北 京 邮 电 大 学
本科毕业设计（论文）任务书
Project Specification Form

学院 School	International School	**专业 Programme**	Telecommunications wi	**班级Class**	20132151050
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设计（论文）编号 Project No.	IC_3053				
设计（论文）题目 Project Title	A room service translation/recommendation web based system				
论文题目（中文）	基于网页的酒店服务订购应用				
题目分类 Scope	Implementation	Computer Software	Software		

主要任务及目标Main tasks and target：	By
Task 1: Research the main topics, i.e. hotel room services and menus; also define and scope the user and system's requirements.	January 31 2017
Task 2: Design a database driven server to manage all the information about the hotel services and users.	Feburary 28 2017
Task 3: Develop a website that allows users to order various hotel related services.	March 15 2017
Task 4: Develop the website to also include a menu translation and recommendation service.	April 30 2017

Measurable outcomes
1) A database driven server that helps manage the hotel services and users' data.
2) Software that allows users to order various hotel services, and also provides a menu translation service.
3) Software that provides room service recommendations to users, based e.g. on a user's selected set of ingredients.

主要内容Project description：

Most international hotels have a room service menu in paper form, from which guests can order food and drinks, usually over a phone call. The amount of information provided about the menu items can be limited or non-existent, and ordering food over the phone in a foreign language can be difficult.
Big hotels usually also have a restaurant with a more extended menu where booking is required.

The aim of this project is to develop a web based system to help with room service ordering and translation. The system should also:
** provide recommendations based, e.g. on a selected set of ingredients by the guest;
** allow the user to order food to have in the restaurant at a given time;

The system could be further extended to provide online reservation for other hotel services, e.g. sauna, tennis courts, dry cleaning, etc.

Project outline

First, to get a better understanding of the user need, I will do my research to answer the following questions: a) what kind of service are provided by hotels, b) what is the standard practice of ordering these services, c) what remains to be improved by the web-based application.
Second, I will illustrate why the techniques are chosen for my project and how they will be applied. To be specific, I will not use Javaweb technologies, instead, I propose to use JavaScript on both front-end and back-end. Since JS is relatively new to the server-end, I will do my research to prove the feasibility of every step, including the connection with the database (MySQL, PostgreSQL or MongoDB) and HTTP interaction between the user and the services provided.
In addition, though the project is a prototype, it is still a good practice to consider potential problems that may occur in the practical application, and load balance is a significant one. I will provide a solution to tackle this problem by utilizing some advanced open source techniques such as Docker(1) and Kubernetes(2), implementing the project on a computing cluster.
Third, implementation will take place in the following order: a) front-end web page be designed and presented as well as the user interface; b) fields and data structures in a database will be designed according to services provided; c) functionalities are tested; d) deploy the whole project on a remote server.
Finally, I will modify details to improve the project for a better user experience.

Please refer to the official documentations for more information:
(1) Docker: https://docs.docker.com
(2) Kubernetes: http://kubernetes.io/docs/

What I expect to have working at the mid-term oral

1. A well designed and presented front-end web page with service functions demo;
2. A tested and working database.

Fill in the sub-tasks and select the cells to show the extent of each task

	Nov		Dec		Jan		Feb		Mar		Apr		May	
Task 1: Research the main topics, i.e. hotel room services and menus; also define and scope the user and system's requirements.														
Determine what hotel room services are provided.														
Determine the logical relationship between services so that recommendation can be made accordingly.														
Gathering and analyzing the user and system requirements.														
Design way of presentation of these services and get prepared for web design.														
Task 2: Design a database driven server to manage all the information about the hotel services and users.														
Determine what kind of database technology to use.														
Design data fields and add them to database.														
Connect the chosen database to NodeJs.														
Test the connection of the database and make sure it works well.														
Task 3: Develop a website that allows users to order various hotel related services.														
Determine the layout of web page.														
Add forms, buttons, checkboxes and other components.														
Add JavaScript animation to obtain user-friendly interface.														
Test services individually and make sure they work as expected.														
Task 4: Develop the website to also include a menu translation and recommendation service.														
Do the translation of services names.														
Implement language switching function.														
Test language switching function.														
Test and integrate system components.														