

Interactive Database Knowledge Visualization Platform (IDKVP) - A Digital Twin Application

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A significant amount of industry's NDE workforce is aging and facing retirement in the short term. In addition, mobility within the workforce has resulted in personnel spending less time in specific technical program roles before moving on to their next assignment. Experience, knowledge transfer, and knowledge retention are paramount to sustaining safe, efficient, and viable industries, as new resources back-fill technical or programmatic position voids within an organization. Many of the tools and resources available to execute this transfer and retention of knowledge are found in antiquated formats that oftentimes require searching several separate knowledge repositories to compile all the relevant information sought after. A majority of the existing tools, currently in use, no longer lend themselves to the concept of an agile workforce and generally have been left behind for the ways in which current society goes about gaining knowledge. Furthermore, the formats do not facilitate ease of maintenance or updating for an expanding knowledge and experience base. New tools and modernized knowledge transfer and retention methods need to be developed to facilitate counteracting industry's loss of knowledge base and experience through personnel attrition. Industries will benefit from resources/tools that provide a means to "visualize" knowledge for the less experienced personnel, which saves time and effort for both the experienced person having to convey knowledge and those trying to digest it. This interactive database knowledge visualization platform (IDKVP) is meant to accelerate the learning curve for early career or "new to the job" personnel and facilitate the knowledge transfer and retention of experienced industry personnel.