十一、研究計畫中英文摘要：請就本計畫要點作一概述，並依本計畫性質自訂關鍵詞。

The objective of this research project is to construct adaptive U-Learning navigation services in the National Museum of Natural Sciences which is located in Taichung City. The preliminary analysis on the design of U-Learning environment in the museum has been done to obtain the types of learning services the U-Museum could provide and the characteristics of the U-Museum learning navigation services. In order to deliver adaptive learning navigation services, a Learner Information Management Framework (LIMF) is constructed to manage and manipulate the information between the learner and museum learning resources. In this research project, the e-learning profile and e-portfolio are created for each student participating in the research experiments. In addition, the learning portfolios of those students are collected to do the learning behavior and learning characteristic mining, and therefore the analyzed results could be employed to adjust the U-Museum learning navigation model. Hence, the personalized and adaptive teaching and learning materials could be provided to the students depend on their learning status and learning styles. Moreover, the outcome of this project could also used to bridge the rural-urban learning divide for the students in rural areas. The research results of this project are not only applicable to the study case, but also for the other museums in Taiwan.