

# The National Forensic Academy's Investigator -Virtual Reality



# Who We Are

- The Law Enforcement Innovation Center (LEIC)
- Formed in 1997 under the Institute for Public Service at the University of Tennessee
- The National Forensic Academy (NFA) is a 10 week in-residence program for crime scene investigators

# Our Mission

To provide innovative and technology-based training and technical assistance (services) to law enforcement agencies and communities.

# The National Forensic Academy

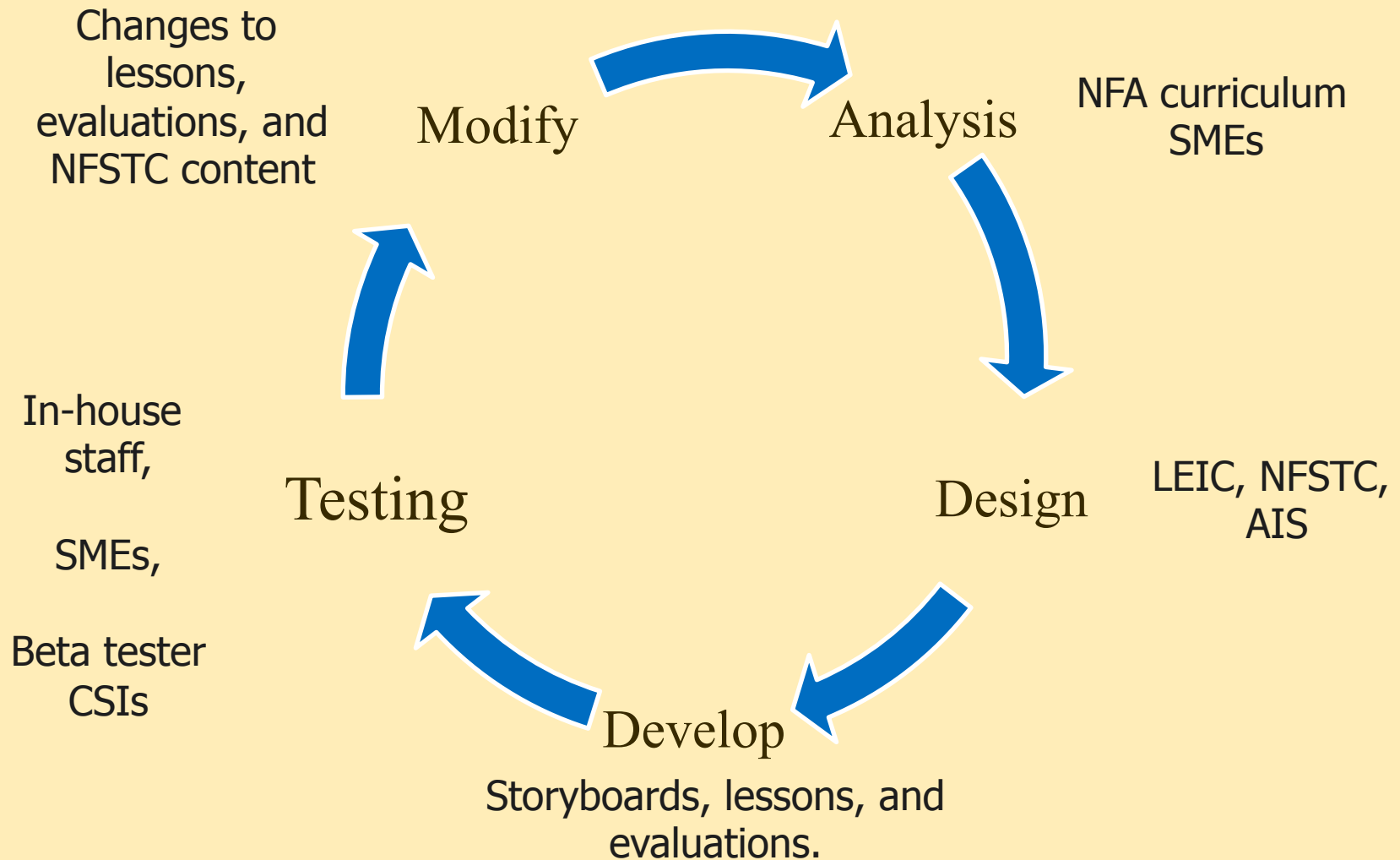


- 10-week training funded by BJA
- Training in: evidence identification, collection, and preservation
- Curriculum developed & validated by leading forensic practitioners
- Hands-on exercises, lab, experiment, and photo room

# The Investigator-Virtual Reality

- 2009 LEIC was awarded a 2 year “Forensic Science Training Development and Delivery” grant from NIJ
- Partnered with the National Forensic Science Technology Center (NFSTC) and Advanced Interactive Systems (AIS)
- Project goals:
  - Develop a virtual reality gaming tool to train state and local forensic practitioners
  - Inform state and local criminal justice practitioners/policymakers on developments in forensic science

# The Development Process



# The Development Process

- Existing NFA curricula was collected, analyzed, and converted into storyboards to create virtual lessons and crime scenes
- Tutorial developed to teach navigation
- Subject matter experts tested and evaluated design

# Screenshot of Tutorial (learning to navigate)





# The Development Process

- NFSTC took NFA curricula and created a crime scene management fundamentals guide to accompany the virtual reality lessons
- Filmed SME video demonstrations of real life techniques and processes
- Multiple rounds of beta testing on a range of CSIs, made modifications

# NFSTC NOLS Fundamentals Guide

## Crime Scene Management Fundamentals

Objectives

Introduction

Module Purpose

Crime Scene Definition

Evidence

Types of Evidence

Types of Evidence, continued

Test Your Knowledge 1

Locard's Exchange Principle

Test Your Knowledge 2

Characteristics of Physical Evidence

Characteristics of Physical Evidence, continued

Crime Scene Management Stages

## *Topic 2: Elements of Crime Scene Management*

[Click to Begin](#)

**nfstc** *e-learning*  
National Forensic Science Technology Center  
SCIENCE SERVING JUSTICE

# Development Process

- NFA subject matter experts collaborated with AIS to develop virtual tools, processes, and techniques to allow CSIs to work in virtual crime scenes



# Course Outline

- Introduction in NOLS
- I-VR tutorial
- Module 1: Fundamentals in NOLS
- Virtual lessons:
  - Writing a narrative
  - Oblique lighting
  - Evidence marking
  - Evidence recording (photographing the scene)
  - Evidence sketching & diagramming
  - Evaluation – apartment burglary and assault

# Course Outline

- Module 2: NOLS fundamentals and video demonstrations
- Virtual lessons:
  - Evidence detection
  - Evidence lifting
  - Evidence collection
  - Evaluation – apartment burglary and assault
- Module 3
  - (3) crime scene scenarios



# Example of virtual lesson on evidence detection



## (2) Cumulative Practical Evaluations





# (3) Crime Scene Scenarios



# Feedback on Evaluations

## Course Evaluation

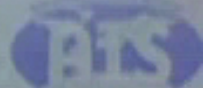
### *Interpreting Results and Providing Feedback*

After pressing the Scene Release button a matrix will pop up. This matrix provides you with feedback on how well you conducted the crime scene investigation. There are three different colored dots that will appear on the matrix next to each task.

- A red dot = Needs much improvement
- A yellow dot = Okay
- A green dot = Successful completion of task



Initializing Environment...



Crime Scene Investigator