Senior Project in Information Systems

INFO-465-901 : VCU Business IS Degree

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Project Overview

Executive Summary

The project case is a landscaping small business web enabled prototype application that assists with various tasks associated with running the business. Primary features include:

- Managing customers and users
- Managing goods and services
- Placing orders with G&S details
- Tendering orders (cash only) and recording balancing entries
- Basic general ledger accounting and trial balance report

The business is configured as having a limited partner, manager/partner, crew lead, and helper. Application access for manager and crew lead is required. Access for customer is demonstrated, but limited and not automatic (i.e. if loading customers from a file).

Exclusions

The following business features are not implemented:

- Accounts Receivable
- Accounts Payable
- Payroll or other HR functionality
- Closing The Books
- Self Registration and Self Account Management

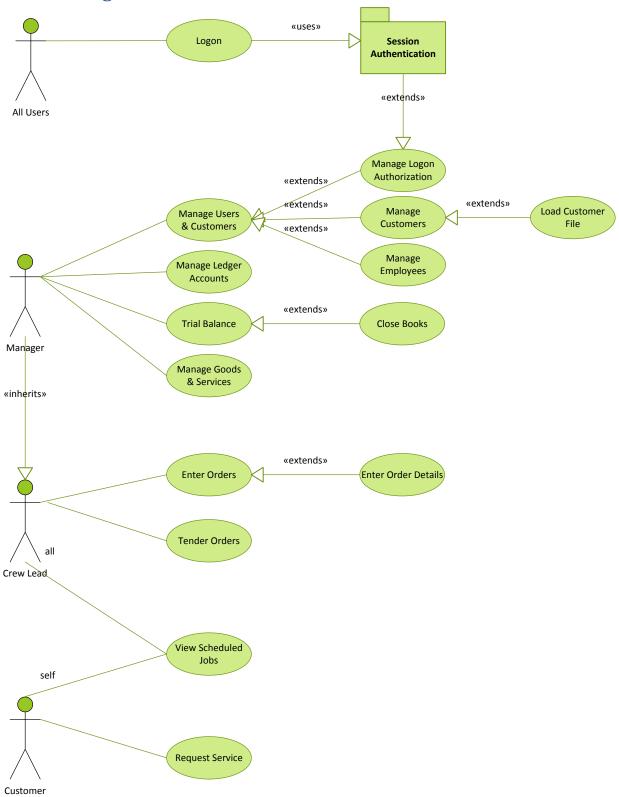
Other features will be updated as In/Out of Scope in the <u>Use Case Index</u> below.

Constraints

Project constraints include:

- Available time
- "The Accounting is Job #1!"
- Database file KCspr16eve.sqlite3 is sufficient for prototyping, but should be upgraded in production

Use Case Diagram



Use Case Index

ID	Name	Primary Actor	Scope	Complexity	Priority
UC-1.0	Logon	All Users	In	Med	High
UC-2.0	Manage Users & Customers	Manager	In	Med	High
UC-2.1	Manage Logon Authorization	Manager	In	Med	Med
UC-2.2	Manage Customers	Manager	In	Med	High
UC-2.3	Load Customer File	Manager	Out	High	Low
UC-2.4	Manage Employees	Manager	In	Med	High
UC-3.0	Manage Ledger Accounts	Manager	Out	Low	Low
UC-4.0	Trial Balance	Manager	In	Med	High
UC-4.1	Close Books	Manager	Out	High	Med
UC-5.0	Manage Goods & Services	Manager	In	Med	High
UC-6.0	Enter Orders	Manager	In	Med	High
UC-6.1	Enter Order Details	Manager	In	High	High
UC-7.0	Fulfill Orders	Crew Lead	Out	Med	Med
UC-8.0	Tender Orders	Manager	In	High	High
UC-9.0	View Scheduled Jobs	Crew Lead	In	Med	Med
UC-10.0	Request Service	Customer	Out	Med	Low

Use Case Details

Use Case ID	UC-1.0
Name	Logon
Description	Web application and session logon
Actors	All Users
Precondition	User is added to the auth_user table (see ERD).
	User previous session is deleted or user logout.
Trigger	URL link to web application (e.g. http://127.0.0.1:8080/hort/*)
Basic Flow	1. Enter username
	2. Enter password
	3. Click Next
	4. Present application menu
Alternate	Entry of bad values: Please enter a correct username and password. Note that both fields may be
Flows	case-sensitive.
	Click Next with no data: This field is required.
	Click Cancel: application header & login buttons

Use Case ID	UC-2.0
Name	Manage Users & Customers
Description	Umbrella case for managing web application users and customer
Actors	Manager
Precondition	None
Trigger	Add or update customers, employees, and stakeholders
Basic Flow	1. Click <u>View & Edit Customers</u> menu link
	a. If hort_customer table entries, then a list of customers is presented
	b. Otherwise: No customers are available.
	2. Add Cust (manual) button: see Manage Customers use case
	3. Update Customer:

	a. Click <u>CustID</u> link in list to updateb. see Manage Customers use case
	 Load Cust (file) button: see Load Customer File use case
Alternate	None
Flows	

Use Case ID	UC-2.1
Name	Manage Logon Authorization
Description	A sub-case of Manage Users & Customers to enable web application Logon
Actors	Manager
Precondition	None
Trigger	User requires or request web application access
Basic Flow	Click Logon Access checkbox in Manage Customers add/update form:
	1. Enter username
	2. Enter password
	3. auth_user table is updated on form Submit
Alternate	The auth_user table may be updated independently of Manage Customer use case via the built-in
Flows	Django site admin page:
	1. Logout or navigate to http://127.0.0.1:8080/hort/login/
	2. Click the Site Admin button on the far right header
	3. Superuser credentials are required.
	4. REF: https://docs.djangoproject.com/en/1.9/ref/contrib/admin/
	NOTE: Currently, only admin site Users authentication is implemented. If this proof-of-concept is
	productionized, a more robust authorization and group access mechanism should be
	implemented.

