

# UML Diagram - Marco

#### Settings

+ sfxEnabled: bool +resetEmail : bool + darkMode: bool + FontSize: int

+ sendRequest(user,email, password): boolean

#### Login

- + userName:String
- + email: String
- + password: String
- + viewPassword: boolean
- + sendRequest(user, password): boolean

#### Sign Up

- + userName:String
- +email: String
- + password: String
- + viewPassword: boolean
- + sendRequest(user,email, password): boolean

#### Element

- + Name: String
- +molar mass : double
- + color: String

#### Molecule

- + Name: String
- +molar mass : double
- + sendRequest(Name): boolean

### **UML Diagram - Daniel**

Calculator real gas

+gas: String
+pressure: double
+volume: double
+temperature: double
+constantA: double
+constatnB: double

+getConstatntA(gas): double +getConstantB(gas): double +calculateMissingValue(): double Neutralisation calculator

+acid: String +base: String +products: String

+getProducts(acid, base): String +getNetEquation(): String Speed of reaction

+initialConcentration: double +finalConcetration: double +time: double +coefficient: int

> +getRate(): double +getOrder(): double

### **UML Diagram - Sahon**

#### Stoichiometry

- + moles: int
- + mass: double
- + energy: double
- + concentration: double
- + getCoefficient(): int
- + balanceEquation(): ArrayList
- + findMissingEnergy(): double
  - + findMissingMoles(): int
- + findMissingMass(): double
- +findMissingConcentration(): double

#### Potentiallons

- + concentration: double
- + findpH(concentration): double
- + findpOH(concentration):
  - double
- + convertTopH(findpOH()): double
- + convertTopOH(findpH()): double

# **UML Diagram - Amir**

### Help Center

- + Name: String
- + help options: List<Button>

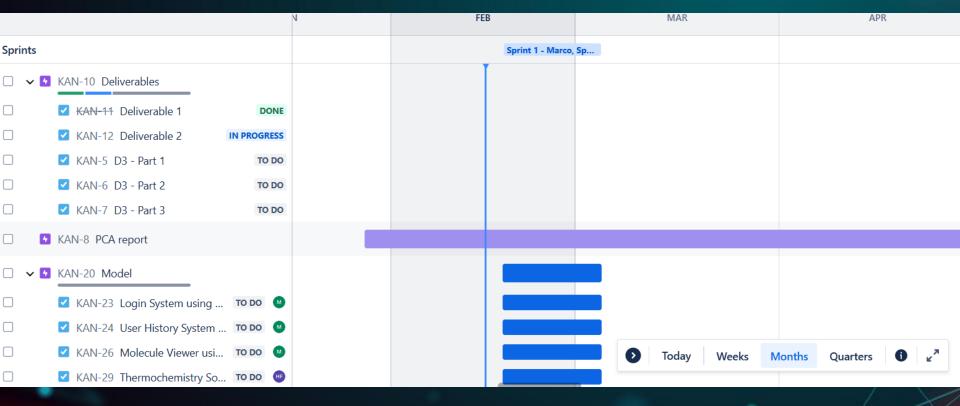
+ displayInfo()

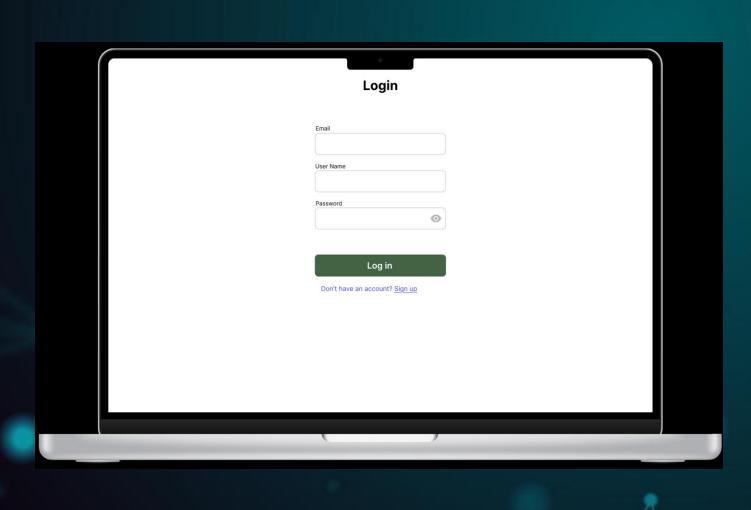
#### **Element Viewer**

- + Name: String
- + Electronegativity: String
- + Radius: String
- + Ionization energey: String
- + Density: Double

