Info

Your Name: Russell Reiter

App Summary

Github (Capstone Repo):

https://github.com/alagrad94/BackEndCapstone

Name of Project:

MoneyTree

Overview of app:

My father, two of my nephews and I build furniture and other woodworking projects in my father's wood shop and sell them. However, we have a very difficult time tracking the costs that we have in each project because we have no system of recording them as we go. Some of the projects take months to complete, which makes this task even more difficult. This app will allow us to create a new project, associate at a customer with the project when it's for an order, and add project costs by category (labor, materials, supplies) on a daily basis. When the project is complete, we can enter the price we charged for the item, or if it wasn't for an order, the amount we sold it for and use that number to calculate the profit/loss on each item. As we accumulate historical data, this will allow us to more accurately price our items.

MVP Definition:

1. User registration/login
2. Create/edit/delete cost items
3. Create/edit/delete cost per unit records
4. Create/edit/delete cost categories
5. Create/edit/delete customers
6. Create/edit/delete a project
7. Create/edit/delete cost items associated with a project and total all costs on a project
8. Display project details to include calculating Profit/Loss based on invoice amount and total of cost items

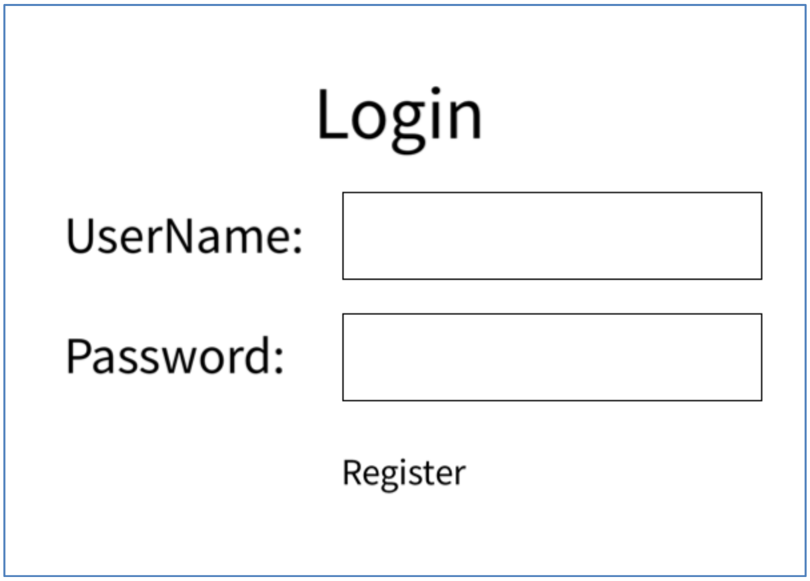
Are you using MVC with entity, MVC with ADO .NET, or react with c# API?:

