（一） 計畫中文摘要

面對老人化趨勢是這十年國際間的重要議題，也是台灣學界與產業界合力想解決的問題，多數的討論專注於生理能力的退化，本研究專注於認知能力與社會連結，希望透過社會連結的建立與認知能力的加強，整體的改善高齡者的生理、心理、社交問題，思考全人健康的解決方案。

本研究以用戶體驗創新為主軸，設計思考為思考架構，以高齡者的認知能力與設計連結需求為創新驅動核心，結合設計創新、資訊工程、老人醫學、商管調研四大領域，利用三年時間從需求研究、設計創新、到臨床驗證與商業建立，試圖運用前瞻穿戴式科技，建立符合高齡者使用的遊戲化穿戴式裝置，達成創造價值的科技研發。

三年計畫，第一年進行需求趨勢研究、用戶體驗調查、臨床需求探索，以及前瞻穿戴式科技的探索與研發;第二年基於第一年的相關研究成果與概念，進行設計與資工的跨領域原形製作，配合小量的深度訪談與臨床試用，進行產品迭代與修正，第三年進行商品優化與商業模式研究，設計與資工將最佳化使用介面與系統運作，最終產品將進行臨床測試與商業運行，以產生真正的影響力為目標。

根據以上所述，本計劃分為四項子計畫：(1) 遊戲化用戶體驗研究、設計、迭代修改。(2) 前瞻實體互動與穿戴式科技的研發與測試。(3) 高齡者的社會連結困擾與科技產品需求趨勢研究。(4) 高齡者認知能力之臨床需求探索與驗證。

本計劃提出的研究架構與合作方式，將延續我們過去執行前瞻科技輔助用戶體驗創新的成功經驗，期望本計劃成果可以真正利用前瞻技術服務高齡者，再次展現跨領域合作創新的價值，協助台灣面對人口高齡化的議題。

（二） 計畫英文摘要

Resolving the problems of aging societies is one of the most important international issues for the past decade. Both academics and industries are trying to solve these problems. Most discussions focus on physical degenerations, but this research focuses on the problems regarding cognitive abilities and social connections. We believe their enhancements could resolve physical, cognitive, and social problems of elderly people in terms of holistic health.

This research utilizes user experience innovation methods and design thinking mindset. The innovation is driven by needs for cognitive abilities and social connections of elderly people. Our team consists of experts from design innovation, information technology, gerontology, and business. We intend to conduct user research, innovative design, clinical evaluation, and business model exploration during this three-years project. Our goal is to establish gamification devices for the elderly using advanced wearable technologies to achieve value creation through technological research.

In the first year, we will conduct user need trend research, user experience research, clinical need research, and the exploration and research of advanced wearable technologies. In the second year, based on the results of our research in the first year, design and IT members will produce prototypes with various fidelities. They will be tested using interviews and trial use in clinical environments and modify for iterative design. In the final year, design and IT members will finalize and optimize the products. They will be clinically tested and their business models will be examined to have real social impacts.

As abovementioned, this project has four sub-projects: (1) gamification user experience research, design, and iterative modifications; (2) research and tests of advanced wearable technologies; (3) user needs trend research for social connection and technical products; (4) clinical user need exploration and verification for the cognitive abilities of the elderly.

The proposed research structure and collaboration methods utilizes our successful experience in user experience innovation using advanced technologies. We expect the research result could really benefit the elderly using advanced technologies to demonstrate the value of multidisciplinary collaborative on innovation. Hopefully, our project could help Taiwan to face the issues of aging population.