Use Case ID	UC-2.2
Name	Manage Customers
Description	Entry of customer and user accounts that must be tracked in the Enter Orders accounting sub-
	system
Actors	Manager
Precondition	None
Trigger	Request for service [Relationship == "CUS"]
	Supplier PO [Relationship == "SUP"]
	Employee hire [Relationship== "EMP"]
	Equity investor [Relationship in ("INV", "OWN")]
Basic Flow	1. Click <u>View & Edit Customers</u> menu link
	2. If hort_customer table entries, then a list of customers is presented
	a. Otherwise: No customers are available.
	3. Adding Customer / User:
	a. Click the <u>Add Cust (manual)</u> button
	b. CustID is internal mnemonic identifier, typically
	<first_initial><number><last_initial>, is created by Actors (not system), and</last_initial></number></first_initial>
	must be unique.
	c. A sequential row id is automatically added behind the scenes on form Submit.
	d. Enter information and relationship.
	e. Login authorization: see Manage Logon Authorization use case
	f. If Employee:
	i. Set Relationship to "Employee"

	ii. See Manage Employees use case
	g. Click Submit button
	4. Updating Customer / User
	a. Click on the <u>CustID</u> link
	b. Update information as needed
	c. Click Submit button
	5. Customer / User list is now available to subsequent use cases
Alternate	Duplicating a CustID will results in no customer being added. An error handler should be added for
Flows	production implementation.

Use Case ID	UC-2.3
Name	Load Customer File
Description	Bulk load of customer fields
Actors	Manager
Precondition	File layout is mapped to hort_customer table columns and placed in the default location
Trigger	None
Basic Flow	1. Click Load Cust (file) button on Customer List page
	2. Enter filename to load
	3. Click OK
	a. Duplicate rows are not loaded
	b. Blank and header rows are not loaded
	c. No application Logon access is provided - this must be manually provisioned
	4. On completion, a status summary is presented
Alternate	Depending on the frequency of this action, it may make more sense to simply run a separate
Flows	database load job.

Use Case ID	UC-2.4
Name	Manage Employees
Description	A sub-case of Manage Users & Customers to set up Employees
Actors	Manager
Precondition	Relationship = "Employee" in Manage Customers use case.
Trigger	None
Basic Flow	If application Logon is needed, execute Manage Logon Authorization use case. Add employee rates via the Manage Goods & Services use case. For example: Description: Crew Mgr (per hr) Class: Svcs LedgerIn: 5010 - Cost of Services Sold Cost: 25.00 LedgerOut: 5010 - Cost of Services Sold Price: 50.00 etc.
Alternate Flows	None

Use Case ID	UC-3.0
Name	Manage Ledger Accounts
Description	Enter ledger account numbers and description
Actors	Manager

Precondition	Vetted chart of accounts
Trigger	
Basic Flow	1. Click <u>Ledger Accounts</u> menu link
	2. If hort_ledgeraccount table entries, then a Ledger Account List is presented
	a. Otherwise: No ledger accounts are available.
	3. New Account button:
	a. Enter account number
	b. Enter account description
	c. Click Submit
	d. The new account should appear in the Ledger Account List
	4. Update Ledger Account (link):
	a. Click <u>LedgerAcctNum</u> in list to update
	b. Update description
	c. Click Submit
	d. The updated description should appear in the Ledger Account List
Alternate	Load chart of accounts from file to hort_ledgeraccount table. This was done in this prototype to
Flows	facilitate data entry of Goods & Services.

Use Case ID	UC-4.0					
Name	Trial Balance					
Description	Take existing Enter Orders and Enter Order Details and perform a debit vs. credit accounting trial					
	balance					
Actors	Manager					
Precondition	Equity and goods and services orders must be entered					
Trigger	Any time a balance report is desired					
Basic Flow	1. Click on Trial Balance menu link					
	2. A balance report for <i>un-closed</i> Order Details is presented					
	3. Click on <u>Home</u> button to return to main menu					
Alternate	None					
Flows						

Use Case ID	UC-4.1						
Name	Close Books						
Description	Closes all <i>fulfilled</i> orders for the accounting period and submits to PSX12						
Actors	Manager						
Precondition	None						
Trigger	Accounting period end date						
Basic Flow	1. Click on <u>Close Books</u> menu link						
	2. Choose accounting period						
	3. Click Submit						
	4. View / save transmittal report						
	5. Click on Home button to return to main menu						
Alternate	None						
Flows							

Use Case ID	UC-5.0			
Name	Manage Goods & Services			
Description	Enter goods and services for sale			
Actors	Manager			

Precondition	A good or service is available from the business or supplier						
Trigger	A good or service is required for Order Entry						
Basic Flow	1. Click Goods and Services menu link						
	a. If hort_goodsandservices table entries, then a Goods & Services List is						
	presented						
	b. Otherwise: No goods or services are available.						
	2. Add Good/Service button:						
	a. Enter required fields:						
	i. Class has accounting impact:						
	Gooda physical good available from a supplier						
	 Svcsa service provided by this business 						
	 Acctan internal accounting item, eg. equity or wages 						
	ii. Ledger In is the purchase Ledger Account (debit)						
	iii. Cost is the wholesale cost or agreed supplier price						
	iv. Ledger Out is the sale Ledger Account (credit)						
	v. Price is price charged to Customers						
	b. Click Submit						
	c. The entry should appear in the Goods & Services List						
	3. Update Good/Service (link):						
	a. Click <u>Description</u> in list to update						
	b. Update fields as needed						
	c. Click Submit						
	d. The updated entry should appear in the Goods & Services List						
Alternate	For production use, deleting a good or service should only be allowed if it has no Order Details						
Flows	entries. Marking the records as "deleted" for presentation and drop downs only is the						
	recommended approach.						