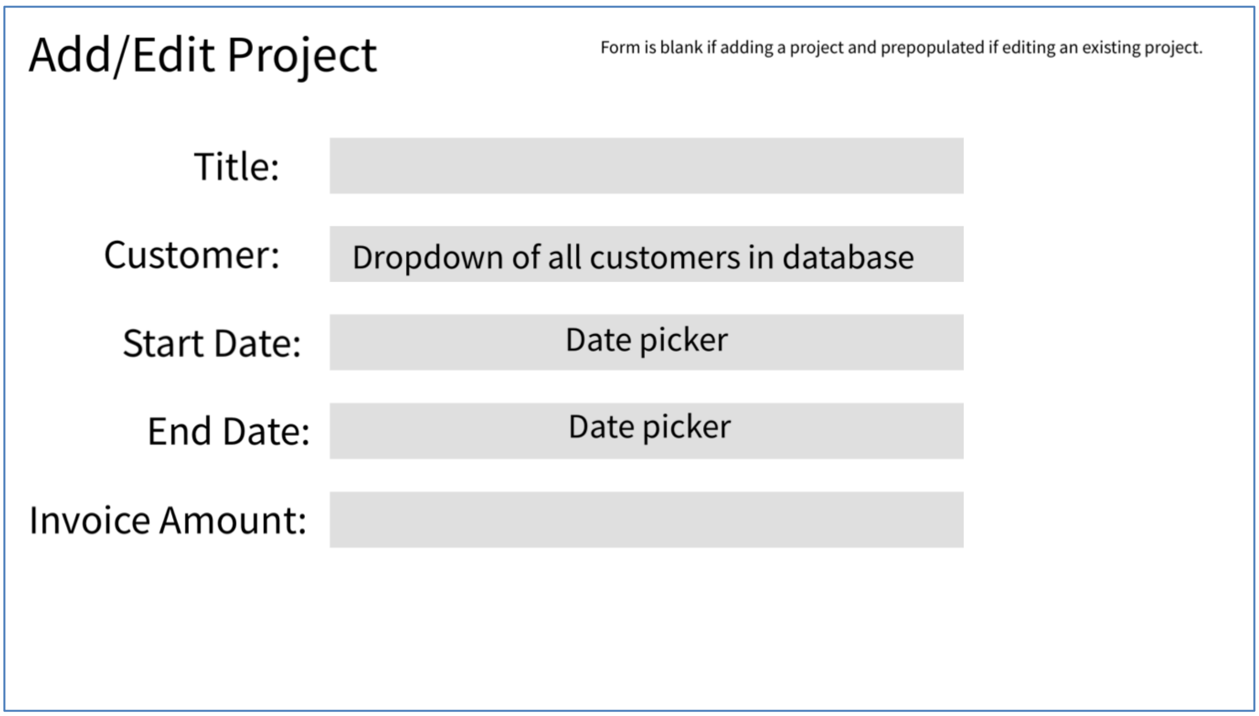
Uncertain. It will be either MVC with entity or React with C# API. I'm still discussing this with the family, several of them want to be able to access the application via a mobile app, so I'm considering a React Native front end.

Planning Links

Link to Repo Issues:
https://github.com/alagrad94/BackEndCapstone/issues

Moq-up/Wireframes(picture or link):





PROJECTS

A list of all projects in the database. The Project Title, Start Date, End Date, Customer & Invoiced Amount fields are from the project record. The Cost field is a sum of all cost items associated with the project. The Profit field is Invoiced Amount minus Cost.

Project Title	Start Date	End Date	Customer	Invoiced Amount	Cost	Profit
Dining room table	01/01/2019	03/01/2019	Bob Smith	$750	$300	$450

Add/Edit Customer

Form is blank if adding a customer and prepopulated if editing an existing customer .

First Name:

Last Name:

Email:

Phone:

PROJECT COSTS

A list of all project costs associated with a particular project.

Project	Cost Item	Cost Category	Date Used	Unit of Measure	Quantity	Cost Per Unit	Total
Dining room table	Sandpaper	Supplies	03/01/2019	Sheet	4	$1.50	$6.00
						*Cost per unit comes from the Cost Item. The Date Used field in the Project Cost record is used to look up the correct CPU based on the Cost Item's Start Date and End Date fields.	

Add/Edit Project Cost

Form is blank if adding a project cost and prepopulated if editing an existing project cost.

Project:

Cost Item: Dropdown of all cost items in database

Cost Category: Dropdown of all cost categories in database

Date Used: Date picker

Quantity:

Cost Per Unit: *Cost per unit comes from the Cost Item. The date entered in the Date Used field is used to look up the correct CPU based on the Cost Item's Start Date and End Date fields.

Add/Edit Cost Item

Form is blank if adding a cost item and prepopulated if editing an existing cost item.

Item Name:	
Unit of Measure :	Dropdown of all UofMs in database
Cost Category:	Dropdown of all categories in database

Add/Edit Cost Per Unit

Form is blank if adding a Cost Per Unit and prepopulated if editing an existing Cost Per Unit.

Cost Item:	Dropdown of all Cost Items in database
Cost per Unit:	
Start Date:	Date picker
End Date:	Date picker

Add/Edit Unit of Measure

Form is blank if adding a Unit of Measure and prepopulated if editing an existing Unit of Measure.

