Demonstration of types of COVID-19 virus and its mechanism

Team 18

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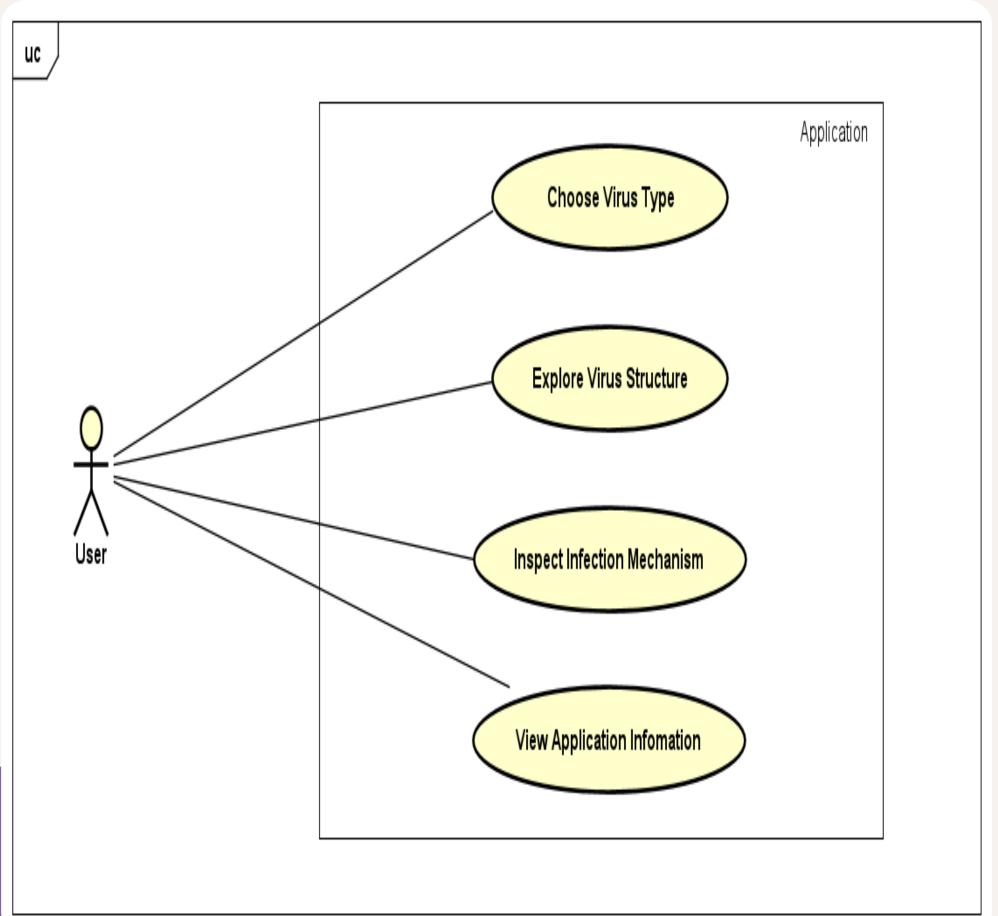
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Problem statement

- Users can select a type of virus
- view the structure of each virus type
- observe the infection mechanism of each virus type.