Use Case ID	UC-6.0					
Name	Enter Orders					
Description	Enter orders Enter all accounting line items: sales, purchases, payroll, and equity					
Actors	Manager, Crew Lead					
Precondition	Customer data is entered as needed					
Trigger	Sales or Purchase order					
Basic Flow	Click <u>Customer Order Entry</u> menu link					
24316 1 16 11	a. If hort_orders table entries, then the Open Orders are presented					
	b. Otherwise: No orders are available.					
	2. New Order button:					
	a. Enter required fields:					
	i. Type: "Sale" or "Purchase"					
	ii. Status: "Open"					
	iii. EnteredBy: auth_user pick list					
	iv. OrdersCustID: hort_customer pick list					
	b. Enter optional fields, for example:					
	i. PONumber: text					
	ii. OrderNotes: text					
	c. Click Submit					
	d. The entry should appear in the Open Orders List					
	3. Update Open Order (link):					
	a. Click <u>CustID - PO</u> in list to update					
	b. Update fields as needed					
	c. Click Submit					

	d. The updated entry should appear in the Goods & Services List 4. Go to Enter Order Details use case
	NOTE: The InOrOut field on the Enter Orders use case indicates whether the Order Details Cost is incurred as a debit (1) or credit (-1).
	NOTE: The Type field is used to map the LedgerAcctNum in the accounting sub-system: • Purchase → LedgerIn • Sale → LedgerOut
Alternate Flows	A separate accounting system may be desirable for financial and payroll management.

Use Case ID	UC-6.1					
Name	Enter Order Details (from Open Orders list)					
Description	Order line item detail entry of goods and services					
Actors	Manager, Crew Lead					
Precondition	An existing order - see Enter Orders use case					
Trigger	None (entering a detail line item on an Order is not required)					
Basic Flow	1. Click the ">" button in the Items column of an Order in the list					
	2. The Order Header is displayed based on the order Type:					
	a. "P"Purchase					
	b. "S" <i>Sale</i>					
	3. The Customer Info is displayed based on the OrdersCustID					
	4. Add Line Item button:					
	a. Enter required fields:					
	i. DetailBy: auth_user table pick list					
	ii. GSID: hort_goodsandservices table pick list (description)					
	iii. QtyOrdered: number					
	b. Enter optional fields (supports View Scheduled Jobs use case)					
	i. ScheduledStartDt: datetime					
	ii. ScheduledCompleteDt: datetime					
	c. Click Submit					
	d. The entry is added to the Line Items					
	5. Update Line Item (link)					
	a. Click the <u>Description</u> link					
	b. Update fields as needed					
	c. Click Submit					
	d. The updated entry should appear in the Line Items					
	6. Remove Line Item (icon)					
	a. Click on the trash can icon					
	b. The item is removed from the Line Items					
Altamata	7. Tender button: see Tender Orders use case					
Alternate	None					
Flows						

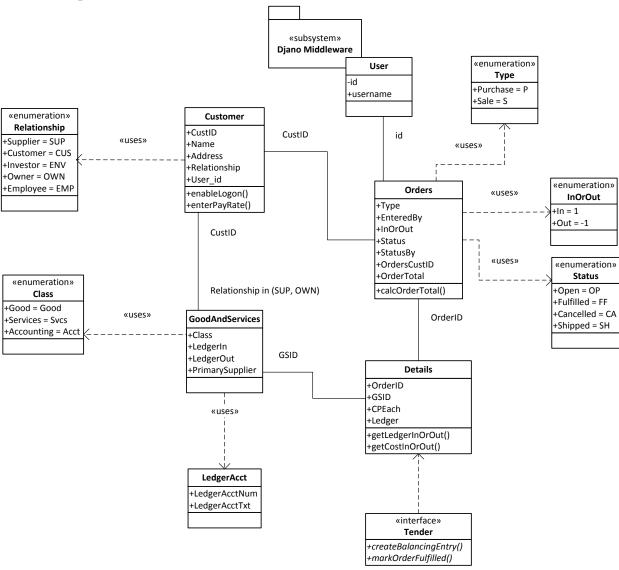
Use Case ID	UC-8.0			
Name	Tender Orders			
Description	Record payment for open orders			

Actors	Manager, Crew Lead					
Precondition	Open order entry is completed					
Trigger	None					
Basic Flow	1. Click the "\$" button in the Tender column of the Open Orders list screen (accessible from					
	the main menu <u>Customer Order Entry</u> link)					
	2. In the proof-of-concept:					
	 a. It is assumed the entire Order will be posted (marked as fulfilled) 					
	b. Status date and notes are entered as needed					
	c. Actor will be prompted for a LedgerAcctNum to post a balancing entry - for					
	Sales, this will typically be "1000 - Cash"					
	d. Accounting calculations will occur behind the scenes					
	e. The order will disappear from the Open Orders list					
Alternate	None					
Flows						

Use Case ID	UC-9.0						
Name	View Scheduled Jobs						
Description	Display and optionally print open service jobs						
Actors	Crew Lead, Manager, Customer						
Precondition	None						
Trigger	None						
Basic Flow	Crew Lead, Manager:						
	a. View all open jobs for a date range						
	b. Print out a job sheet showing:						
	i. Customer name and address						
	ii. Order Details						
	iii. Total Amount Due						
	2. Customer:						
	a. View only my open, scheduled service orders						
Alternate	None						
Flows							

