# 國立成功大學

# 113學年度碩士班招生考試試題

編　號：210

系　所：創意產業設計研究所

科　目：數位媒體與互動設計

日　期：0202

節　次：第 3 節

備　註：不可使用計算機

※ 考生請注意：本試題不可使用計算機。　請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

## I.　Digital Media: visualizing neighborhood data (30%)

Neighborhood is a geographically localized community within a larger city, town, suburb or rural area. Spatially, it is a specific geographic area; functionally, it is a set of social networks. The data of a neighborhood includes that of physical environments (natural and man-made), and people (residents and households).

1.　Describe your neighborhood, and create a dataset about your neighborhood. (10%)

2.　Create a visualization that presents insights from the dataset. (10%)

3.　Explain and assess, using text and visuals, the relationship between the dataset and the visualization. (10%)

## II.　Digital Design: a drawing tool for the visually impaired (55%)

Design a tool that assist the visually impaired to sketch out their ideas through visual media.

1.　Problem definition: Define your design problem through examining the process of drawing and sketching; discussing how the visually impaired may draw and sketch; and identifying the needs and challenges in the design. (15%)

2.　Design approaches: Describe how you may address the design problem in terms of the design issues, the concepts and strategies, and the interaction designs. (15%)

3.　Prototyping: Draw at least **three** prototypes, with significant varieties, and explain them using text. (15%)

4.　Evaluation: Select a final design from the prototypes, explain the reason(s) for the selection, and evaluate the design by referring to your problem definition in **II.1** above. (10%)

## III. Terms about Programming (15%)

Please select a word/phrase from the pool below to fill in the blank and complete the sentence about programming.

| application | assignment | bit | data structure |
|---|---|---|---|
| coding | conditionals | bool | graph |
| computer program | function | class | machine learning |
| debugging | recursion | float | object-oriented programming |
| pseudocode | statement | list | symbol |
| server | syntax | string | token |

1. _____ is an essential part of programming, regarding finding and fixing errors in the code.

2. _____ algirithms, like Dijkstra's shortest path and breadth-first search, are crucial for solving problems related to network structures.

3. Decision trees and neural networks are _____ algorithms underlie the intelligence in various software applications.

4. The divide and conquer strategy often involves _____, dividing a problem into smaller and identical subproblems for easier resolution.

5. Array or list is a _____ used to store collections of elements in a sequential order.