【封面：請自行修改畢業系所名稱、標題、研究生及指導老師姓名】

樹德科技大學。。。。。。系(研究所)

碩(博)士論文

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指導教授：。。。

中華民國 。。。 年 。。。月

【書名頁：請自行修改畢業系所名稱、標題、研究生及指導老師姓名】

觸覺符號輔助視障者辨認產品操作功能的研究

-以收錄音機的操作功能為例

A Study on Tactile Symbols as an Aid to Product Operation for the Visually

Impaired – with Radio Cassette Recorders as a Case Study

研究生：○○○○○○○○○

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樹德科技大學

○○○○系(研究所)

碩(博)士論文

A Thesis

Submitted to

Department of Industrial Design

Shu-Te University

In Partial Fulfillment of the Requirements

For the Degree of

Master of Design

June 2013

中華民國○○○年六月

【指導教授推薦書：此頁面非必要，請自行衡量是否需要使用此頁面。】

樹德科技大學碩(博)士班研究生

指導教授推薦書

本校○○○○○○系(研究所) ○○○ 君所提之論文（技術報告）○○○○○(中文題目)○○○○○○

係由本人指導撰述，同意提付審查。

指導教授：○○○○○○○

○○○年○○○月○○○日

【學位考試審定書：請召集人、指導教授、系所主管及所有口試委員簽名後置於此頁面。】

樹德科技大學碩(博)士班研究生

學位考試審定書

○○學年度第○學期

○○○○○○系(研究所) ○○○ 君所提之論文

題目：(中文) ○○○○○○

(英文) ○○○○○○

經本學位考試委員會審議，認為符合碩(博)士資格標準。

召 集 人 ＿＿＿＿＿＿＿＿ 　委　　員 ＿＿＿＿＿＿＿＿

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委　　員 ＿＿＿＿＿＿＿＿ 　委　　員 ＿＿＿＿＿＿＿＿

指導教授 ＿＿＿＿＿＿＿＿ 　系所主管 ＿＿＿＿＿＿＿＿＿

中華民國　　　　　年　　　　　月　　　　　日

【中文摘要：以不超過一頁為原則。】

樹德科技大學。。。。。。系(研究所)

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|  學生：。。。 | 指導教授：。。。 |
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摘要

在本篇論文中探討了發展網路虛擬環境(Networked Virtual Environment)中具有實用性及潛在性的研究方法，我們針對協同分散式的特殊環境去設計一套多人互動的機制和虛擬場景的建構，使得在此環境中的使用者能夠被有效率地進行協同管理以及多人互動，並且發揮分散式計算的功能而達到加速網路分散式計算的目的………

關鍵字： 網路虛擬環境、分散式計算、協同管理………

【英文摘要：以不超過一頁為原則。】

Department of ------- , Shu-Te University

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|  | Dr.。。。 |
|  | Dr.。。。 |

ABSTRACT

This dissertation explores potential methods and practical methodologies for constructing a networked virtual environment (NVE). We first describe the design of distributed and collaborative technologies in which it allows multiple users to interact with each other in a collaborative manner, and then exploit distributed processing technique to speed up the network computing toward the 3D graphics rendering. …

…

...

Keyword：Networked Virtual Environment,Distributed Computing,Collaborative Control

【誌謝辭：請自行撰寫內容感謝在求學期間曾經協助自己完成此一研究的人。】

誌謝

○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○

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【圖目錄：可按「F1」參考Word說明自動產生此目錄或依規範自行繕打此目錄。】

# 圖目錄

圖1. ＊＊＊＊ 5

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圖7. ＊＊＊＊ 33

圖8. ＊＊＊＊ 36

圖9. ＊＊＊＊ 38

圖10. ＊＊＊＊ 39

【符號說明：此頁面為非必要，請自行衡量是否需要使用此頁面。】

# 符號說明

chemical free energy difference

critical stress to induce SIM

surface tension force

radius of curvature

chemical potential gradient

atomic volume

theoretical density

stress induced martensite

plastic strain energy coefficient

elastic strain energy coefficient

interfacial energy per unit area

# 一、緒論

## 1.1 前言

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## 1.2 研究動機

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### 1.2.1 改善系統穩定性

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### 1.2.2 改善系統延展性

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## 1.3 文章架構

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# 二、 文獻探討

## 2.1 AAA演算法

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## 2.1 .1 BBB演算法

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 1.定義

 (1)學派A

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 (2)學派B

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 2.現行狀況

 (1)國內

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 (2)國外

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# 三、 理論基礎及推演

## 3.1 推論一

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### 3.1.1協理一

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### 3.1.2協理二

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## 3.2推論二

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## 3.3定理一

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## 3.4定理二

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# 四、 模擬實驗

## 4.1實驗方法

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### 4.1.1 模擬環境

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### 4.1.2 參數設定

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## 4.2實驗結果及分析

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# 五、 結論

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【參考文獻：請就下列格式擇一使用，或依指導老師指定之格式修改內容。】

# 參考文獻

**【以下為IEEE格式之樣例，建議理工學院的文獻使用】**

[1] Zygmunt J. Haas, Joseph Y. Halpern, and Li Li, "Gossip-Based Ad Hoc Routing," *IEEE/ACM Transactions on Networking,* vol. 14, pp. 479 - 491, 2006.

[2] Nitin H. Vaidya Young-Bae Ko, "Location-aided routing (LAR) in mobile ad hoc networks," in *4th annual ACM/IEEE international conference on Mobile computing and networking MobiCom '98* October, 1998, pp. 307 - 321.

[3] Brad Karp and H. T. Kung, "Greedy perimeter stateless routing (GPSR) for wireless networks," in *6th annual international conference on Mobile computing and networking MobiCom '00*, 2000, pp. 243 - 254.

[4] Imrich Chlamtac Stefano Basagni, Violet R. Syrotiuk, Barry A. Woodward, "A distance routing effect algorithm for mobility (DREAM)," in *4th annual ACM/IEEE international conference on Mobile computing and networking*, Dallas, Texas, United States, 1998, pp. 76 - 84.

[5] David B. Johnson and David A. Maltz, "Dynamic Source Routing in Ad Hoc Wireless Networks," in *Mobile Computing*, ed: Kluwer Academic, 1996, pp. 153-181.

**【以下為APA 5th格式之樣例，建議管理學院的文獻使用】**

Charles E. Perkins, Elizabeth M. Royer. (1999). *Ad-hoc On-Demand Distance Vector Routing.* Paper presented at the Second IEEE Workshop on Mobile Computer Systems and Applications.

Haas, Zygmunt J., Halpern, Joseph Y., Li, Li. (2006). Gossip-Based Ad Hoc Routing. *IEEE/ACM Transactions on Networking, 14*(3), 479 - 491.

Johnson, David B., Maltz, David A. (1996). Dynamic Source Routing in Ad Hoc Wireless Networks *Mobile Computing* (pp. 153-181): Kluwer Academic.

Karp, Brad, Kung, H. T. (2000). *Greedy perimeter stateless routing (GPSR) for wireless networks.* Paper presented at the 6th annual international conference on Mobile computing and networking MobiCom '00.

Kennedy, J., Eberhart, R. (1995). *Particle swarm optimization.* Paper presented at the Proceedings of IEEE International Conference on Neural Networks Perth, WA, Australia.