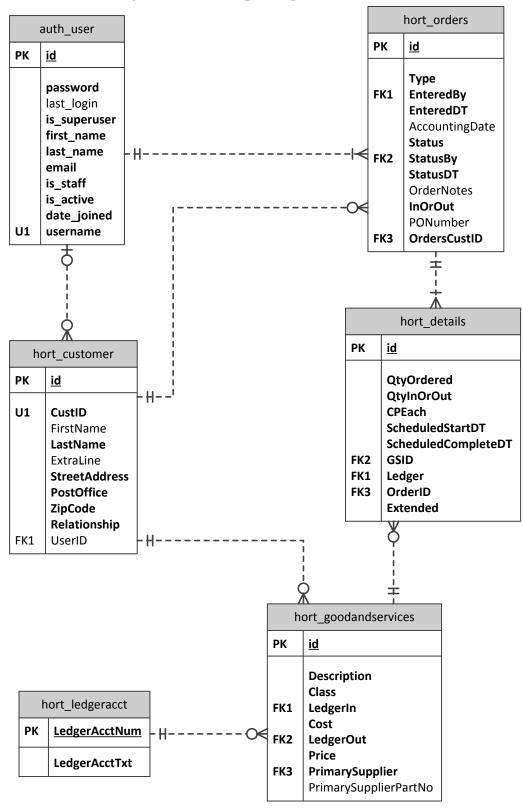
Use Case ID	UC-10.0						
Name	Request Service						
Description	Online requests for services						
Actors	Customer						
Precondition	Customer is granted Logon access - see Manage Logon Authorization use case						
Trigger	None						
Basic Flow	1. Click Request Service link on main menu						
	2. Enter RequestedByDt						
	3. Enter notes about requested services						
	4. Enter call back PhoneNumber						
	5. Click Submit						
	6. An email notification will be sent after Manager review and acceptance of request						
Alternate	None						
Flows							

Class Diagram



NOTE: only those attributes needed for relations or enumerations are shown above. For all table attributes, refer to the <u>Database Entity Relationship Diagram</u>.

Database Entity Relationship Diagram



Data Dictionary

Field Name	Data Type	Len	Req	Cons	Description
auth_user					
id	Integer		Υ	PK	Automatic identifier
password	Varchar	128	Υ		8 character min
last_login	Datetime		N		Not implemented
is_superuser	Boolean		Υ		Default=False
first_name	Varchar	30	Υ		User's first name
last_name	Varchar	30	Υ		User's last name
email	Varchar	254	Υ		User's email
is_staff	Boolean		Υ		Default=False
is_active	Boolean		Υ		Default=True
date_joined	Datetime		Υ		Date user was added to authorization table
username	Varchar	30	Υ	UI	Unique nickname for user
hort_customer					
id	Integer		Υ	PK	Automatic identifier
CustID	Varchar	20	Υ	UI	Internal alpha-numeric mnemonic identifyer
FirstName	Varchar	50	N		Customer's first name, if applicable
LastName	Varchar	50	Υ		Customer's last name or business name
ExtraLine	Varchar	75	N		Customer's street address line 2
StreetAddress	Varchar	75	Υ		Customer's street address line 1
PostOffice	Varchar	50	Υ		Postal "city, state" - not validated.
ZipCode	Varchar	10	Υ		Postal code "nnnnn" or "nnnnn-nnnn"
Relationship	Varchar	3	Υ		Customer = "CUS"
·					Supplier = "SUP"
					Employee = "EMP"
					Investor = "INV"
					Owner = "OWN"
User_id	Integer		N	FK	Optionally add to the auth_user table
hort_details					
id	Integer		Υ	PK	Automatic identifier
QtyOrdered	Decimal	14,4	Υ		Quantity of good or service ordered
QtyInOrOut	Decimal	14,4	Υ		Calculated field for accounting: Details.QtyOrdered
					* Orders.InOrOut
CPEach	Decimal	14,4	Υ		Cost per each from hort_goodandservices table -
					relative to Orders InOrOut value (may be
					overridden)
ScheduledStartDT	Datetime		N		Scheduled service expected start date
ScheduledComplet	Datetime		N		Scheduled service expected completion date
eDt					
GSID	Integer		Υ	FK	Link to hort_goodandservices item id
Ledger	Integer		Υ	FK	LedgerAcctNum in hort_goodandservices table -
					relative to Orders.InOrOut value
OrderID	Integer		Υ	FK	Link to hort_orders parent id
Extended	Decimal	14,4	Υ		Calculated field for accounting: QtyInOrOut *
					CPEach

