Designed and coded by: Scott Smalley Driver (View / Controller) scottsmalley90@gmail.com BuildGeneSelectorGUI final DISPLAY SIDE COLUMN WIDTH: double final DEFAULT GENES : String[] final CENTER DISPLAY RATIO: double Legend final TEXTFIELD MAX WIDTH: int final MODAL_DISPLAY_WIDTH : double parentOneTextField : ArrayList<TextField> final MODAL_DISPLAY_HEIGHT : double 1: Generate a selection of Genes parentTwoTextField : ArrayList<TextField> final MODAL_BUTTON_HEIGHT : double using a Decorator Pattern final FIRST_ELEMENT_POS : int + buildGeneSelector(numOfGenes : int) : GridPane final iNUM OF GENES POSSIBLE : int[] + getParentOneTextField() : ArrayList<TextField> final MAIN INSETS : Insets 2: Generate genetic offspring raw + getParentTwoTextField() : ArrayList<TextField> primaryStage : Stage -View data for two reproducing partners. centerDisplay : ScrollPane sceneLayout : BorderPane buildGeneSelector: BuildGeneSelectorGUI BuildGeneResultsGUI 3: Format raw data into presentable buildGeneResults: BuildGeneResultsGUI - data : ObservableList<String> output. + main(args : String[]) + start(primaryStage : Stage) + buildResults(results : TreeMap<String, Double>, totalSize : int) : ObservableList<String> resetCenterDisplay() + getData() : ObservableList<String> generateGeneResults() showAboutMeWindow() buildCSVFile() Model 2 3 <<interface>> <<interface>> <<interface>> **GeneBuilder (Decorator Pattern) OffspringBuildBehavior OffspringFormatDataBehavior** + build() : String + buildResults (parentOneGenes : GeneBuilder, parentTwoGenes : GeneBuilder) : ArrayList<String> + buildData(offspring : ArrayList<String>) : TreeMap<String, Double> + buildCombination() : ArrayList<String> OffspringFormatter OffspringBuilder <<Abstract Class>> GeneWrapper BaseGene totalDataPoints : int gene : String gene : String + buildData(offspring : ArrayList<String>) : TreeMap<String, Double> + buildResults (parentOneGenes : GeneBuilder, parentTwoGenes : GeneBuilder) : ArrayList<String> + getTotalDataPoints() : int internalGene: GeneBuilder - buildSingleResult(parentOne : String[], parentTwo : String[]) : String + BaseGene(gene : String) + build() : String + GeneWrapper (gene : String, internalGene : GeneBuilder) + buildCombination() : ArrayList<String> + abstract build() : String + abstract buildCombination(): ArrayList<String>

Gene

+ Gene(gene : String, internalGene : GeneBuilder)

+ buildCombination(): ArrayList<String>

+ build() : String

Punnett Square Builder v2