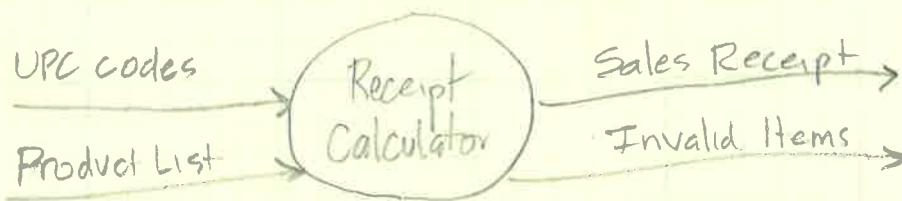


UPC Receipt Calculator - Case Study

3:06 pm



Assume: "free" simply means doesn't appear on sales receipt.

Functions

Verify UPC

in: raw upc
out: verified upc
failure message

Lookup product

in: verified upc
out: product
missing message

product list

Count products

in: product
out: product tally
update product tally

Compute total:

in: product
total price
out: updated total price

Assemble Sales Receipt

in: product tally
product list
total price
out: sales receipt

3:26

7:05

upc	product id code	[char] ¹²
productDB	product database	[upc + productname + price]
productname	product name	String
price	price per item	string representation of fixed point decimal with 2 d.p.

quantity purchased	number of items	positive integer
subtotal	quantity purchased * price in cents	positive integer
total price	total purchase price in cents	positive integer

total items	total number of items purchased	positive integer
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invalid item	upc + error message	"Invalid Items" + [invalid item] ⁿ
invalid list	list of invalid items, in order of occurrence	

item count	number of times an item appeared in input	positive integer
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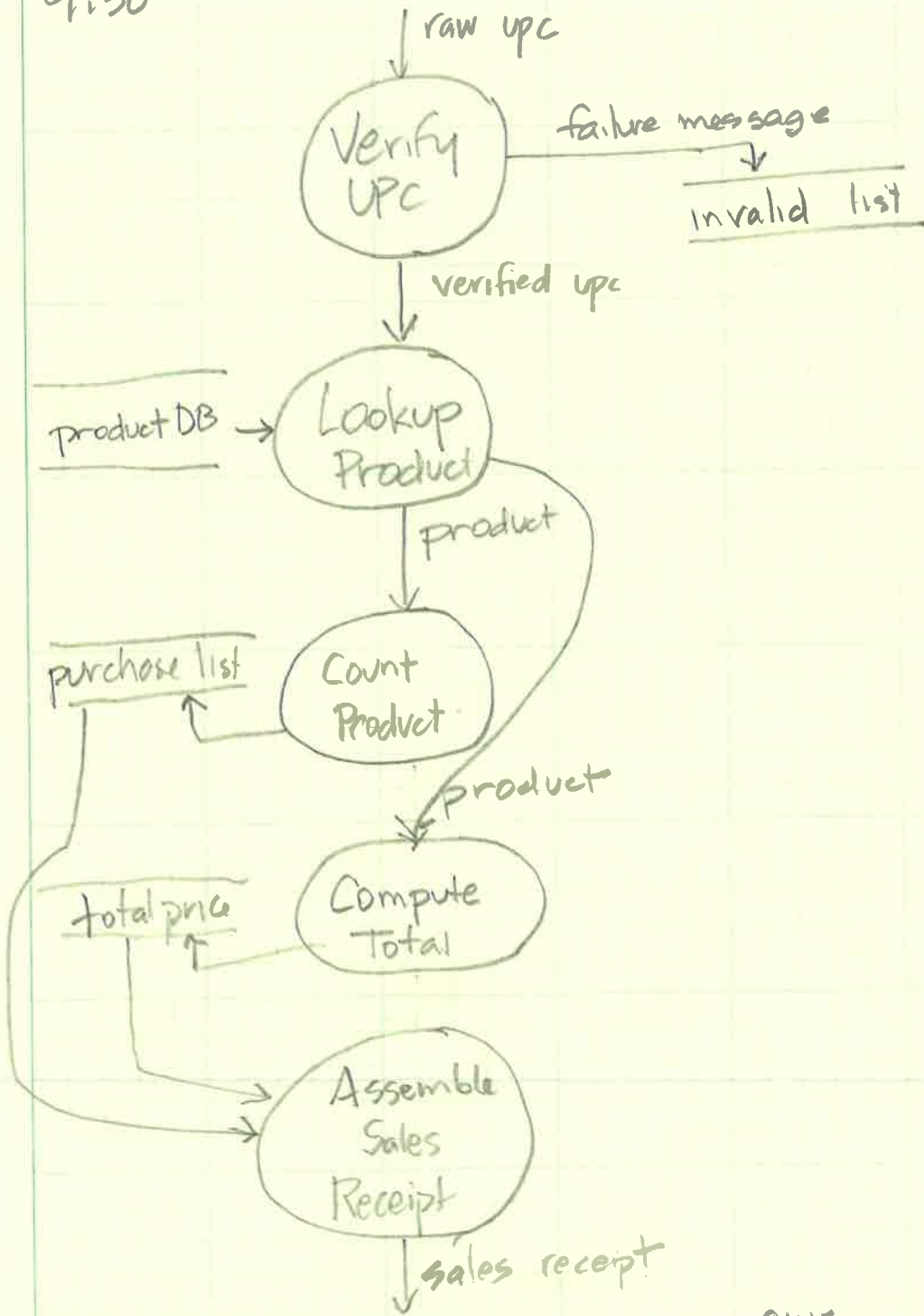
Sales receipt	completed receipt	"Purchases" + [product name + quantity purchased + subtotal] ⁿ + "TOTAL" + total items + total price
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7:20

product	a single item in the product DB	upc + productname + price
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purchaselist	list of products purchased, in order of occurrence	[product + item count]
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9:30



22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
SAMPAD

9:45

ST