Field Name	Data Type	Len	Req	Cons	Description
hort_goodandservic	es			•	
id	Integer		Υ	PK	Automatic identifier
Description	Varchar	50	Υ		
Class	Varchar	12	Υ		GOOD = 'Good'
					SERVICES = 'Svcs'
					ACCOUNTING = 'Acct'
LedgerIn	Integer		Υ		LedgerAccNum - use this on Details.Ledger if
					Orders.InOrOut = "IN"
Cost	Decimal	14,4	Υ		The service or good wholesale cost
LedgerOut	Integer		Υ		LedgerAccNum - use this on Details.Ledger if
					Orders.InOrOut = "OUT"
Price	Decimal	14,4	Υ		The service of good retail price
PrimarySupplier	Varchar	50	Υ		Lookup on hort_customer table where Relationship
					in ("SUP", "OWN")
PrimarySupplierPar	Varchar	20	N		Supplier SKU or part number if applicable
tNo					
hort_ledgeracct					
LedgerAcctNum	Integer		Υ	PK	Chart of accounts 4 digit account number
LedgerAcctNum	Varchar	50	Υ		Chart of accounts account description
hort_orders					
id	Integer		Υ	PK	Automatic identifier
Туре	Varchar	10	Υ		PURCH = 'P'
					SALE = 'S'
EnteredBy	Integer		Υ	FK	Link to auth_user table row id - displays username
EnteredDT	Datetime		Υ		Order entry create date and time - manual
AccountingDate	Date		N		Accounting date for trial balances
OrderNotes	Text		N		Textual notes about the order for Crew Lead
Status	Varchar	10	Υ		OPEN = 'OP'
					FULLFILLED = 'FF'
					CANCELLED = 'CA'
					SHIPPED = 'SH'
StatusBy	Integer		Υ	FK	Link to auth_user table row id - displays username
StatusDT	Datetime		Υ		Order entry update date and time - manual
InOrOut	Integer		Υ		IN = 1
			<u> </u>	<u> </u>	OUT = -1
OrdersCustID	Integer		Υ	FK	Link to Customer.CustID
PONumber	Varchar	20	N		Optional internal or external purchase order number
			<u> </u>		- no validation

Sample Table Data

Physical tables are generated from the application's **models.py** file (as in model-view-controller or MVC pattern) which holds Django Python classes that define attributes and methods. The file is then "migrated" to a SQLite (https://www.sqlite.org/) file database which is bundled with Django. The resulting physical tables have the following prefixes:

"auth" ...Django authorization middleware enables logon via password
 "hort" ...from "horticulture" – the art or practice of garden cultivation and management – which is what the implemented web application is about

That said, the resulting DML is ANSI compliant, portable, and provided below each table heading. Django models may be integrated with more robust, commercial database as required.

auth_user

CREATE TABLE "auth_user" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "password" varchar(128) NOT NULL, "last_login" datetime NULL, "is_superuser" bool NOT NULL, "first_name" varchar(30) NOT NULL, "last_name" varchar(30) NOT NULL, "email" varchar(254) NOT NULL, "is_staff" bool NOT NULL, "is_active" bool NOT NULL, "date_joined" datetime NOT NULL, "username" varchar(30) NOT NULL UNIQUE);

	Α	В	С	D	E	F	G	Н	1	J	K
1	autl	n_user									
2	id	password	last_login	is_superuser	first_name	last_name	email	is_staff	is_active	date_joined	username
3	1	<sha256></sha256>	2/14/16	0	Ken	Carbaugh	none	0	1	2/13/16	ken
4	2	<sha256></sha256>	3/27/16	1			none	1	1	2/13/16	admin
5	3	<sha256></sha256>		0	Bob	Manager	none	0	1	2/13/16	mgr
6	4	<sha256></sha256>	2/29/16	0	J.	Crew	none	0	1	2/13/16	crew
7	5	<sha256></sha256>		0	Joe	Customer	none	0	1	2/13/16	cust

hort_customer

CREATE TABLE "hort_customer" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "CustID" varchar(20) NOT NULL, "FirstName" varchar(50) NOT NULL, "LastName" varchar(50) NOT NULL, "StreetAddress" varchar(75) NOT NULL, "ExtraLine" varchar(75) NOT NULL, "PostOffice" varchar(50) NOT NULL, "ZipCode" varchar(10) NOT NULL, "Relationship" varchar(3) NOT NULL, "User_id" integer NOT NULL);

	Α	В	С	D	E	F	G	Н	1	J
1	hor	t_custome	er							
2	id	CustID	FirstName	LastName	StreetAddress	ExtraLine	PostOffice	ZipCode	Relationship	User_id
3	1	J1818J	Joseph	Jenkins	304 Bay Vista Ave	HI THERE	Richmond, VA	23233	CUS	0
4	2	L2018M	Mrs Jean	Lelievre	3713 Torrey Pines Blvd		Sarasota, FL	34238	CUS	0
5	3	V1938M	Margaret	Videkyo	8212 Redberry Ln		Sarasota, FL	34231	CUS	0
6	4	B1781J	ffffffff	Bowser	1102 Botetourt Gardens	Lesser Concourse	Richmond, VA	23228	CUS	0
7	5	H1532E	Edward	Hardison	2409 Sedgewick Dr		Hampton, VA	23669	CUS	0
8	6	S1717J	James	Strauss	7320 Blockhouse Rd		Norfolk, VA	23513	CUS	0
9	20	R1111Z	Robert	Zamboni	some street	this is an extra line :-)	some town	99999-9999	CUS	0
10	21	J1234I	Joe	Vestor	100 Money Buckets Blvd		New York, NY	12345	INV	0
11	22	W1234W		Weedy Wackers Inc.	287 Green Way		Durham, NC	25347	SUP	0
12	23	G1111L		Guill's Landscaping	2019 Lawn Mower Ln		Dinwiddie, VA	20314	OWN	0
13	24	S1245G		Smitty's Garden Supply	2085 Evergreen Way		Petersburg, VA	23567	SUP	0
14	25	J0000C	Joe	Customer	12 My Way		Henrico, VA	23238	CUS	5
15	26	K9999C	Mister	Manager	2019 Lawn Mower Ln		Dinwiddie, VA	20314	OWN	3
16	27	C9999L	Crew	Leader	2019 Lawn Mower Ln		Dinwiddie, VA	20314	EMP	4
17	28	С9999Н	Crew	Helper	2019 Lawn Mower Ln		Dinwiddie, VA	20314	EMP	1

hort_goodandservices

CREATE TABLE "hort_goodandservices" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT,
"Description" varchar(50) NOT NULL, "Class" varchar(12) NOT NULL, "LedgerIn" integer NOT NULL,
"Cost" decimal NOT NULL, "LedgerOut" integer NOT NULL, "Price" decimal NOT NULL,
"PrimarySupplierPartNo" varchar(20) NOT NULL, "PrimarySupplier" varchar(50) NOT NULL);

	Α	В	С	D	Е	F	G	Н	1
1	hor	t_goodandservices							
2	id	Description	Class	LedgerIn	Cost	LedgerOut	Price	PrimarySupplier	PrimarySupplierPartNo
3	1	Equity Share	Acct	3000	0.00	3000	0.00	G1111L	ES1
4	4	Lawn Mow & Blow (per acre)	Svcs	5010	60.00	4010	120.00	G1111L	LMB1
5	5	100' roll - Trimmer Heavy Duty Line	Good	1030	2.00	2000	7.95	W1234W	THL100
6	6	6x12 - Trimmer Line Pre-cut	Good	1030	1.80	2000	3.95	W1234W	TLP612
7	7	Commercial Gas Powered Trimmer	Good	1030	230.00	2000	425.95	W1234W	CGPT300
8	8	Cash	Acct	1000	0.00	1000	0.00	G1111L	CT1
9	9	Accounts Receivable	Acct	1010	0.00	1010	0.00	G1111L	AR1
10	10	Truck	Acct	1050	0.00	1050	0.00	G1111L	T1
11	11	Equipment	Acct	1040	0.00	1040	0.00	G1111L	EQ1
12	12	Office	Acct	5050	0.00	5050	0.00	G1111L	OW1
13	13	Spread Mulch	Svcs	5010	15.00	4010	30.00	G1111L	SM1
14	14	Camilia Red	Good	5000	12.00	4000	50.00	S1245G	CAMRS
15	15	Camilia White	Good	5000	12.00	4000	50.00	S1245G	CAMWS
16	16	Plant Shrub	Svcs	5010	12.00	4010	24.00	G1111L	PS1
17	17	Crew Mgr (per hr)	Svcs	5010	25.00	5010	50.00	G1111L	WM1
18	18	Crew Helper (per hr)	Svcs	5010	14.00	5010	28.00	G1111L	WH1
19	19	Mulch Dark (per yd)	Good	5000	25.00	4000	45.00	S1245G	MUDBY
20	20	Seed Lawn (per acre)	Svcs	5010	50.00	4010	95.99	G1111L	SL1
21	21	Fescue Seed (50lb bag)	Good	5000	27.00	4000	50.00	S1245G	FESCUE50
22	22	Rye Seed (50 lb bag)	Good	5000	20.00	4000	40.00	S1245G	RYE50
23	23	Medium Tree Trimming	Svcs	5010	100.00	4010	200.00	G1111L	MTRIM
24	24	Large Tree Trimming	Svcs	5010	150.00	4010	300.00	G1111L	LTRIM
25	25	Small Tree / Bush Trimming	Svcs	5010	25.00	4010	55.00	G1111L	STRIM
26	26	Burlap Bags	Good	5000	1.00	4000	3.00	G1111L	BB1

hort_orders

CREATE TABLE "hort_orders" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "Type" varchar(10) NOT NULL, "EnteredBy" integer NOT NULL, "EnteredDT" datetime NOT NULL, "OrderNotes" text NOT NULL, "Status" varchar(10) NOT NULL, "StatusBy" integer NOT NULL, "StatusDT" datetime NOT NULL, "InOrOut" integer NOT NULL, "OrdersCustID_id" integer NOT NULL REFERENCES "hort_customer" ("id"), "PONumber" varchar(20) NOT NULL, "AccountingDate" date NULL);

	Α	В	С	D	E	F	G	Н	1	J	K	L
1	hor	t_ord	ers									
2	id	Туре	EnteredBy	EnteredDT	OrderNotes	Status	StatusBy	StatusDT	InOrOut	OrdersCustID	PONumber	AccountingDate
3	1	S	3	2/21/2016 19:25	Equity in	FF	3	2/21/2016 19:25	1	21		3/1/2016
4	2	S	3	2/21/2016 19:30	Equity in	FF	3	2/21/2016 19:30	1	26		3/1/2016
5	3	Р	3	2/25/2016 12:32	Truck purchase	FF	3	2/25/2016 12:32	1	25	1001	3/1/2016
6	4	Р	3	2/26/2016 9:32	Equip purchase	FF	3	2/26/2016 9:32	1	22	1002	3/1/2016
7	5	Р	3	2/27/2016 11:15	Rent due	FF	3	2/27/2016 11:15	1	22	1003	3/1/2016
8	6	Р	3	2/28/2016 12:15	buy plants	FF	3	2/28/2016 12:15	1	24	1004	3/1/2016
9	7	S	3	3/1/2016 7:30	plant & mow	FF	3	3/1/2016 7:30	-1	5		3/1/2016
10	8	S	3	3/1/2016 7:32	mow	FF	3	3/1/2016 7:32	-1	3		3/1/2016
11	9	S	3	3/1/2016 7:36	seed & plant	FF	3	3/1/2016 7:36	-1	6		3/1/2016
12	10	S	3	3/1/2016 10:24	mow & seed	FF	3	3/1/2016 10:24	-1	21		3/1/2016
13	11	Р	3	3/1/2016 17:24	crew lead pay	FF	3	3/1/2016 17:24	1	27	1006	3/1/2016
14	12	Р	3	3/1/2016 17:24	helper pay	FF	3	3/1/2016 17:24	1	28	1007	3/1/2016
15	13	S	3	3/2/2016 14:24	plant & mow	OP	3	3/2/2016 14:24	-1	20	PO0532	

hort_details

CREATE TABLE "hort_details" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "QtyOrdered" decimal NOT NULL, "QtyInOrOut" decimal NOT NULL, "CPEach" decimal NOT NULL, "ScheduledStartDT" datetime NULL, "ScheduledCompleteDT" datetime NULL, "GSID_id" integer NOT NULL REFERENCES "hort_goodandservices" ("id"), "Ledger" integer NULL, "OrderID_id" integer NOT NULL REFERENCES "hort_orders" ("id"), "Extended" decimal NOT NULL);

