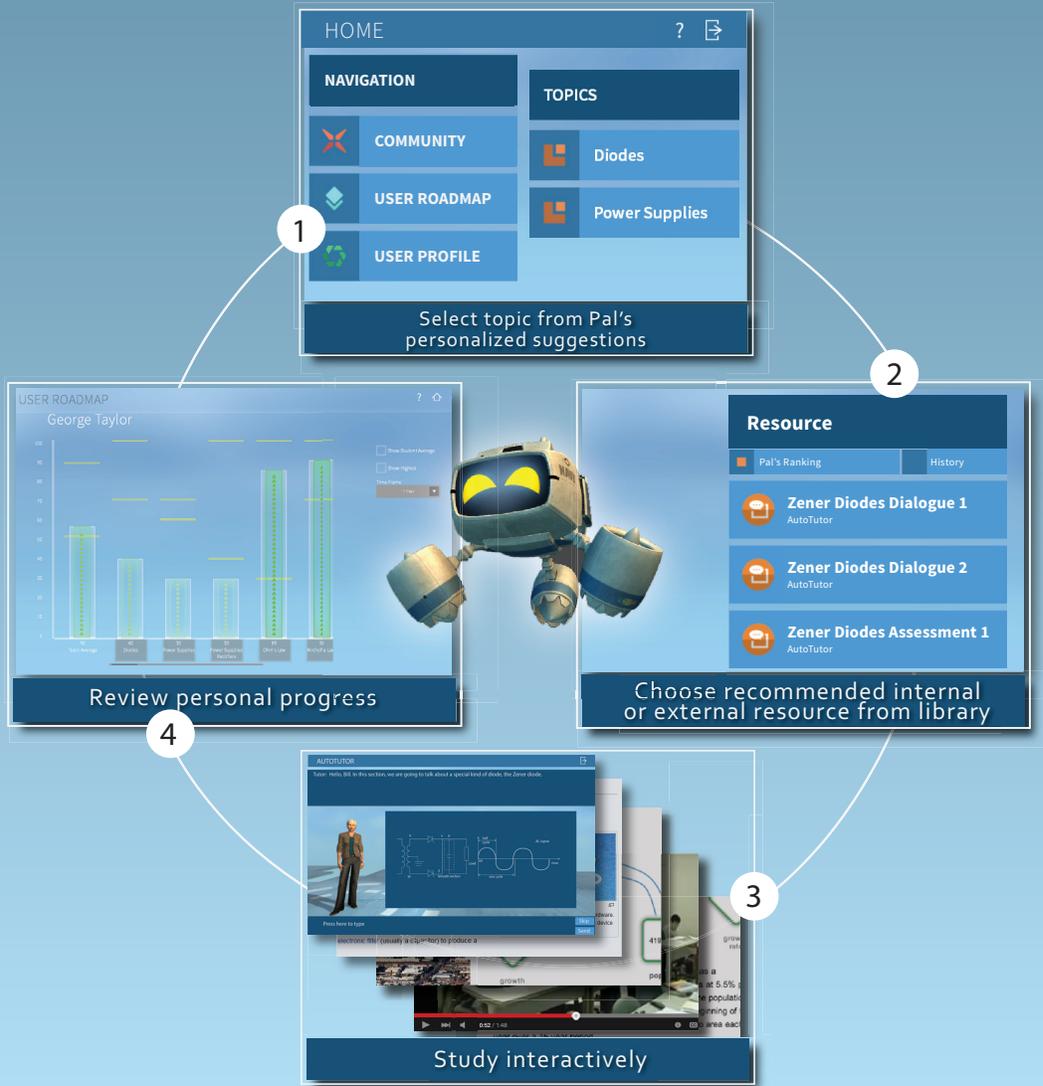


## A Novel Solution for Knowledge Decay



## PERSONAL ASSISTANT FOR LIFE LONG LEARNING (PAL3)

Helping Sailors maintain their knowledge and skill proficiency and eliminate skill decay.

*PAL3 is an electronic personal assistant that will promote life long learning. Navy Sailors are experiencing long time delays between training and deployment which can lead to skill decay and sailors arriving onboard unprepared. This program is a first step to provide sailors with an automated training tool to maintain their knowledge and skills after initial school house training is complete.*

*The objective of this program is to demonstrate that a computer system can be used as a personal mentor. Extensive use of such a system will provide an individualized proficiency and readiness tracking capability. Small micro assessments (e.g., five minutes every day) would not only be a more accurate gauge of a sailor's readiness but remediation will maintain a sailor's proficiency at the highest levels and provide guidance on when refresher training is actually required based on objective evidence of skill decay.*

Current transition path is with the Naval Education and Training Command (NETC) and their Apprentice Technical Training (ATT) School, specifically targeting sailors who have the large delays between A School and C School (~6 months) and showing skill decay between that time.

The classroom of the future will be loaded with technology, however the most dramatic change is that education and training will be the role of the teacher/instructor evolving from “sage on the stage” to

**Just imagine your PAL not only tracks your learning progress but effectively adapts instruction to match your particular learning preference.**

that of a coach, augmented with intelligent tutoring aides. Education and training will become personalized where students will have their own personal learning assistant (PAL) that incorporates intelligent tutoring technologies with the capability to record courses taken, grades earned, and recommend future courses required to reach personalized goals. Just imagine your PAL not only tracks

your learning progress but effectively adapts instruction to match your particular learning preference. This PAL can handle information delivery, correct common misconceptions, and give time back to instructors to provide targeted help with their limited time.

## RESEARCH CHALLENGES AND OPPORTUNITIES

- Develop cognitive models of what sailor should know
- Advanced Q&A and guidance on best course of action or resources to consult
- Proficiency assessment, tracking, and remediation
- Career guidance dialogs and support for setting and achieving career goals
- Assess emotional state and engagement
- Rapidly register and integrate new types of learning resources

## HOW DOES IT WORK?

PAL3 will query new sailors, fresh from A School, on how to perform their duties. It will provide through a mobile device:

- Reach back to A School material, limited tutoring, advanced Q&A, and guidance on best course of action or resources to consult
- Continual proficiency assessment, tracking, and remediation (e.g., question of the day)
- Step-by-step instructions and guidance on obtaining required and relevant qualifications
- Pertinent data and information on the shipboard duties
- Assess emotional state and engagement through eye-tracking and facial expression
- Track progress using a life-long learning record of learning experiences and performance data

## WHAT WILL IT ACCOMPLISH?

PAL3 will address current training needs through repeated micro assessments that provide a more accurate gauge of a sailor's readiness and allow automated, targeted remediation that will improve material retention and reduce knowledge and skill decay.