Same computer password for the last 10 years? You might need a vibrating cybernudge

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This simple device will nudge people to make a behavioral change to protect their data and privacy. Credit: University of Bath

Technology used in exercise and lifestyle apps may hold the key to

answering that most difficult of challenges—getting people to change their passwords and better protect their online privacy and data.

Over the last five years the cost of cyberattacks is reported to have risen by 67%, with the majority of these data breaches being traced back to human error. It is anticipated that 75% of UK companies plan to address human factors in cyberattacks in the next three years in an attempt to mitigate this.

Taking inspiration from exercise and fitness apps that successfully nudge people to make behavioural change, researchers from the University of Bath and Goldsmiths, University of London are investigating whether a simple device that plugs in to a PC and signals when action is needed with gentle sound, lights or vibration could make the difference.

People routinely put off, ignore or forget cyber security measures such as changing passwords, updating privacy settings and locking computer screens. And traditional cyber security training is failing to galvanise people to act on straightforward security measures.

Dr. Emily Collins, Research Associate at the University of Bath's School of Management, said: "Humans are the weak link in cyber security. We know that people feel overloaded with data breaches reported in the news and overwhelmed about what they should be doing to protect themselves. Many of us know we're not on top of security, but translating that nagging worry into positive action just isn't happening. It's leaving us all open to serious security threats."

The researchers hope the project, with funding from the Home Office via the National Cyber Security Programme, will help to build better habits through a subtle desktop reminder designed to gently nudge people into action without it becoming an annoyance or distraction.

"Work-based training on cyber security is generally very conventional, often just delivered as a one-off when people join an organisation. There's scope to learn from health psychology to pinpoint what motivates people to take action to protect their cyber security. Our project recognises that people can respond to a gentle, well-timed nudge and is investigating the most effective way of doing that," Dr. Collins said.

The project, entitled Encouraging cyber security behaviour through gentle interventions: Can ambient displays support users in making more secure decisions? will use Adafruit Circuit Playgrounds, which can be programmed to detect when people leave their desks for example and remind them to lock their screen through a sequence of lights, sounds or vibrations.

The research team will create a working prototype with open-source code to be available to businesses later in the year. It could be tailored for home use in the future.

Dr. Sarah Wiseman, lecturer in computer science at Goldsmiths, University of London, said: "The Adafruit Circuit Playgrounds are a fantastic opportunity to do some rapid prototyping with participants. The inbuilt functionality on the boards means that you don't need much experience with electronics to take a conacept from idea to reality."

The research team, including Dr. Joanne Hinds, Research Associate at Bath, is inviting people to take part in a creative element of the study by drawing their cyber security concerns and solutions. The findings will help the team to develop more innovative, creative ways to tackle cyber security problems. For more information, or to take part, visit https://survey.zohopublic.eu/zs/L8B8SN.