

國立清華大學 101 學年度碩士班考試入學試題

系所班組別：服務科學研究所碩士班 乙組（服務系統組）

考試科目（代碼）：管理資訊系統(4702)

共_6_頁, 第_1_頁 *請在【答案卷、卡】作答

1. Cloud computing is a new and promising paradigm that delivers IT services via the Internet as computing utilities. Cloud users can avoid huge capital investments in hardware, software and other IT assets; instead, they rent computing power whenever they need it in a pay-per-use manner. There are different kinds of cloud services. Please explain the following terms and carefully elaborate their difference.
 - (a). In your opinion, what is the difference among Public Cloud, Private Cloud, and Hybrid Cloud (10 points)
 - (b). What's the key difference between private cloud and traditional IT systems? Use an example if necessary (10 points)
 - (c). What's the difference between grid computing and cloud computing? (10 points)
 - (d). Suppose you are an IT manger of Foxconn Group (鴻海集團).
When you decide whether your company should outsource your IT systems to a cloud vendor or stay with traditional IT systems, what factors will you consider? Please use tables, figures, bullet points, or frameworks to explain your opinion logically (10 points).

2. Service Quality is a very important element if we want to deliver IT as a service. According to Lewis and Booms (1983), service quality is a measure of how well a delivered service matches the customers' expectations. Both SLA (Service Level Agreement) and QoS (Quality of Service) are well known terms related to service quality. What's the difference between SLA and QoS? (10 points)

3. Apps have been widely used on smart phones such as iPhone, and Android-based mobile phones. For ICT-enabled service innovation, apps serve as a fast prototyping model to allow the ideas to be tested by the market in a limited marketing cost. In terms of service value network concept, apps development and deployment rely on the emergent apps service value networks. Please use iPhone or Android-based apps as an example to describe the service value network of an app with corresponding value proposition of each role playing in the value net. (10%)

4. Living in Taiwan, we all experienced the catastrophic lost of human lives and properties due to earthquakes or typhoons. For example, the earthquake occurred on September 21, 1999 and Typhoon Morokot on August 8, 2009 are the most catastrophic events we can easily recall. They not only caused severe casualty and damage, but also created turmoil socially and politically. Thus, it is very important for us in Taiwan to strengthen the abilities in preventing and reacting to such catastrophic consequence caused by natural disasters. In natural disaster response, information is crucial for quick response in terms of life rescue, resource relocation, and social stability. Please use Typhoon Morokot as the lesson learned to propose an Emergency Response Information System (ERIS) framework to support the field rescue and resource allocation tasks. Please consider the integration of information flow (for command, coordination, social awareness) and resource (including people, equipment, foods, etc.) flow among different organizational entities including governmental, non-governmental, military entities, etc. You may recall the major events occurred after Typhoon Morokot using the attached event list. (10%)

YAHOO! 話題 奇摩

作者：Yahoo!奇摩編輯部 | 更新日期：2009/08/19

8. 莫拉克風災大事紀

日期 事件

- 8月21日 悼念亡魂，政府宣布一連三天降半旗。
- 8月20日 行政院通過災後重建條例，三年內一千億重建完成，認定原則上從寬、從簡、從速。
馬下六龜新開，要求國軍把重機具開入救災，七天之內開挖完成。
水災受難，國寶鮎魚可能再度瀕絕。
大陸衛視連線，88水災賑災募款籌到3.1億人民幣。
- 8月19日 國防部長陳肇敏、政秘薛香川請辭，水署長陳仲賢口頭請辭。
馬赴小林村祭拜，材民怒斥族都滅了，這時候才來，馬兩度鞠躬10秒道歉。
災基金會將把27億賑災的淹水慰助金在3個月內發放完畢。
- 8月18日 記者會連兩場，馬總統親上火線，向全民交代。
馬總統承諾88水災究責，最遲不會超過九月初。
媒體民調指出馬聲望劇跌。
美軍直升機吊掛怪手三台進那瑪夏。
- 8月17日 大陸捐助1000座組合屋來台。
劉德華發起香港演藝界救災募款晚會，募得台幣3.1億，其中邵逸夫個人捐一億。
拒絕外援事件，外交部政次夏立言下台。
政府宣布救災急，今年國慶停辦。
美超級直升機吊掛挖土機，前進災區。
CNN民調82%嗆馬下台。
農委會產業重建計畫啟動，組成農技務團，到第一線輔導農民。
南橫公路不再搶通，阿里山公路未來也將改道。
政院宣布與五大公益團體合作蓋永久屋，災民可以免租金。
- 8月16日 美軍運輸機低調降台南，為台美斷交30年來，美軍首度登上台灣。
政府以工代賑半個月，災民批太短。
南韓搜救人員到六龜新開部落聞味找大體。
歐盟派六人小組來台勘災。
愛心物資堆滿國小禮堂，愛心變包袱。
熱血沸騰，血庫血量過剩難存放。
馬英九勘災中回應指摘，表示負全責。
- 8月15日 李連杰災區送暖，幫忙搬物資。
頭七致祭，小林村遺屬哀痛自殘。
荖濃村斷糧，一天一包泡麵，受困民眾械鬥搶食。
阿里山逾百嬰幼兒缺奶粉。
馬英九出席青少棒世錦賽遭嗆下台。
政府加派一萬兵力救災。
萬名志工湧入南台灣，志工呼籲沒登記別開車進災區。
菜價飆高，蔥漲六倍，一公斤180元。
農損逾128億，148道條路斷，40風景區受損。斷橋70座史上最慘。
- 8月14日 馬總統宣布國安機制啟動，軍方全力救災。

