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- **Problem Statement ID – 1787**
- **Problem Statement Title- Fuzzy Name conversion of Hindi Names in Police Records**
- **Theme- Miscellaneous**
- **PS Category- Software**
- **Team ID-**
- **Team Name – Team Arjuna**

Team Arjuna

Fuzzy Name Conversion in Police Records

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❖ Proposed Solution

- **Detailed Explanation of the Proposed Solution:**
  - Developed a comprehensive name matching system that utilizes statistical approach (i.e Levenshtein Distance Theorem) and phonetic search capabilities to improve the accuracy of name recording and retrieval in police databases.

- **How it addresses the problem:**
  - Handles inconsistent transliteration and spelling variations by implementing standardized transliteration rules.
  - Addresses phonetic similarities by integrating a phonetic matching engine.
  - Provides error correction mechanisms to identify and fix common data entry errors.

- **Innovation and uniqueness of the solution:**
  - Implementing search mechanism that considers phonetic similarities.
  - Provides a dual-script search capability, allowing seamless interaction between Devanagari and Roman scripts.

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TECHNICAL APPROACH

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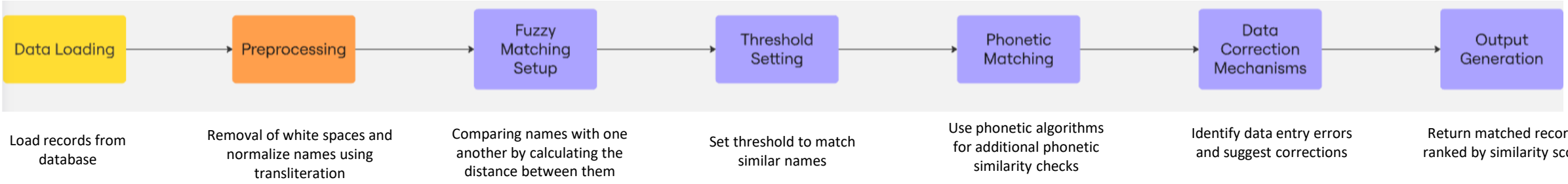
- **Technologies to be used**
  - Python
  - Google Translator
  - Sci-kit Learn Packages
  - Natural Language Processing
  - Statistics – (Levenshtein Distance Theorem)

- **Methodology and process for implementation (Flow Charts/Images/ working prototype)**



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FEASIBILITY AND VIABILITY

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- **Analysis of the feasibility of the idea:**
  - The proposed system which would improve the handling of Hindi names in police databases is technically feasible, leveraging existing algorithms for fuzzy matching, standardized transliteration, and phonetic search.
- **Potential challenges and risks:**
  - Inconsistent data entry practices
  - Resistance from personnel to adopt new systems
  - To convert names in Devnagri Script to English
  - Technical challenges in integrating fuzzy matching algorithms with existing databases
- **Strategies for overcoming these challenges:**
  - Conduct training workshops to educate staff on the new system.
  - Implement a pilot program to gather feedback and make iterative improvements.
  - Collaborate with database experts to ensure seamless integration of new technologies.

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IMPACT AND BENEFITS

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- **Potential impact on the target audience**
  - Our solution utilizes fuzzy matching algorithms and standardizing transliteration which would help the police to retrieve records more quickly, leading to better case outcomes and stronger community relations. This ultimately supports justice and accountability within the police department.
- **Benefits of the solution:**
  - **Social Impact:** Enhanced efficiency in law enforcement, leading to quicker investigations and improved public safety.
  - **Economic Impact:** Reduced operational costs due to automated error detection and improved data management processes.
  - **Legal Impact:** Improved accuracy of records minimizes legal risks and ensures justice is served effectively.
  - **Public Trust:** Transparency and efficiency in handling sensitive data build trust between the police and the community.

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RESEARCH AND REFERENCES

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Reference:

- https://drive.google.com/file/d/1e4fC5Bwp00_iCzjj-2sZN2FdoDGnf5fb/view?usp=drive_link
- https://drive.google.com/file/d/1Br1HW0yzQN0y0rNoiJaE-CDNxqoAfENH/view?usp=sharing