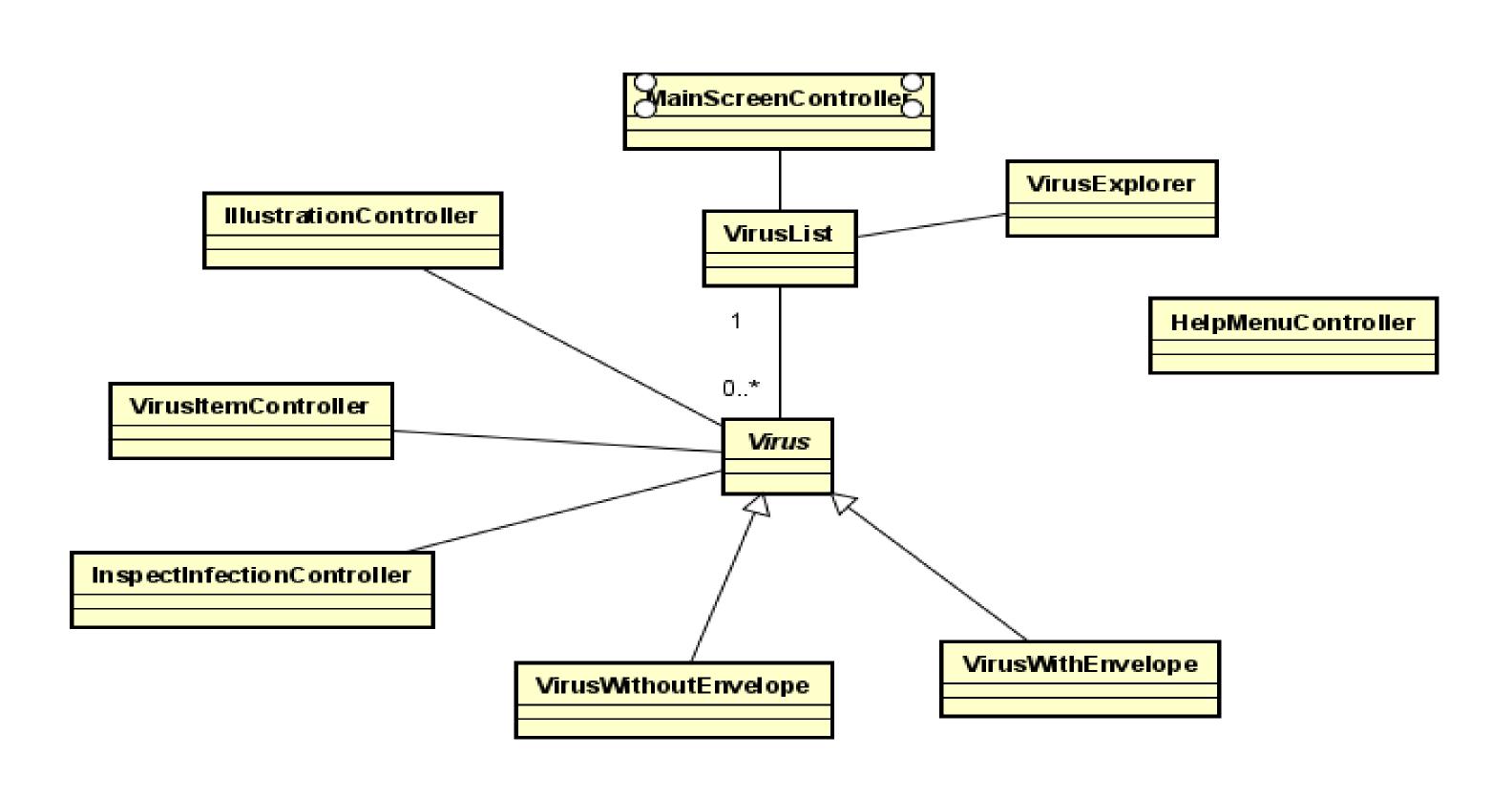


USE CASE DIAGRAM

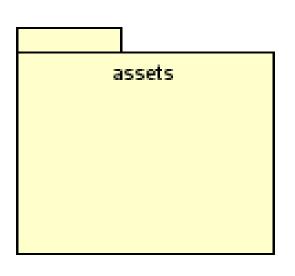


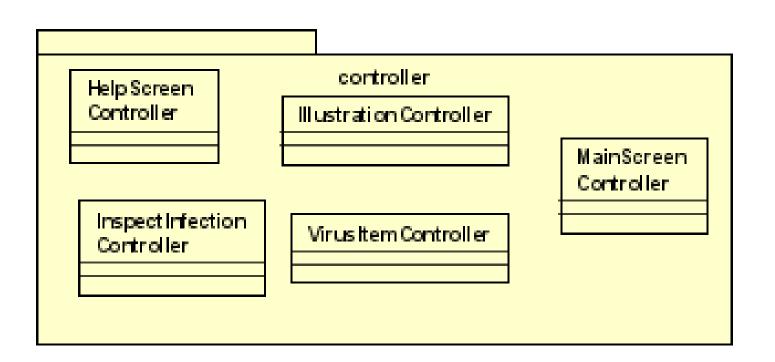
- Choose Virus Type: user can choose one of the two types of viruses with and without lipid envelope.
- Explore Virus Structure: user can view the structure image of the selected virus.
- Inspect Infection Mechanism: Users can observe the infection mechanism of the virus.
- View Application Information: Users can view detailed information about the application.

