Software Development
Teach Yourself Series
Topic 6: Software Requirement Specifications Unit 3

Contents

CASE STUDY

 All Teach Yourself Series in this package will refer to the following case study.

Tariq Mulner is the manager of a school canteen. He manages how many lunches are going to be prepared each day. It is difficult to tell how many lunches will be sold, so he would like a software solution that students can use to order lunches. This application would provide him with a complete list of orders.

Most of the students have smart phones, so Tariq is suggesting the solution is a phone app that can read in the lunch order, and send it to his device so he can print out the order list.

Photo by Tirachard Kumtanom from Pexels used with permission

Software Requirement Specifications

The SAT requires that you prepare an Software Requirements Specification (SRS). This is an analysis document that will inform your designs. This is the structure you can use.

Introduction

Identify the problem the software is going to solve.

> In the case study – the problem that Tariq is encountering is not knowing how many lunch items to prepare for staff and students at lunch time in the canteen.

Identify the purpose of the software solution you are investigating.

> The Canteen App will provide students with an opportunity to order their lunch in advance which will ensure they always get their order. It will also provide Tariq with accurate numbers of items to prepare for lunchtime.

Intended Audience

Describe the end users and other stakeholders in terms of relevant characteristics such as age, experience, attitudes and background.

> The end users of the Canteen App include Tariq who is young and eager to learn new skills. Some of the other canteen workers are older and are more fearful of the new system. Students are young and eagerly use mobile apps.

Identify the main end users and their needs.

> Tariq is a main end user. He requires access to accurate totals for each item ordered by 11am each day so he can prepare the food for the lunchtime rush. He may encounter students with poor memories who think they ordered and he may need to look up their ID number to see what their order was that day.

> Students and Staff of the school are also main end users as they will be ordering their lunch each day through the App. They need to be able to order their items, be able to see if items are unavailable, and a total price they will need to pay when they pick up their lunch.

Identify any occasional and low-end users and their needs.

> On occasion other canteen workers may need to use the software to access student orders to check if they are picking up the correct order.

Overall Description

Describe the results of data collection. Refer to all the collection tools and the results, which should be included as figures or in the appendix.

> This is where you, the developer, must report on the data you collected from the client, and their customers. All the raw data and any figures can be stored in the appendix. Ensure the data is the result of a wide range of collection techniques and methods (interviews, observations, reports and surveys).

Describe the relationships between the data, users and the digital systems. Refer to analytical tools: Context Diagram, Use Case, Data Flow Diagram. Identify the Use Cases from the diagram in a table so they can be referred to in the Functional Requirements.

Operating Environment

Accurately describe all relevant aspects of the technical environment (hardware, software, networking capabilities) Technical aspects of equipment such as memory, speed, operating systems.

The Canteen Ordering System will operate in two environments: Tariq's office and the student's mobile devices.

Canteen Manager's Office

Hardware	Office PC • Hard Drive (300GB) • Processor (3.4 GHz) • RAM (8GB)	School Server • Hard Drive (300GB) • Processor (3.4 GHz) • RAM (8GB)	Printer
Operating System	Win 10	Win 10	
Software Applications	Acrobat Word Excel	NOS	Printer Drivers

Customer's Mobile Devices

Hardware	iPad iPhone	Android Table Android Phone
Operating System	iOS	Android
Software Applications	The Canteen App Apple App Store	NOS Google Play

Scope

Describe the scope in relation to the user needs. What will be included in the final software prototype. What will not be included in the prototype.

The Canteen Ordering System will:
- Enter student and staff numbers and check for passwords
- Enter student and staff order details (product and quantity)
- Produce a total cost for the order and an order number with the details as proof of order
- Add the order details to a tally for each product
- Cease to operate at 11.00am
- Produce a printable report that lists the total number of each product ordered
- The interface for the ordering App form will be compatible for all mobile devices including mobile phones and tablets.
   Limited to Android OS mobile devices for this prototype

Solutions to Review Questions

1. In the overall description you need to identity the data that each of the users will require and the digital systems used by them to process that data.

Users	Data	Digital Systems
Students/Staff (Customers of Canteen)	Student Login Student ID Lunch Item Selections Order Number Quantity of Items for Order Lunch Item Prices Total Cost of Order Lunch Item Availability	Mobile Application Mobile Phone Network Mobile Phone OS Mobile Phones
Canteen Manager	Lunch Item Selections Lunch Item Prices Lunch Item Availability Total Number of Orders per Item Lunch Order Report Student ID Order Number	Desktop Computer Windows OS Printer
Canteen Workers	Lunch Order Report Student ID Order Number	Desktop Computer Windows OS Printer

The table above illustrates the relationship between the digital systems required and the data with the users. In Appendix A2 The DFD shows that the customers of the canteen are expected to enter their order details. The manager requires the list of all the items orders and the total number of each item ordered. Both the Manager and the Canteen staff will require access to the lunch order report. In the case that a student has forgotten their order, or there is a mistake, both the manager and Canteen staff can look up the order with the Order Number and Student ID.