as a visual benchmark for later comparison and verification of scene changes.

Challenges: Requires adequate lighting and stable positioning to avoid distortion.

Scene Integrity

Related terms: preservation, contamination control, tamper-prevention.

Definition: The condition of a crime scene remaining unchanged from the moment of discovery until it is processed.

Example: Maintaining a "do not cross" tape perimeter to keep unauthorized personnel out.

Practical application: Ensures that evidence is not compromised, preserving its evidentiary value.

Challenges: Environmental factors like weather, wildlife, or after-hours intrusion can degrade integrity.

Temporal Documentation

Related terms: time-stamp, chronological record, sequence capture.

Definition: Recording the timing of events, evidence collection, and scene changes to establish an accurate timeline.

Example: Noting that a blood pool was photographed at 08:12 and re-photographed after drying at 10:45.

Practical application: Critical for reconstructing the order of actions and for corroborating witness statements.

Challenges: Clock synchronization issues and human error in recording times.

UAV (Unmanned Aerial Vehicle)

Related terms: drone, remote aircraft, aerial platform.

Definition: A piloted or autonomous aircraft used to capture aerial imagery of a crime scene without a human onboard.

Example: Deploying a quadcopter to map a large outdoor arson scene.

Practical application: Provides rapid, low-cost aerial coverage for inaccessible or hazardous areas.

Challenges: Battery life, signal interference, and legal restrictions on flight zones.

Video Documentation

Related terms: motion capture, continuous recording, surveillance footage.

Definition: The process of recording moving images of a crime scene to capture dynamic aspects such as fluid spillage or evidence displacement.

Example: Filming a blood spray pattern as it expands over a floor surface.

Practical application: Allows reviewers to observe changes over time that static photos cannot convey.

Challenges: Requires stable mounting, adequate lighting, and storage capacity for large files.

Witness Sketch

Related terms: victim drawing, suspect portrait, eyewitness illustration.

Definition: A hand-drawn representation of a suspect, vehicle, or scene element based on an eyewitness's recollection.

Example: A sketch artist drawing a perpetrator's facial features as described by a survivor.

Practical application: Assists in identification when photographic evidence is unavailable.

Challenges: Subjectivity, memory decay, and artistic interpretation can affect accuracy.

X-ray Documentation

Related terms: radiography, imaging, internal inspection.

Definition: Using X-ray technology to visualize hidden or internal aspects of evidence without destroying it.

Example: Radiographing a bullet to reveal its internal composition and any rifling marks.

Practical application: Provides non-destructive insight into evidence structure, aiding ballistic analysis.

Challenges: Requires specialized equipment and safety protocols to protect personnel.

Yield Assessment

Related terms: evidence value, collection efficiency, return on effort.

Definition: Evaluating the amount and significance of evidence recovered relative to the resources expended.

Example: Determining that a thorough search of a small garage yielded minimal new evidence.

Practical application: Guides future allocation of investigative resources and prioritization of scenes.

Challenges: Quantifying "value" is subjective; may overlook low-profile but crucial items.

Zoom Ratio

Related terms: focal length, magnification, optical zoom.

Definition: The relationship between the focal length of a camera lens and the size of the subject in the final image.

Example: Using a 100-mm lens to achieve a 3× zoom on a distant footprint.

Practical application: Enables investigators to capture fine details without moving too close to delicate evidence.

Challenges: Higher zoom can introduce blur; proper stabilization is essential.

Accelerated Degradation

Related terms: evidence decay, environmental impact, preservation loss.

Definition: The rapid breakdown of evidence due to factors such as heat, moisture, or chemical exposure.

Example: Blood stains deteriorating faster in a humid environment.

Practical application: Alerts investigators to prioritize collection of vulnerable evidence.

Challenges: Predicting degradation rates requires expertise and may vary unpredictably.

Baseline Photography

Related terms: reference image, initial capture, scene overview.

Definition: The first set of photographs taken to document a scene before any items are moved or altered.

Example: Capturing a wide-angle shot of a crime scene hallway before evidence removal.

Practical application: Provides a permanent visual record for comparison after processing.

Challenges: Requires quick execution to avoid scene contamination.

Contextual Evidence

Related terms: surrounding items, environmental clues, situational data.