	Α	В	С	D	E	F	G	Н	1	J
1	ho	rt_details								
2	id	QtyOrdered	QtylnOrOut	CPEach	ScheduledStartDT	ScheduledCompleteDt	GSID	Ledger	OrderID	Extended
3	1	51000	-51000	1.00			1	3000	1	(51000.00)
4	2	51000	51000	1.00			8	1000	1	51000.00
5	3	50000	-50000	1.00			1	3000	2	(50000.00)
6	4	50000	50000	1.00			8	1000	2	50000.00
7	5	1	1	25890.00			10	1050	3	25890.00
8	6	1	-1	25890.00			8	1000	3	(25890.00)
9	7	1	1	5320.00			11	1040	4	5320.00
10	8	1	-1	5320.00			8	1000	4	(5320.00)
11	9	1	1	500.00	3/1/2016 9:00	3/1/2016 9:00	12	5050	5	500.00
12	10	1	-1	500.00			8	1000	5	(500.00)
13	11	4	4	12.00			14	5000	6	48.00
14	12	3	3	12.00			15	5000	6	36.00
15	13	6	6	27.00			21	5000	6	162.00
16	14	2	2	20.00			22	5000	6	40.00
17	15	1	-1	286.00			8	1000	6	(286.00)
18	16	2	-2	50.00	3/1/2016 8:30	3/1/2016 11:00	14	4000	7	(100.00)
19	17	2	-2	24.00	3/1/2016 8:30	3/1/2016 11:00	16	4010	7	(48.00)
20	18	1	-1	120.00	3/1/2016 8:30	3/1/2016 11:00	4	4010	7	(120.00)
21	19	1	1	268.00			8	1000	7	268.00
22	20	1	-1	120.00	3/1/2016 12:00	3/1/2016 13:00	4	4010	8	(120.00)
23	21	1	1	120.00			8	1000	8	120.00
24	22	2	-2	50.00	3/1/2016 13:30	3/1/2016 17:00	14	4000	9	(100.00)
25	23	4	-4	24.00	3/1/2016 13:30	3/1/2016 17:00	16	4010	9	(96.00)
26	24	2	-2	50.00	3/1/2016 13:30	3/1/2016 17:00	15	4000	9	(100.00)
27	25	2	-2	40.00	3/1/2016 13:30	3/1/2016 17:00	22	4000	9	(80.00)
28	26	2	-2	95.99	3/1/2016 13:30	3/1/2016 17:00	20	4010	9	(191.98)
29	27	1	1	567.98			8	1000	9	567.98
30	28	6	-6	50.00	3/2/2016 8:30	3/2/2016 16:30	21	4000	10	(300.00)
31	29	6	-6	95.99	3/2/2016 8:30	3/2/2016 16:30	20	4010	10	(575.94)
32	30	6	-6	120.00	3/2/2016 8:30	3/2/2016 16:30	4	4010	10	(720.00)
33	31	4	-4	55.00	3/2/2016 8:30	3/2/2016 16:30	25	4010	10	(220.00)
34	32	1	1	1815.94			8	1000	10	1815.94
35	33	16	16	25.00			17	5010	11	400.00
36	34	16	-16	25.00			8	1000	11	(400.00)
37	35	16	16	14.00			18	5010	12	224.00
38	36	16	-16	14.00			8	1000	12	(224.00)
39	37	1	-1	50.00	3/16/2016 8:30	3/16/2016 10:00	15	4000	13	(50.00)
40	38	1	-1	24.00	3/16/2016 8:30	3/16/2016 10:00	16	4010	13	(24.00)
41	39	1	-1	120.00	3/16/2016 8:30	3/16/2016 10:00	4	4010	13	(120.00)

hort_ledgeracct

CREATE TABLE "hort_ledgeracct" ("LedgerAcctNum" integer NOT NULL PRIMARY KEY, "LedgerAcctTxt" varchar(50) NOT NULL);

	Α	В
1	hort_ledgeracct	-
2	LedgerAcctNum	LedgerAcctTxt
3		Cash
4	1005	ACH
5		Accounts Receivable
6		Investments
7	1030	Inventory
8	1040	Equipment
9	1050	Vehicles
10	1060	Real Estate
11	1070	Furniture & Fixtures
12	2000	Trade Accounts Payable
13	2020	Current Loans
14	2030	Mortgages
15		Paid in Capital
16	3999	Retained Earnings
17		Sale of Goods
18	4005	Shipping Sales
19	4010	Sale of Services
20	4020	Food Contributions
21	4025	Cash Contributions
22		Shipping
23		Cost of Goods for Sale
24		Dry Ice
25		Postage & Shipping
26		Cost of Services Sold
27		Food Distributions
28		Spoilage
29	5030	Wages
30		Administrative Costs
31		Office/Warehouse Rent
32		Utilities
33		Telephone
34		Internet Access
35		Gas, Oil, & Maintenance
36		Vehicle Lease
37		Postage
38		Shipping
39		Interest
40	5085	Inventory Shrinkage