日期	事件
	<p>台灣演藝圈募款逾 6 億，周美青也投入接募款電話。 國際 59 國對台展開救援捐助。 災變中心毛治國上陣領軍，范良鏘下台。 外交部謝絕外援電報，媒體痛批，外交部與消防署互推。</p>
8 月 13 日	<p>吊掛流籠，新開百人逃出死村。 佳暮 4 勇士勇救 135 村民下山。 官方證實，小林村活埋 169 戶 398 人。小林村民希望別挖，讓親人安息。 海協救災捐出 5.32 億台幣，長榮集團捐 5.2 億，其中張榮發個人捐 1 億。 台南安定逾千鄉民抗議死禽畜進掩埋場，人肉擋車砸車、封鎖國道，警民衝突。 外媒質疑防災太慢，馬總統指災民撤離太慢。 陸軍團 3000 人動員，重裝部隊開入救災。 外交部曾發文要外館謝絕外援，劉揆揚言要重懲。</p>
8 月 12 日	<p>美方願支援，政府表示再評估，並認為沒必要發布緊急命令。 小林村泥濘堆積五樓高，全村 400 戶只剩 1 戶。 甲仙關山村堰塞湖如地雷，民眾急逃。 阿里山鄉四村一次空投都沒有，淪為風災孤城。 軍方被批效率差、動員慢（小兵苦等四天沒上陣）。</p>
8 月 11 日	<p>霧台救災直升機撞崖墜毀，三機員殉職。 特戰部隊找到小林三村倖存者。 彈弓傳書，六龜鄉新開部落 32 死。 政院成立救災服務小組，將前往災區遞送物資。</p>
8 月 10 日	<p>軍方特種部隊挺進險地，救出 39 人。 數百人遭活埋，小林村恐滅村。 劉揆：風災變巨災，關鍵在未及時撤離民眾。 國泰金、明碁友達救災捐款各捐一億；其中徐旭東個人捐出 6 千萬。 央行規畫提撥 30 億元協助救災工作。</p>
8 月 09 日	<p>氣象局預估屏東地區雨量 2500 毫米，相當全年降雨全擠在三天內爆發。 高縣甲仙鄉傳百人失聯，恐遭活埋。 知本溪潰堤，沖倒金帥飯店。 雙園大橋橋斷，轎車衝入高屏溪。 口湖鄉青蚶村長關閘門救全村，落水殉職。 馬英九訓斥氣象局預報不準。</p>
8 月 08 日	<p>屏東台東山區狂雨，氣象預報上修 2000 毫米。 台東 20 餘戶民宅被沖入太平洋。 兩警員執行勸離太麻里溪附近居民，遭山洪沖走。 全台累計逾 114 萬戶停電。</p>
8 月 07 日	<p>全台除連江縣和金門縣外，所有縣市停班停課，股匯市休市。 中颱莫拉克直撲台灣，颱風中心晚上 11:50 登陸花蓮。 莫拉克雨量驚人，氣象預報嘉義山區上修 1200 毫米。 豪雨不斷，嘉義到屏東雨量預測又上修 1400 毫米。 危險區域鄉鎮入夜前疏散民眾。</p>

9. We all face aging society in Taiwan. Healthy aging is the goal for social sustainability. Healthcare service may reallocate resources from disease treatment to health enhancement in coming future. Please put yourself as an entrepreneur running the business on service innovation. You get an opportunity to design and implement a new service to enhance the general health condition of a rural township. Please write a proposal to bid the service design project which is sponsored by the county government. The project could be founded up to NT\$1,000,000. The proposal should include the objectives, the deliverables corresponding to the key performance indices, the tasks and schedules to complete the project. In order to ease your efforts on imaging a township randomly, the followings are a brief introduction to the example Hou township. (15%)

Hou is an agricultural township located in the middle of Taiwan, where a creek flows through the township supplying the clean water for growing rice and vegetables. Half of the farms are not in production since farmers are getting old and the economic returns are not good enough from harvesting. Since it is located in an agricultural county, the relative qualities of air and water are good. The total population of *Hou* township is around 20 thousands, including 60% of farmers aged above 60, and 20% of residences aged between 20~60, and 20% below 20. Many households rely on non-agricultural incomes earned by going to factories nearby. There is a primary and junior high schools in this township, which take students from villages. 20% of students were born by foreign brides mainly coming from Vietnam and Indonesia.

