**The Role of Data Visualization in Crime Prevention and Public Safety**

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Course: Psy 6135: Psychology of Data Visualization

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**Topic Proposal for** Class Presentation

**The Role of Data Visualization in Crime Prevention and Public Safety**

Crime prevention and law enforcement have increasingly relied on data visualization techniques to analyze, predict, and mitigate criminal activity. Tools such as geographic profiling, heat maps, cluster analysis, and fingerprint visualization provide law enforcement with actionable insights, enabling more effective crime prevention strategies. In addition to crime mapping, forensic genetic genealogy and ancestry mapping have revolutionized investigations by using DNA databases and network visualization to solve cold cases, identify unknown individuals, and trace ancestry connections. This presentation will explore how crime data, biometric data, and genealogy mapping are visualized to improve crime-solving and law enforcement strategies.

**Key Topics to Be Covered**

1. Historical Context of Data Visualization in Crime Prevention

* Early applications of crime mapping and geographic profiling
* Development of fingerprint analysis and biometric data visualization
* The role of environmental criminology and Crime Prevention Through Environmental Design

1. Applications in Modern Crime Prevention

* Predictive policing: Using historical crime data to forecast future incidents.
* Urban planning & public safety: How data visualization helps design safer spaces.
* Crime mapping & predictive policing: Heat maps, cluster analysis, and AI-driven crime forecasting.

1. Fingerprint Analysis & Biometric Data Visualization

* How digital fingerprint visualization enhances forensic investigations.
* Advances in 3D fingerprint mapping

1. Genetic Genealogy & Ancestry Mapping in Crime Investigations

* Using DNA databases to solve crimes
* Visualization tools in genealogy: Pedigree charts, DNA heat maps, and network graphs of genetic connections.

1. Technological Advancements in Crime Data Visualization

* The integration of AI
* Forensic DNA phenotyping: Predicting facial features and ancestry using genetic visualization.
* The use of real-time dashboards and crime mapping software.

This presentation will highlight the critical role of data visualization in crime prevention, forensic investigations, and ancestry research. By analyzing real-world examples, the discussion will emphasize the importance of data-driven decision-making in law enforcement, forensic science, and public safety.

**Note:**

All the topics outlined in this proposal are essential to understanding how data visualization is used in crime prevention, forensic science, and public safety. However, due to time constraints and the depth of research required, I will be evaluating which sections to emphasize and which to briefly touch on based on the availability and relevance of my sources. While I plan to cover all key areas, some sections may be condensed or eliminated to maintain a clear and focused presentation. To enhance the discussion, I will also incorporate real-world case studies that demonstrate the practical applications of these tools. However, I will ensure that no graphic or distressing content is included, as I want to keep the presentation fun and comfortable for the class. Please let me know if there are any specific areas I should focus on more or if I should consider adding anything to strengthen the presentation.