OXFORD BROOKES UNIVERSITY

**School of Engineering, Computing and Mathematics**

COMP5047 Software Engineering

Case Study for Practical Exercises

Mobile Shopping System

Initial Statement of Requirements

With the advent of mobile and cloud computing technologies, it is perceived that the traditional shopping behaviour can be revolutionised by developing a mobile application that unifies online shopping and in-person shopping to enhance customers’ shopping experiences and also links customer services nicely to shop management. A mobile shopping platform will be developed with a back-end cloud computing system delivering functionality of customer services and shop management in the form of multi-tenant Software-as-a-Service (SaaS). In other words, the system should enable shops to subscript to the software as services and customise the system according to the shop’s specific data, which including the goods for sale, their prices, stock and availability, shelve location, shipping, refund policy, etc. The system will host multiple shops and enable customers to shop online as well as shop in-person and trace the shipping of the goods and give feedback on the services and the products.

The CloudSoft Ltd[[1]](#footnote-1) thus decided to develop such a system, provisionally called *CloudShop*, to realise advanced functions of mobile shopping. It is perceived to consist of four subsystems.

1. *CloudShop-Customer*: A mobile app running on smart phones to support shopping customers, which include to search for products, view information about the shop, the products and customer reviews about the products and the shop services, guide the customer to find products on the shelves when shopping in-person, promote products and brands, make payments to buy goods, trace the shipping of the goods, and provide feedbacks on the products purchased and the services received.
2. *CloudShop-Manager*: A web-based application running on desktop computers for shop managers to setup the data of the shop, to manage financial accounts, to manage goods stock, to ship product to the customers, and to respond to customer online reviews and queries, etc.
3. *CloudShop-Service*: A web-based application running on desktop or tablet computers or mobile devices for the shop staff members to provide services to shop customers, such as directing shoppers to the right shelf of a specific product, collecting payments, shelving goods, making orders for shipping goods to customers, answering customer inquiries, etc.
4. *CloudShop-Operation*: A software system running on desktop computers (possibly with a web interface) for system operators to perform operation across shops and to store information.

The following are the key features that the system should realise.

The system should realise quick dynamic update the state of the shops, including information about the availability of products in real time, etc. Dynamic update of information has been recognised as one of the killer features of this system that distinguishes it from static web sites of shop.

Another killer feature of the system is that it should provide those services across shops, such as the price comparisons among different shops for the same and/or similar products, ranking of shop services and product qualities, issuing discount vouches and/or royalty points for use at certain selected shops, etc. This relies on collecting and analysing a large volume of data from a large number of participating shops.

It is important to connect all components together to make the activities of searching, purchasing, tracing shipment, paying bills, and commenting on the shop services and products a continuous effortless and seamless process. For example, viewing a product should be linked to the reviews on the product and rankings of the shops who offer the same or similar even related products. The process that involves different types of users must be integrated seamlessly, too.

The system should provide a mobile apps for shop customers. The app should be able to run on various mobile phone/device platforms with graphic user interface. It should also provide user friendly HCI of the desktop applications for shop managers and staff members, the system operators as well. It should enable pictures and video clips of the products be uploaded to the website, etc.

1. This is a fictional company specializes in the development of computer application systems. [↑](#footnote-ref-1)