Title:	

Add/Edit Cost Category

Form is blank if adding a Cost Category and prepopulated if editing an existing Cost Category.

Title:	

Dining Room Table

A detail view of a project and all associated costs. This is the main product of the application.

Customer: Bob Smith
Email: bobsmith@email.com
Phone: 555-555-1212
Start Date: 01/01/2019
End Date: 03/01/2019

Invoiced Amount: $750
Cost: $300
Profit: $400

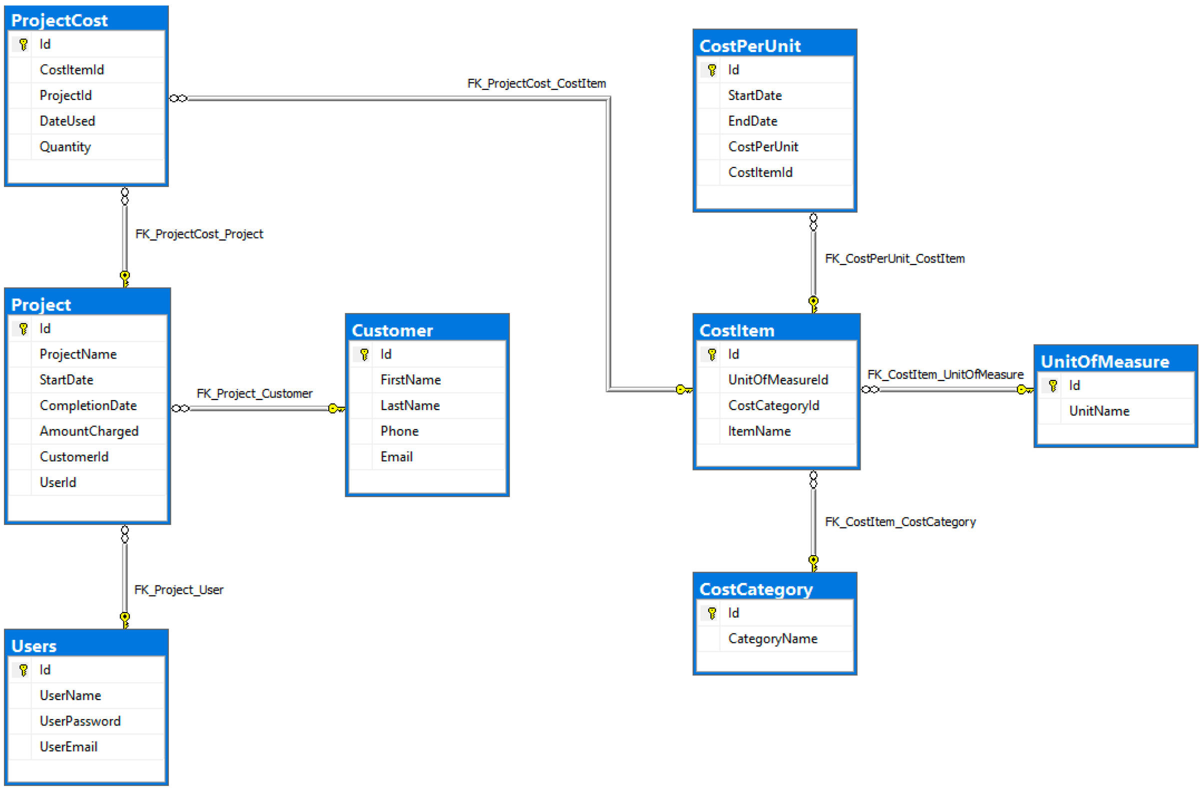
Project Costs

Name	Category	Units	Cost Per Unit*	Quantity	Date Used	Total
Unskilled labor	Labor	Hours	$15	1.25	01/02/2019	$18.75
Skilled labor	Labor	Hours	$25	2.5	01/02/2019	$62.50
2 x 4 - Pine, paint grade	Materials	Foot	$0.50	6	01/02/2019	$3.00
Sandpaper	Supplies	Sheet	$1.50	4	01/02/2019	$6.00
Sandpaper	Supplies	Sheet	$1.75	4	01/03/2019	$7.00

*Cost per unit comes from the Cost Item. The Date Used field in the Project Cost record is used to look up the correct CPU based on the Cost Item's Start Date and End Date fields.