For the elderly, 30% of them are taking medicine regularly for their chronic diseases, such as diabetes and heart problems. In the township, there is one clinic called *Jian* with one doctor for primary care (家庭科醫師). If the residences need to go to hospital, it takes 30 minutes to a hospital called *Kang* in the neighboring town. There is one community center set up in each village by the government. The community center does not hold events for residences very often. Thus, residences in villages do not come to their community centers often. Half of villages in this township have their community development association (社區發展協會) set up, but most of them do not actively perform activities in the communities. 30% of the households have subscribed internet service via ADSL, and most of the families have cable TVs. People spend their leisure time at home to watch TV in general.

10. It becomes the trend that government-owned data is regulated to open to the public in US and UK. Please refer to the attached news report recently. Imagining that someday in Taiwan we can access the budget spent by a government on a variety of categories, the trading price of each property in a region, the students' scores in different subjects, the health records of patients, etc., what would be the pros and cons of such open data act. Let's take the open data of trading price of property in a city as an example. If you as a citizen know each trading price of property, such as land and building, what would you like to use this free information? Now put yourself as an entrepreneur to launch a ICT-enabled service company to add value from the open data from governments. Please take one data source from one government agency as an example to demonstrate your business model. Please highlight and explain your technology essential to the success of your service delivery, and the revenue model to sustain your service model. (15%)

我的健保資料 你的龐大商機？

- 2012-01-30 00:51 中國時報 【邱伊翎】

日前，行政院科技會召開「公開資料加值（Open Data）推動策略會議」，邀請英、美等國家專家來台與會。行政院科技會表示透過公開資料加值可創造龐大商機，並表示已委託台大、成大研擬營運模式，將和美商、日商等國際科技大廠共同建立「醫療雲端運算系統」。也就是說，我們未來每個人的醫療資訊、健保資料，無形中都成了被研究的資料。試問，你我有授權健保局將健保資料作如此使用嗎？

所謂 open data，指的是公開政府的資訊，也就是要求政府以簡潔明瞭方式，公開政府所擁有的資訊，讓民眾可享受生活便利，以及知的權利。例如將公車的到站時間表公開給民眾，或是將立法院、市議會的議程、開會過程、影像、紀錄公開上網，讓全民及媒體可以監督、檢視，這都是便利民眾、深化民主的一種作法。但是公開政府資訊與政府將人民的個人資料，變成商品販賣出去，完全是兩碼子事。

去年底，英國也曾打算將健保資料加入 open data 中，而遭到關注病患隱私的團體，甚至是推動資訊公開者的抨擊。當時英國政府也聲稱，這些健保資料將會被匿名，不會影響病患隱私。但這並不代表政府就沒有侵犯到你的資訊自主權。而也有不少學者指出，光是匿名，並無法完全確保病患的隱私，因為仍可透過性別、年齡、種族、職業等其他資訊來辨識或回推。

當時的英國首相還大言不慚地說，每一個病患都將成為被研究者，成為對於生技產業、發展新藥有重大貢獻的推手。問題是，當藥廠賺錢的時候，有跟全民分享它的利潤嗎？全民要不要成為科技大廠的被研究者，本來就應該要尊重當事人的自主意願，而不是由政府作決定。

所謂的資訊自主權，就是你有權利決定自己的資訊要公開或提供給哪些機構，也有權要求刪除或更正。這是《個人資料保護法》所明文保障的權利。根據現行的《醫療法》，醫療機構不得無故洩漏病患的健康資訊，也必須對於受試者的個人資料進行保密。若台大醫院與成大醫院欲加入行政院的這項計畫，也應該先取得該醫院所有病患的書面同意。

根據《全民健保法》，健保局之所有可以擁有全國民眾的資料，只是為了辦理健保相關業務，全國民眾並沒有授權健保局販賣全民的資料。然而，從民國八十七年起，健保局即委託國衛院建置「全民健康保險研究資料庫」。國家衛生院於民國九十九年起便開始販賣國人的健保資料，給研究者或廠商作研究。然而，透過販賣國人健保資料的收入，又是進了誰的口袋？

作為擁有全國民眾這麼多個人資料的健保局，應交代清楚販賣健保資料的法律依據、販賣的收入用途。要不要販賣健保資料，也應由民眾決定，否則全國民眾也有權要求刪除自己的資料。