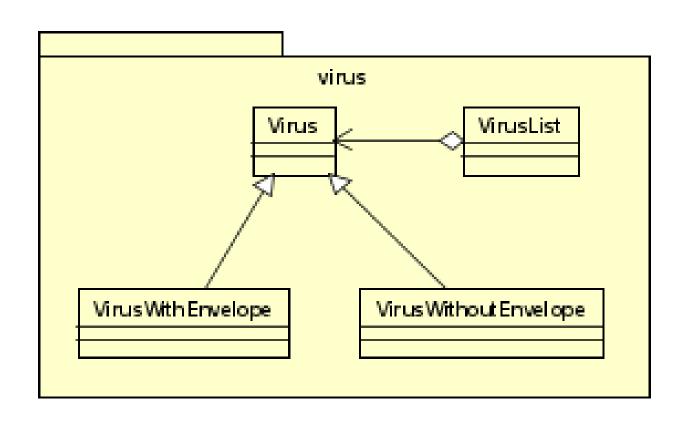
General Class Diagram

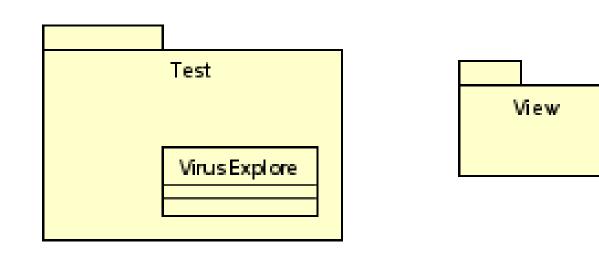


Class Diagram for packages









Detail Class Diagran + virus List : Mrus List | Mrus L

Illustration Controller

- + virus diagram : Image View
- + ta\trus De scription : TextArea
- + virus : Virus
- + set Illustration (): void
- + Illustration Controller(virus: Virus): void

Virus Item Controller

- +tfvirus Name: TextField
- + virus : Virus
- + Virus tem Controller(virus : Virus) : void
- + btn Examine Virus Clicked (e : Action Event) : voi d
- + btn InspectInfection Clicked(e: Action Event): void

Inspect Infection Controller

- + in spect_infection: Media View
- + virus : Virus
- + InspectInfection Controller(virus: Virus): void
- + set \(\text{ide o() : void

Main Screen Controller

- + btn Help: Button + btn Quit: Button
- + scrollPane in stack: ScrollPane
- + vbox_in_stack : VBox + btn Envelope: Button
- btnNo Envelope : Button + gridPane: GridPane
- + Main Screen Controller(virus List: Virus List): void
- + btn Envelope Clicked(e: Action Event): void
- + btnNoEnvelopeClicked(e: ActionEvent): void
- + show \text{\text{irus ListTo Explore(): void
- + btnReturnClicked(e: ActionEvent): void
- + btn Help Clicked(e : Action Event) : void
- + btn Quit Clicked(e : Action Event) : void

Virus Explorer

- + virus List : Virus
- + start(primaryStage : Stage) : void

Help Menu Controller

+ setAbout() : void

+ main(args : String∏) : void

+ ta About : TextArea

+ list0 f/irus : ArrayList< Virus >

VirusList

+ add \rangle irus (\rangle irus : int) : void

0..*

Virus

- + name: String
- + ILLUSTRATION PATH: String
- + INFECTION MECHANISM PATH: String
- + Virus(name: String, ILLUSTRATION PATH: String, INFECTION MECHANISM PATH: String): void

Virus With Envelope

+ Virus Without Envelope (name: String, ILLUSTRATION PATH: String, INFECTION MECHANISM PATH: String)

VirusWithoutEnvelope

+ VirusWithEnvelope(name: String, ILLUSTRATION PATH: String, INFECTION MECHANISM PATH: String): void

OOP techniques

Aggregation

Virus is-a-part of VirusList

Inheritance

An abstract class Virus has two subclass VirusWithEnvelope, VirusWithoutEnvelope

Link video demo: