

## **Assignment #04: Customer Relationship Management Tool (CRM)**

### **Background:**

[David Heinemeier Hansson](#) (known to the Ruby community as DHH) is a Danish programmer and the creator of the popular Ruby on Rails web development framework. He is also a partner at the web-based software development firm [37signals](#).

After attracting the attention of Jason Fried by offering him help with PHP coding, Hansson was hired by Fried to build a web-based CRM tool, which ultimately became 37signals' [Basecamp](#) software as a service (SaaS) product.

To aid the development process, Hansson used the then-obscure Ruby programming language to develop a custom web framework. The web framework he created was later released separately from the project management tool as the open source project Ruby on Rails. - *Wikipedia*

### **Learning Goals:**

We're modeling a simple CRM tool with two objects: contact and database. You should be able to create simple classes and relate them to each other. Our end goal is to have a simple application that simulates a CRM in the command line and stores data in memory until the session has ended.

### **User Stories**

In [software development](#) and [product management](#), a [user story](#) is one or more sentences in the everyday or business language of the end user or user of a system that captures what a user does or needs to do as part of his or her job function. User stories are used with [agile software development](#) methodologies as the basis for defining the functions a business system must provide, and to facilitate requirements management. It captures the 'who', 'what' and 'why' of a requirement in a simple, concise way, often limited in detail by what can be handwritten on a small paper notecard. - *Wikipedia*

### **Ruby**

Through this project you'll learn about **Classes**, **Constructors/Instantiation**, **Dependencies**, **Getters** and **Setters** (attr\_reader, attr\_writer and attr\_accessor methods), **Instance vs Local variables**, and how to **design better code**.

### **External Resources:**

- [Stack Overflow - Attr\\_accessor, Attr\\_reader, Attr\\_writer](#)

- [Blog - User Stories](#)

## **Suggested Process:**

### Implement the Contact Class

1. As a developer, the contact class should have five attributes: "id", "firstname", "lastname", "email" and "notes".
2. As a developer, when a user creates a contact, all five attributes are mandatory.
3. As a developer, I am able to modify those attributes at any point in the program at a later time.
4. The Contact class should also have a method that displays all of its values.

### Implement the Database Class

1. As a developer, I should implement the database class as an array that accepts new contacts.
2. As a developer, the database class should have the following methods: "add", "modify\_contact", "display\_all\_contacts", "display\_particular\_contact", "display\_info\_by\_attribute" and "delete\_contact".

### Implement the Runner

1. As a user, I am presented with a prompt to 'add', 'modify', 'display all', 'display contact', 'display attribute', 'delete' and 'exit'.
2. As a user, if 'add' is typed, I am prompted to give my 'first name', 'last name', 'email' and 'notes'.
3. As a user, if 'modify' is typed, I am prompted to enter a contact attribute to be modified.
  - a. As a user, when an attribute is entered, I am prompted to type 'yes' or 'no' to confirm my selection.
  - b. As a user, if 'yes' is typed, I am prompted to change 'id', 'firstname', 'lastname' and 'email'.
  - c. As a user, when an attribute is entered, I am prompted to enter a new value for the attribute.
  - d. As a user, if 'no' is typed, I am returned back to the main menu.
4. As a user, if 'display all' is typed, I am shown all of the contacts that exist.
5. As a user, if 'display contact' is typed, I am shown a particular contact.
6. As a user, if 'display attribute' is typed, I am prompted to enter an attribute so that I can see all of the contacts according to that attribute.
7. As a user, if 'delete' is typed, I am prompted to enter an attribute value of the contact to be deleted.
8. As a user, if 'exit' is typed, I am exited out of the program and returned to the command line.

## **Tips & Tricks**

To enhance the user experience of your program, you can use `'puts "\e[H\e[2J"` to clear your terminal screen.

[Link to Github repo to clone for setup.](#)