Definition: Evidence that gains meaning from its relationship to other items or the overall scene layout.

Example: A discarded coffee cup near a victim indicating a possible meeting location.

Practical application: Helps reconstruct events and motives by linking objects.

Challenges: May be overlooked if focus is on primary evidence.

Decontamination Protocol

Related terms: cleaning procedure, biohazard control, evidence preservation.

Definition: A set of steps to remove contaminants from a scene or equipment to prevent cross-contamination.

Example: Using alcohol wipes to clean a camera lens after photographing a blood pool.

Practical application: Maintains the purity of evidence and protects investigators from hazards.

Challenges: Over-cleaning can damage delicate evidence; inadequate procedures may leave residues.

Evidence Tagging

Related terms: labeling, identification, barcode system.

Definition: Attaching a unique identifier to each piece of evidence to track its movement and status.

Example: Affixing a tamper-evident tag with the code "E-2024-045" to a knife.

Practical application: Facilitates inventory management and courtroom presentation.

Challenges: Tags must be durable, legible, and resistant to environmental conditions.

Forensic Light Source (FLS)

Related terms: alternate light source, illumination, fluorescence detection.

Definition: Specialized lighting equipment that emits specific wavelengths to reveal latent evidence such as blood, fibers, or bodily fluids.

Example: Using a 450-nm blue light to visualize faint blood stains on carpet.

Practical application: Enhances visibility of otherwise invisible evidence for documentation.

Challenges: Requires proper filter selection; may cause false positives if not calibrated.

Geolocation

Related terms: GPS coordinates, spatial reference, absolute positioning.

Definition: Determining the precise latitude and longitude of a scene or evidence item using satellite or terrestrial positioning systems.

Example: Recording the coordinates 40.7128° N, 74.0060° W for a crime scene in New York City.

Practical application: Enables accurate mapping, integration with GIS, and verification of scene authenticity.

Challenges: Signal loss in urban canyons or indoor environments reduces accuracy.

Heat Mapping

Related terms: thermal imaging, temperature distribution, infrared analysis.

Definition: Visual representation of temperature variations across a scene, often used to locate heat sources or recent activity.

Example: Using an infrared camera to detect a warm spot where a fire was recently extinguished.

Practical application: Assists in identifying concealed evidence such as hidden compartments.

Challenges: Ambient temperature fluctuations can obscure subtle differences.

Impression Evidence

Related terms: cast, mold, footprint, tire tread.

Definition: Physical depressions left in a substrate that can be reproduced for analysis.

Example: Taking a plaster cast of a shoe imprint in mud.

Practical application: Allows comparison with suspect footwear or vehicle tires.

Challenges: Substrate must be stable; moisture or erosion can degrade the impression.

Judicial Authentication

Related terms: admissibility, validation, expert testimony.

Definition: The legal process by which a court determines that a piece of documentation, such as a photograph, is genuine and reliable.

Example: An expert witness testifying that a photo's metadata proves it was taken at the crime scene.

Practical application: Ensures that evidence can be presented without violating evidentiary rules.

Challenges: Defense may challenge chain of custody or suggest manipulation.

Key Evidence

Related terms: primary item, critical piece, focal point.

Definition: Evidence that directly links a suspect to the crime or significantly advances the investigation.

Example: A fingerprint on a weapon that matches the suspect's prints.

Practical application: Prioritizing collection and preservation of key evidence maximizes investigative impact.

Challenges: Over-reliance on a single item may overlook supporting evidence.

Laser Rangefinder

Related terms: distance measurement, optical ruler, target laser.

Definition: A device that emits a laser beam to determine the distance between the instrument and a target point.

Example: Measuring the distance from a blood spatter to the point of origin.

Practical application: Provides rapid, accurate distance data for scene sketches and reconstructions.

Challenges: Reflective surfaces can cause erroneous readings; line-of-sight must be clear.

Micro-Documentation

Related terms: close-up imaging, macro photography, detail capture.

Definition: Recording extremely fine details of evidence, often using high magnification lenses or microscopes.

Example: Photographing the striation pattern on a bullet at 100× magnification.

Practical application: Enables forensic analysts to conduct comparative examinations and pattern analysis.

Challenges: Depth of field limitations and lighting control are critical.

Noise Reduction

Related terms: image processing, artifact removal, digital cleanup.

Definition: Techniques applied to photographs or video to minimize visual interference caused by grain, sensor artifacts, or environmental conditions.

Example: Applying a median filter to a low-light image of a blood stain.

Practical application: Improves clarity for analysis and courtroom presentation.

Challenges: Over-processing can erase legitimate details; must preserve original data.

Obstruction Management

Related terms: scene clearance, barrier placement, access control.

Definition: Strategies to keep non-essential personnel and objects away from a crime scene to preserve evidence.

Example: Setting up police tape and assigning a scene guard to monitor entry.

Practical application: Reduces risk of contamination and tampering.

Challenges: Balancing public access with investigative needs, especially in high-profile cases.

Photogrammetric Survey

Related terms: 3-D mapping, stereo imaging, spatial reconstruction.

Definition: The technique of using overlapping photographs to calculate the three-dimensional coordinates of points on a surface.

Example: Generating a 3-D model of a crime scene wall to analyze bullet trajectory.

Practical application: Allows precise measurement without physical contact with evidence.

Challenges: Requires careful camera positioning and consistent lighting.

Quality Control (QC)

Related terms: inspection, verification, standard enforcement.

Definition: Ongoing processes that ensure documentation meets predefined quality criteria before acceptance.

Example: Reviewing each photograph for focus, exposure, and proper scale before archiving.

Practical application: Maintains the reliability of forensic records and reduces re-work.

Challenges: Adds time to the workflow; may be perceived as redundant by experienced staff.

Radiographic Imaging

Related terms: X-ray, CT scan, non-destructive testing.

Definition: Capturing internal structures of evidence using radiation to reveal hidden features.

Example: Radiographing a sealed container to detect concealed weapons.

Practical application: Provides insight without opening or damaging the evidence.

Challenges: Requires trained radiology technicians and safety protocols.

Scene Boundary

Related terms: perimeter, cordon, tape line.

Definition: The defined outer limits of a crime scene beyond which evidence collection is not authorized.

Example: Marking a 10-meter radius around a murder scene with caution tape.

Practical application: Helps focus resources and prevents accidental contamination.

Challenges: Determining the exact boundary can be subjective, especially in outdoor environments.

Temporal Sequencing

Related terms: timeline reconstruction, event order, chronology.

Definition: Arranging documented evidence and observations in the order they occurred to reconstruct the sequence of events.

Example: Using timestamps from photographs, video, and witness statements to map the progression of a burglary.

Practical application: Clarifies cause-and-effect relationships and supports investigative hypotheses.

Challenges: Inconsistent timestamps or missing data can create gaps.

Uniform Evidence Handling

Related terms: standard procedures, protocol compliance, consistency.

Definition: Applying the same methods for collecting, packaging, and transporting evidence across all cases.

Example: Using the same type of evidence bags and sealing techniques for all biological samples.

Practical application: Reduces variability and ensures evidence is treated equally.

Challenges: Different evidence types may require specialized handling, complicating uniformity.

Variable Lighting

Related terms: illumination control, exposure adjustment, dynamic lighting.

Definition: Changing light conditions during documentation that can affect image quality and color fidelity.

Example: Sunlight shifting during an outdoor shoot, causing shadows to move across evidence.

Practical application: Requires adaptive techniques such as fill flash or reflectors to maintain consistency.

Challenges: Unpredictable lighting can lead to uneven exposure and color casts.

Witness Statement Correlation

Related terms: narrative alignment, cross-verification, testimony integration.

Definition: Comparing documented scene evidence with witness accounts to identify consistencies or discrepancies.

Example: Matching a victim's description of a broken window with the photographed damage.

Practical application: Strengthens case narrative and can highlight false statements.

Challenges: Memory distortion and differing perspectives can complicate alignment.

X-ray Diffraction

Related terms: crystallography, material analysis, forensic mineralogy.

Definition: A technique that examines the way X-rays scatter off a crystalline sample to identify its composition.

Example: Analyzing soil particles to determine a unique mineral signature linking a suspect's shoe to the scene.

Practical application: Provides scientific evidence that can be quantified and presented in court.