Daily Journal Entries and Trial Balance

d	Α	В	С	D	Е	F
1	General Jo	ournal E	intry			
2	Date	GJ#	Description	Acct#	DR	CR
3	2/21/2016	1	Limited partnership whole Vestor			
4			Cash	1000	\$ 51,000.00)
5			Paid in Capital	3000		\$ 51,000.00
6	2/21/2016	2	Owner contribution (Mister Manager)			
- 7			Cash	1000	\$ 50,000.00)
8			Paid in Capital	3000		\$ 50,000.00
9	2/25/2016	3	Funchase Truck (Ford F-250)			
10			Truck	1050	\$ 25,890.00)
11			Cash	1000		\$ 25,890.00
12	2/26/2016	4	Funchase equipment (mower, etc.)			
13			Equipment	1040	\$ 5,320.00)
14			Cash	1000		\$ 5,320.00
15	2/27/2016	5	Pay rent to Weedy Wackers Inc.			
16			Office/Warehouse Rent	5050	\$ 500.00)
17			Cash	1000		\$ 500.00
18	2/28/2016	6	Funchase plants and seed from Smitt	19/8		
19			Cost of Goods for Sale	5000	\$ 286.00)
20			Cash	1000		\$ 286.00
21	3/1/2016	7	Flant shrubs & mowblow - E. Hardisu	7/7		
22			Cash	1000	\$ 268.00)
23			Sale of Goods	4000		\$ 100.00
24			Sale of Services	4010		\$ 168.00
25	3/1/2016	8	Monthon - M. Videkyo			
26			Cash	1000	\$ 120.00)
27			Sale of Services	4010		\$ 120.00
28	3/1/2016	9	Seed and plant shrubs - J. Strauss			
29			Cash	1000	\$ 567.98	3
30			Sale of Goods	4000		\$ 280.00
31			Sale of Services	4010		\$ 287.98
32	3/1/2016	10	Mowthlow and see - J. Vestor (prepay	32 sched	tuled)	
33			Cash	1000	\$ 1,815.94	
34			Sale of Goods	4000		\$ 300.00
35			Sale of Services	4010		\$ 1,515.94
36	3/1/2016	11	Pay Crew Lead			
37			Cost of Services Sold	5010	\$ 400.00)
38			Cash	1000		\$ 400.00
39	3/1/2016	12	Pay Helper			
40			Cost of Services Sold	5010	\$ 224.00)
41			Cash	1000		\$ 224.00
42	3/2/2016		Trial Balance		\$ 136,167.92	\$ 136,167.92
43	3/2/2016	13	Flant shrubs & mowthlow - R. Zambo	ni		
44			Cost of Services Sold	5010	\$ 194.00)
45			open			\$ -

The open order ("OP") has no balancing entry and is not included in the Trial Balance.

Appendix

Project Folders ..."hort" application files

Name	Size	Date Modified
[parent directory]		
Include/		2/6/16, 3:23:48 PM
Lib/		2/13/16, 11:28:31 AM
mysite/		3/27/16, 4:21:49 PM
Scripts/		3/20/16, 5:03:48 PM
share/		2/13/16, 11:30:34 AM
upload/		3/23/16, 12:56:41 PM
KCspr16eve_ERD.vsd	148 kB	3/27/16, 12:47:35 PM
KCspr16eve_sample_data.xlsx	22.9 kB	3/28/16, 4:17:45 PM
KCspr16eve_UML_CD.vsd	208 kB	3/27/16, 11:52:50 AM
KCspr16eve_UML_UCD.vsd	208 kB	3/26/16, 7:47:49 PM
pip-selfcheck.json	60 B	3/20/16, 4:50:18 PM

Name	Size	Date Modified
[parent directory]		
hort/		2/15/16, 12:40:51 PM
mysite/		2/13/16, 11:32:05 AM
templates/		2/14/16, 5:52:41 PM
KCspr16eve.sqlite3	78.0 kB	3/27/16, 4:21:49 PM
manage.py	249 B	2/13/16, 11:31:28 AM

Index of C:\Users\kc\Envs\KCspr16eve\mysite\hort\

Name	Size	Date Modified
[parent directory]		
pycache/		3/27/16, 4:32:50 PM
migrations/		3/27/16, 4:21:43 PM
static/		2/20/16, 5:41:45 PM
templates/		2/14/16, 2:53:18 PM
initpy	0 B	2/13/16, 11:32:06 AM
admin.py	63 B	2/13/16, 11:32:06 AM
apps.py	83 B	2/13/16, 11:32:06 AM
forms.py	2.6 kB	3/27/16, 4:33:08 PM
models.py	7.5 kB	3/27/16, 4:32:49 PM
tests.py	60 B	2/13/16, 11:32:06 AM
urls.py	1.4 kB	3/23/16, 4:52:46 PM
views.py	6.3 kB	3/24/16, 12:08:08 PM

Name	Size	Date Modified
[parent directory]		
cust_detail.html	700 B	2/21/16, 11:15:14 AM
cust_list.html	1.4 kB	2/21/16, 11:14:28 AM
gs_detail.html	700 B	2/21/16, 11:16:24 AM
gs_list.html	1.4 kB	3/27/16, 3:23:48 PM
index.html	1.4 kB	2/22/16, 7:20:45 PM
invoice_detail.html	964 B	3/23/16, 4:44:45 PM
invoice_item_detail.html	1.1 kB	3/23/16, 4:51:01 PM
invoice_item.html	3.0 kB	3/24/16, 1:56:56 PM
invoice_list.html	1.7 kB	3/24/16, 1:28:09 PM
ledger_list.html	980 B	3/23/16, 12:46:45 PM
login.html	398 B	2/14/16, 6:22:40 PM