Indicates fields calculated by the application and not stored in the database

ERD (picture or link):



Capstone Issue Tickets:

1. User login

Story: As a user, I should be able to fill out a form with my name, phone number, email address, and the username/password of my choice to register myself in the application

Acceptance Criteria:
Given: a user wants to use MoneyTree
When: the user first accesses the application
Then: the user should see a welcome message
And: a hyperlink to the registration form

Given: a user wants to register an account with MoneyTree
When: the user clicks the Register a new account hyperlink
Then: a registration form should be displayed where the user can enter required personal information

Given: a user has filled out fields of the registration form
When: the user clicks the Register button
Then: the system should check if the username and email are unique
And: if both are unique, a new account should be created
And: the user should be taken to the main view of MONEYTREE

2. Create/edit/delete cost categories

Story: As a user, I should be able to create a new cost category, edit existing categories and delete existing categories.

Acceptance Criteria:
Given: a user wants to create a new cost category
When: the user navigates to the Cost Categories page
Then: the user clicks the "Create New" link
Then: the "Create Cost Category" form is displayed where the user can enter the new Category Name
When: the user clicks the Submit button, a new record is created in the database

Given: a user wants to edit an existing cost category
When: the user navigates to the Cost Categories page
Then: the user clicks the "Edit" link of an existing category
Then: the "Edit Cost Category" form is displayed where the user can edit the Category Name
When: the user clicks the Submit button, the category record is updated in the database

Given: a user wants to delete an existing cost category
When: the user navigates to the Cost Categories page
Then: the user clicks the "Delete" link of an existing category
Then: the "Delete Cost Category" form is displayed where the user must choose a new category to which all cost items currently in the category being deleted will be reassigned
When: the user clicks the Submit button, the category record is deleted from the database and the CostItemId is updated in all associated cost item records to reflect their new category

3. Create/edit cost item records

Story: As a user, I should be able to create new record that establishes a cost items and places it in a cost category, and edit existing cost item records.

Acceptance Criteria:
Given: a user wants to create a new cost item
When: the user navigates to the Cost Items page
Then: the user clicks the "Create New" link

Then: the "Create Cost Item" form is displayed where the user can enter the new Item Name, choose a Unit of Measure and select a Cost Category
When: the user clicks the Submit button, a new record is created in the database

Given: a user wants to edit an existing cost item
When: the user navigates to the Cost Items page
Then: the user clicks the "Edit" link of an existing item
Then: the "Edit Cost Item" form is displayed where the user can edit the Item Name, choose a new Unit of Measure and select new a Cost Category
When: the user clicks the Submit button, the cost item record is updated in the database

4. Create/edit cost per unit records

Story: As a user, I should be able to create new cost per unit records that record the cost of items in a date range and edit existing cost per unit records. A CPU record should be considered "Open" if it has a valid "Start Date" and the "End Date" is NULL. The system should allow only one CPU record to be "Open" at any given time for each Cost Item and no two CPU records for a Cost Item will have overlapping date ranges.

Acceptance Criteria:
Given: a user wants to create a new Cost Per Unit record
When: the user navigates to the Cost Per Unit page
Then: the user clicks the "Create New" link
Then: the "Create Cost Per Unit" form is displayed where the user can select the Cost Item, enter the start date of the date range and the cost per unit
When: the user clicks the Submit button, a new record is created in the database and if the associated Cost Item has an Open CPU record, that record should be closed with an End Date which is 1 day before the Start Date entered in the new record

Given: a user wants to edit an existing cost per unit
When: the user navigates to the Cost Per Unit page
Then: the user clicks the "Edit" link of an existing Cost Per Unit
Then: the "Edit Cost Per Unit" form is displayed where the user can edit the Start Date, End Date and Cost Per Unit
When: the user clicks the Submit button, the system should verify 1) the edited record doesn't create an overlap of CPU records associated with the Cost Item 2) the edited record doesn't create a date gap where no CPU information is available if the associated Cost Item is assigned to a project with a "Date Used" value in the gap that would be created

5. Create/edit/delete customers

Story: As a user, I should be able to add, edit and remove customer records from the database.

Acceptance Criteria:
Given: a user wants to create a new customer
When: the user navigates to the Customers page
Then: the user clicks the "Create New" link
Then: the "Create Customer" form is displayed where the user can enter the new customer's first name, last name, email address and phone number
When: the user clicks the Submit button, a new record is created in the database

Given: a user wants to edit an existing customer
When: the user navigates to the Customers page
Then: the user clicks the "Edit" link of an existing customer
Then: the "Edit Customer" form is displayed where the user can edit the customer's first name, last name, email address and phone number
When: the user clicks the Submit button, the customer record is updated in the database

Given: a user wants to delete an existing customer

When: the user navigates to the Customers page
Then: the user clicks the "Delete" link of an existing customer
Then: the "Delete Customer Page" is displayed.
When: the user clicks the Delete button, the system should perform a check to ensure the customer is not associated to any projects. If the customer is associated to a project, the user should receive a message that deleting the customer is not allowed.

6. Create/edit/delete a project

Story: As a user, I should be able to create a new project, edit existing projects and delete existing projects.

Acceptance Criteria:
Given: a user wants to start a new project
When: the user navigates to the Projects page
Then: the user clicks the "Create New" link
Then: the "Create Project" form is displayed where the user can enter the Project Title, Start Date, Completion Date (if known), Amount Charged (if known) and Customer (if known)
When: the user clicks the Submit button, a new record is created in the database

Given: a user wants to edit an existing project
When: the user navigates to the Projects page
Then: the user clicks the "Edit" link of an existing project
Then: the "Edit Project" form is displayed where the user can edit the Project Title, Start Date, Completion Date, Amount Charged and Customer
When: the user clicks the Submit button, the project record is updated in the database

Given: a user wants to delete an existing project
When: the user navigates to the Projects page
Then: the user clicks the "Delete" link of an existing project
Then: the "Delete Project Confirmation Page" is displayed.
When: the user clicks the Delete button, the system will perform a cascading delete of the project and all ProjectCost records

7. Create/edit/delete cost items associated with a project and total all costs on a project

Story: As a user, I should be able to add costs to a project, edit existing costs and delete existing costs. Costs are assigned to a project by a ProjectCost record which contains the Date Used and Quantity

Acceptance Criteria:
Given: a user wants to assign a new cost to a project
When: the user navigates to the Projects page
Then: the user clicks the "Add New Cost" link
Then: the "Add New Project Cost" form is displayed with the Project field pre-populated. The user must enter the Cost Item, Date Used and Quantity
When: the user clicks the Submit button, a new record is created in the database

Given: a user wants to edit an existing cost
When: the user navigates to the details page of a project
Then: the user clicks the "Edit" link of an existing cost
Then: the "Edit Project Cost" form is displayed with the Project and Cost Item fields pre-populated. The user can edit the Date Used and Quantity
When: the user clicks the Submit button, the record is updated in the database

Given: a user wants to delete an existing project cost
When: the user navigates to the details page of a project
Then: the user clicks the "Delete" link of an existing cost
Then: the "Delete Project Cost Confirmation Page" is displayed.
When: the user clicks the Delete button, the record is deleted from the database

8. Display project details to include calculating Profit/Loss based on invoice amount and total of cost items

Story: As a user, I should be able to see the details of a project to include all Project fields, Customer fields, all associated costs, a field that calculates the Total Cost and a Profit/Loss field with subtracts Total Costs from the Project's Amount Charged field.

Acceptance Criteria:
Given: a user wants to see the details view of a project
When: the user navigates to the Projects page
Then: the user clicks the "Details" link next to an existing project
Then: the "Project Details" page is displayed. Note: The two calculated fields are calculated in real-time.