Challenges: Requires specialized equipment and expertise; interpretation can be complex.

Yield Optimization

Related terms: evidence efficiency, resource allocation, collection strategy.

Definition: Maximizing the amount of useful evidence obtained relative to the effort and resources expended.

Example: Prioritizing high-value evidence like DNA over low-value items during a rapid scene sweep.

Practical application: Ensures investigative teams work effectively under time constraints.

Challenges: Determining "value" can be subjective; may inadvertently overlook inconspicuous but important items.

Zoomed Detail Capture

Related terms: close-up photography, magnified imaging, focal enhancement.

Definition: Using optical zoom or macro lenses to record fine details of evidence without moving the camera too close.

Example: Photographing a cartridge case at 2× magnification to capture ejection marks.

Practical application: Preserves context while revealing micro-features needed for analysis.

Challenges: Depth of field limitations and potential for motion blur require stable platforms.

Accelerated Photographic Decay

Related terms: image degradation, archival loss, digital preservation.

Definition: The rapid loss of quality in digital images due to improper storage, compression, or format conversion.

Example: Saving a raw forensic photograph as a low-resolution JPEG, causing loss of detail.

Practical application: Highlights the need for proper file management and backup protocols.

Challenges: Balancing file size with image fidelity; ensuring long-term accessibility.

Baseline Lighting

Related terms: ambient illumination, reference light, consistent exposure.

Definition: Establishing a controlled lighting environment before photographing evidence to ensure uniformity.

Example: Using a softbox to provide even light across a blood spatter area.

Practical application: Reduces shadows and glare, improving image reliability.

Challenges: Outdoor scenes may lack controllable lighting; equipment portability can be limited.

Contextual Mapping

Related terms: situational chart, environmental layout, spatial context.

Definition: Creating a map that includes not only evidence locations but also environmental features such as doors, windows, and terrain.

Example: A floor plan showing a broken window, a weapon, and furniture positions.

Practical application: Helps investigators understand how evidence relates to the overall scene geometry.

Challenges: Requires accurate measurements and may be time-consuming for complex sites.

Decomposition Documentation

Related terms: post-mortem imaging, decay tracking, temporal analysis.

Definition: Recording the stages of body decomposition to aid in time-since-death estimation.

Example: Photographing a corpse at regular intervals to capture progression from fresh to advanced decay.

Practical application: Provides data for forensic anthropology and can corroborate witness timelines.

Challenges: Ethical considerations, legal restrictions, and environmental variables affect documentation.

Evidence Preservation

Related terms: storage, climate control, protective packaging.

Definition: Measures taken to maintain the physical and chemical integrity of evidence from collection through analysis and trial.

Example: Storing biological samples at -80 °C to prevent degradation.

Practical application: Ensures that evidence remains reliable for testing and presentation.

Challenges: Limited storage space, equipment failures, and power outages can jeopardize preservation.

Forensic Sketching

Related terms: diagrammatic rendering, visual transcription, scene illustration.

Definition: The art of producing accurate, scaled drawings of a crime scene to complement photographic documentation.

Example: Hand-drawing the trajectory of a bullet through multiple walls.

Practical application: Offers a clear, interpretable visual that can be annotated and reproduced in reports.

Challenges: Requires training, precision, and the ability to work under pressure.

Geospatial Correlation

Related terms: spatial linking, location analysis, GIS overlay.

Definition: Aligning evidence locations with geographic data to identify patterns or connections.

Example: Mapping stolen vehicle sightings to a known robbery hotspot.

Practical application: Assists in predictive policing and resource deployment.

Challenges: Data accuracy and privacy concerns may limit usage.

Heat Signature Capture

Related terms: thermal imaging, infrared photography, temperature mapping.

Definition: Recording the infrared emissions of a scene to reveal heat sources or recent activity.

Example: Detecting a residual heat plume from a recently extinguished fire.

Practical application: Useful for identifying concealed items that retain warmth, such as recent weapon discharge.

Challenges: Ambient temperature fluctuations can obscure subtle signatures.

Imaging Calibration

Related terms: color chart, white balance, exposure settings.

Definition: Adjusting camera settings and using reference standards to ensure accurate color reproduction and exposure.

Example: Photographing a gray card alongside evidence to later correct color balance.

