

Question1

Table 1: Identifying Design Drivers

Use Cases	Description
UC1- Scanner reads barcodes of items scanned by user	Cash register should include a scanner which allows the customer to read barcodes associated with the products chosen
UC2- Display product name and price	Scanned items by the user should be displayed with the item name and price
UC3- Allow user/cashier manual input	If a product is unable to be read by the scanner, an "unknown product" message will be displayed. User should be able to manually input the product barcode
UC4- Select Payment	Once all customers items are read, user should be prompted with option to select payment method
UC5- Display receipt	Once successful payment is made, the product purchase session can be canceled and a list of all selected items with unit price, quantity and total is printed to a receipt
UC6- Cancel purchasing item	Users should have ability to cancel products at anytime during the purchase session by scanning or manually entering
UC7-Cancel purchase session	Cashier should be able to cancel a purchasing session at anytime, nulling all items scanned up to that point
UC8- Hardware Change	Ability for the software to be transferred to different hardware in the future
UC9- Store products in local database	All products should be stored in a local database for the register

Table 2: Quality Attributes and Constraints

ID	Quality Attribute	Scenario	Associated Use Case	Constraint
QA1	Performance	Too many products scanned could overload the system	Scanner reads barcodes of items scanned by user	Registers database holds the items scanned, number of items could overload the memory allocated
QA2	Maintainability	There is a hardware update for the system	Hardware Change	The old hardware is outdated and requires the system to be transferred to new hardware
QA3	Performance	Receipt fails to print	Display Receipt	The printer has a hardware and ir software malfunction
QA4	Interoperability	Passing transaction through third party credit and debit card companies	Select Payment	Upon payment selection, if debit or credit is selected then third party companies would need access to the system to complete the transaction