+ displayElementInfo(elementId: String): String[]

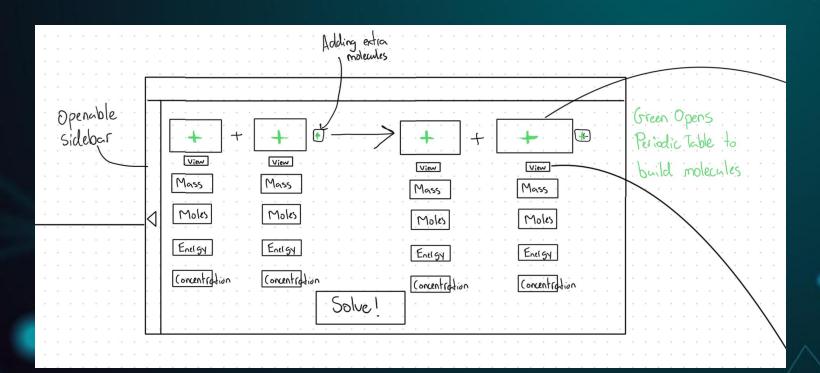
### **Jira Timeline**





# Sign Up Email User Name Password 0 Password (again) 0 Sign Up Already have an account? Log In

### Main Screen



#### **Build a Molecule**

Settings

 $C_5H_{10}O_2$ 

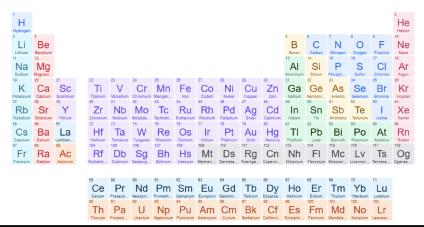
/isualize Molecule

Ralance Equation

Neutralize Acids and Base

alculate Heat Transfer

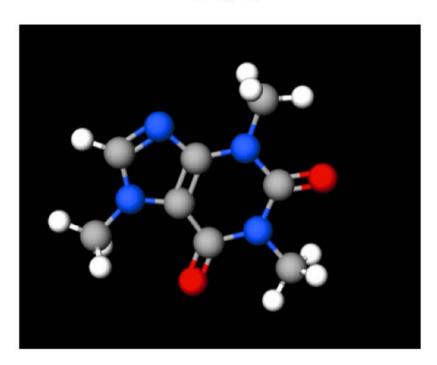
alculate nH and noH



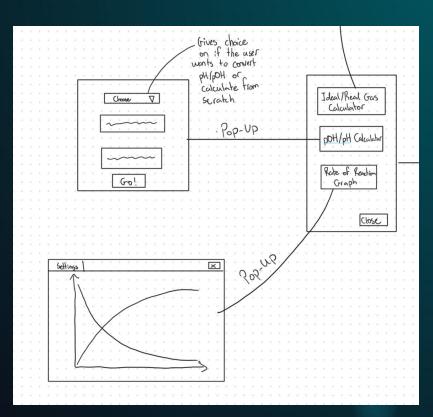
### **3D molecule Viewer**



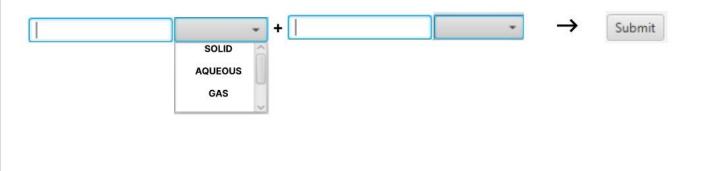
 $C_5H_{10}O_2$ 



## Graph and pH/pOH Calculator



### **Neutralization calculator**





### **Help Center**

How to build a molecule?

How to build an equation?

How to calculate heat transfer?

How to calculate pH and poH ?

How to visualize 3D molecule?

How to change your password?





**Toggle Sound Effects** 



Dark Mode



14 Font Size

V

Log Out

**Reset Password** 

**Delete Account** 

# Input/Output Table

Input	Output
Selected Atoms	Balanced Chemical Equation with Reactants and
	Products
Mass, Concentration, Moles, Concentration,	Missing Mass, Concentration, Mole and
Energy	Concentration, Energy
Concentration, pH/pOH	pH or pOH
Van der Waals constants (a & b), Pressure + units,	One of the missing inputs
Volume, moles, temperature	
Balanced chemical reaction, States of the reactants	Net ionic equation
Concentration and Moles	K Constant with Graph
Selected molecule	3D visualization of the molecule
Clicks on settings page	Help for the user