5 Concepts that Will Inspire NSF Program to Reshape Federal Workforce Training

NSF uses crowdsourcing to find solutions to workforce challenges in the digital era.

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Hoping to instill a culture of continuous learning in the workforce, the National Science Foundation launched the Career Compass Challenge and recently selected the winning concepts to inspire a prototype.

The competition began last November, and as of Monday it is accepting submissions for Part 2, the prototype, through July 12.
NSF is looking for solutions to ensure the federal workforce remains skilled in an environment of ever-changing technology. The white papers chosen in Part 1 of the competition that embody this mission include those with the following concepts.

**A GPS for Learning and Work**

This paper outlined by Peter Smith, Orkand Chair, professor of innovative practices in higher education at the University of Maryland University College, explores a GPS solution that builds on an “instinctive human capacity and instinct to learn and the assumption that there is talent walking around our country (and our government) every day that is unrecognized and, as a result, wasted.”

“The GPS for Learning and Work will bring the same kind of flexibility, consistency and focus to learning and career development that the other GPS brings to travel,” the paper explained. “It will be ‘case-based’, a dynamic process that includes diagnostics, content delivery, validation and recording of learning, and direct links that connect learning with college recognition and job requirements...It is cyclical and individually driven, based on need, opportunity and demand.”

**E-TAG: Employee Training and Growth through Electronic Games**

Conceived by April Edwards, vice president for academic affairs at Elmhurst College, and Lynne Edwards, professor of media and communication studies at Ursinus College, the idea of using a gaming platform “based on current concepts in adult learning theory, such as cognitive learning theory [and] social reinforcement of learning” to help advance the careers of professionals serves as the basis of E-Tag.

“Games allow learners to improve their ability in problem solving, teamwork, communication, creativity and innovation, while also learning specific content and technical skills,” the white paper described. It also notes the impact of identifying the best learning style for every individual. “By meeting employees ‘where they are’ we can provide training and support that will benefit both the individual employee and the organization, thus fostering a culture of continuous learning across the agency.”
**My Career Compass**

This concept created by The C² Team: C² Technologies, Inc. & George Mason University (GMU), is a Personal Learning Environment (PLE) designed to present users with a variety of career path options based on their interests and skills. It “allows users to select and customize their optimal paths ... at every stage of their career,” as it maintains record of “a person’s competencies, achievements and accomplishments.”

Acknowledging the importance of an evolving system, “My Career Compass dynamically updates its recommendations and alerts users to relevant changes in their professions. ... Drawing on large amounts of current data, it can predict trends and help users prepare for the future,” wrote The C² Team.

**ACCESS: An Integrated Service Platform for Preparing Future Workforce**

The Advanced Career Compass for Enhancing Skills to Successes, conceptualized by Associate Professor at New York University Zhe Sage Chen, “aims at providing a personalized career compass that provides data-driven job market recommendations and continuous learning strategies.” If constructed, ACCESS would be a platform accessible via websites and mobile applications.

Key features of the technology would be “personalized resume building, customized job searching and alerts, a data-driven recommendation system empowered by machine learning, career planning, and continuous learning.” Chen explained the functionality of a traditional HR department as we know it could dramatically change with ACCESS. Within the platform, employers could “efficiently manage human resources (HR) within multiple government agencies or business branches and design effective job training programs for employees.”

**The Career CHARTING App**
Beverly Woolf and Andrew Lan of the University of Massachusetts Amherst envision the Career Help via Analysis, Recommendation and TrainING App in their concept proposal. Assisting workers “to identify and self-select new jobs ... and provide guidance on how they can prepare for new jobs that require new skills” is the application’s main objective.

Initially, the app would not be available to the federal government at large but rather exclusively to NSF personnel first with NIH following. “These workers will chart the path of their own career and dedicate time each day to build skills needed for their future career.” Woolf and Lan are hopeful, however, the app could actually expand to the general public and be made “available to anyone, at any time ... from any device, in any location and from any economic or educational background.”

Working prototypes, of one of the five concepts, will undergo government testing and evaluation. The winning individual or team for Part 2 will be selected at the end of August and receive $75,000.

Submissions will be judged based on creativity, clarity of concepts and ideas, communication of concept in an accessible and exciting way, and performance and usability.