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*Collective Intelligence based Endangered Language Revitalisation Systems: Design, Implementation, and Evaluation*

Note: This article is really poorly written, but the content is good.

* **Abstract**
* **1 – Introduction**
  + 1 – Two steps:
    - First, document language evidence via words, phrases, songs, idioms, stories, and dialects.
    - Second, disseminate language materials to learners
  + 1 – Key to success is the participation of the native community
  + **1.1 – Collective Intelligence**
    - 2 – Three key principles of collective intelligence: cooperation, coordination, cognition
  + **1.2 – Endangered Languages**
  + **1.3 – Language Revitalisation**
    - 2 – Different types of revitalization models:
      * School-based (total and partial immersion)
      * Extracurricular programs for kids
      * Adult language courses
      * Documentation and materials development
      * Home-based programs
      * Language reclamation
    - 2 – Preservation is essential
      * Audio/video
      * Scanned images
      * Written notes
      * Archived and digitized
    - 2 – Language acquisition is part linguistics, part psychology
      * Immersion schools have historically been the most successful
      * Even at work, we need to incorporate the language in every activity
  + **1.4 – Leveraging Collective Intelligence for Language Revitalisation**
* **2 – Existing Systems for Language Revitalisation and Learning**
  + 3 – past attempts at revitalization have focused on language learning, not a holistic approach that involves not only preservation, but also curation (collection) and use.
    - This includes current apps: most allow for language learning, including data capture (like Duolingo), but does not serve the curating function
* **3 – Research Methodology**
  + 3 – Nunamaker and Hevner’s approaches and criteria for information design was used in this specific research project
    - The goal is a **crowd-sourced language revitalization system**
    - Nunamaker’s multimethodological approach, 4 phases: observation, theory building, systems development, experimentation (no particular order)
      * 4 – Observation of existing systems and literatures
      * Adapting and developing ideas and concepts, creation of conceptual models, processes and frameworks in theory building
      * System development - “…will enable us to design and implement a holistic crowd sourced knowledge management system to capture, curate, discover and learn Te Reo Maori which supports dialect variations and media such as words, phrases, imagery, poetry, proverbs and idioms that are common as well as specific to a particular tribe or family.” (bold, but I love it)
        + Outcomes: Save Lingo – crowd sourced language revitalisation; Learn lingo apps (flashcards)
      * System initially designed for Maori, then Vietnamese, then non-Roman languages like Arabic, Chinese, and Hindi
* **4 – Design and Implementation of a collective intelligence-based language revitalisation systems**
  + **4.1 – Concepts and Processes**
    - 5 – Figure 2 has key concepts and processes, five stages: capture, curate, discover, learn and share
      * Figure 3 – Framework of design
  + **4.2 – Framework**
  + **4.3 – Implementation of language revitalisation system – Save Lingo**
    - 5 – Ubiquitous Information Systems and Devices – System’s and Devices that are available without boundaries
      * Pros – flexible, low cost, mobility, user-friendliness, connectivity and multimedia capabilities
    - 5 – Save lingo app allows remote contribution
  + **4.4 – Implementation of language learning systems – Learn Lingo**
    - 6 – learning app that is user-friendly, dynamic and gamified
      * Each stage unique for each learner
      * Flashcard and hangman available
      * Takes information from Save Lingo
    - **Flash cards app to support: Observe, Identify, Listening and Speaking**
      * 7 – flashcard sets can be tailored by users
    - **Hangman app to support: Identify, Writing and Reading**
* **5 – Evaluation**
  + **5.1 – Definition and Models**
    - 8 – Learning to use a language is more important than just learning a language
  + **5.2 – Processes**
  + **5.3 – Features**
    - 9 – Save Lingo features: capturing, curating, discovering/searching, sharing via social media, gamification, bookmarking records
  + **5.4 – Framework and Architectures**
  + **5.5 – Prototypes**
    - 9 – system is not limited to any specific language; as long as a language can be written, it can be adapted in the system.
* **6 – Conclusion**
  + 10 – “the crowd-sourced approach harnesses collective intelligence to create a repository for the distribution and revitalization of indigenous languages, knowledge, values and culture”