Practical application: Guarantees that images faithfully represent the original scene, crucial for court admissibility.

Challenges: Calibration must be repeated if lighting changes; failure can lead to misleading visuals.

Judgmental Sampling

Related terms: selective collection, priority evidence, discretion.

Definition: The practice of collecting only those items deemed most relevant based on investigator expertise.

Example: Choosing to collect a knife but not surrounding debris in a hurried crime scene.

Practical application: Saves time when resources are limited.

Challenges: May miss latent evidence; decisions can be questioned during legal scrutiny.

Key Frame Selection

Related terms: video summarization, representative image, motion capture.

Definition: Choosing specific frames from a video sequence that best illustrate critical moments.

Example: Selecting a frame that captures a suspect entering a room from surveillance footage.

Practical application: Reduces the volume of video evidence while retaining essential information.

Challenges: Determining which frames are truly significant requires careful review.

Laser Profiling

Related terms: surface scanning, line scanner, contour detection.

Definition: Using a laser line projector to capture the shape of surfaces and objects for detailed measurement.

Example: Profiling a shoe sole imprint to compare with a suspect's footwear.

Practical application: Enables precise dimensional analysis without physical contact.

Challenges: Reflective or translucent surfaces can interfere with laser detection.

Metadata Integrity

Related terms: data provenance, file authentication, EXIF preservation.

Definition: Ensuring that the embedded information within digital files remains unaltered from the point of capture.

Example: Verifying that a photograph's timestamp matches the scene log.

Practical application: Supports chain of custody and helps detect tampering.

Challenges: Software updates or file conversions can unintentionally modify metadata.

Negative Space Recording

Related terms: background capture, contextual imaging, peripheral documentation.

Definition: Photographing the area surrounding evidence to preserve spatial relationships and environmental cues.

Example: Including the floor tiles around a bloodstain in a shot to show pattern direction.

Practical application: Prevents misinterpretation of isolated evidence by providing context.

Challenges: Increases the number of images, requiring careful organization.

Observation Chronology

Related terms: field notes timeline, sequential logging, event sequencing.

Definition: Recording observations in the order they occur during scene processing.

Example: Noting "09:10 – observed fresh footprints" followed by "09:15 – collected blood sample".

Practical application: Facilitates reconstruction of investigative steps and supports transparency.

Challenges: Human memory lapses and rapid scene changes can lead to gaps.

Photographic Scale Bar

Related terms: reference ruler, measurement aid, calibration marker.

Definition: A visual indicator of known length placed within a photograph to allow accurate scaling during analysis.

Example: A 15-cm scale bar positioned next to a bullet hole.

Practical application: Enables precise measurement of distances and areas from images.

Challenges: Must be placed in the same plane as the evidence to avoid distortion.

Quality Assurance Review

Related terms: peer audit, compliance check, validation.

Definition: A systematic examination of documentation to confirm adherence to forensic standards before final submission.

Example: A senior analyst reviewing all scene photographs for focus and exposure.

Practical application: Detects errors early, reducing the risk of inadmissible evidence.

Challenges: Adds an extra step that may be perceived as redundant in fast-moving investigations.

Reference Image Set

Related terms: baseline photo collection, scene overview, comparative archive.

Definition: A comprehensive group of photographs taken at the start of a scene investigation to serve as a permanent visual record.

Example: A series of wide-angle shots covering every wall, floor, and entry point of a crime scene.

Practical application: Provides a visual baseline for later comparisons and for legal documentation.

Challenges: Requires disciplined coverage to avoid missing angles; storage demands can be high.

Scene Integrity Protocol

Related terms: preservation measures, contamination prevention, evidence protection.

Definition: A set of guidelines designed to maintain the original condition of a crime scene from discovery through processing.

Example: Using protective coverings to shield a blood pool from wind and debris.

Practical application: Ensures that evidence remains as undisturbed as possible for accurate analysis.

Challenges: Environmental factors like rain or temperature can still affect integrity despite precautions.

Temporal Imaging

Related terms: time-lapse photography, sequential capture, dynamic documentation.

Definition: Recording changes at a scene over time to illustrate the evolution of evidence or conditions.

Example: Taking images of a drying blood pool every 15