# UML class ColorSwitch Diagram - ColorSwitch

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**InterruptedException**

<<throws>>

**Main**

| |
|---|
| + start(Stage) : void |
| + main(String[] args) : void |

<<extends>> **Application**

<<throws>> **Exception**

**IntroViewManager**

| |
|---|
| - IntromainPane:AnchorPane |
| - IntromainScreen:Scene |
| - IntromainStage:Stage |
| + IntroViewManager() |
| + getMainStage() : Stage |
| - runIntroAnimation() : void |
| - makeBackground() : void |
| - createPlayButton() : void |

<<calls>>

**SaveFile**

| |
|---|
| + savePlayerData(PlayerData):void |
| + saveGameData(GameData):void |

**LoadFile**

| |
|---|
| + loadPlayerData():PlayerData |
| + loadGameData():GameData |

**Stage**

**Screen**

**AnchorPane**

**List<GameButtons>**

<<calls>>

<<extends>>

**Constants**

| |
|---|
| # FONT_STYLE:String = source |
| # BUTTON_PRESSED:String = bkg-color, bkg-image-url |
| # BUTTON_RELEASED:String = bkg-color, bkg-image-url |
| # FONT_PATH: String = fontPathInResources |
| # BACKGROUND_IMAGE:String = bkgImgPathInResources |
| # GAME_WIDTH:int = 800 |
| # GAME_HEIGHT:int = 600 |
| # BACKGROUND_IMAGE:String = locationOfBkgImgInResources |
| # PAUSE_IMAGE:String = locationOfPauseImgInResources |
| # WIDTH:int = 800 |
| # HEIGHT:int = 600 |
| # INTRO_WIDTH: int = 800 |
| # INTRO_HEIGHT: int = 600 |

**ViewManager**

| |
|---|
| - mainPane:AnchorPane |
| - mainScreen:Scene |
| - mainStage:Stage |
| - button_List:List<GameButtons> |
| - ScoresubScene: GameSubScenes |
| - StartsubScene:GameSubScenes |
| - ResumesubScene:GameSubScenes |
| - ExitsubScene:GameSubScenes |
| - hiddenSubScene:GameSubScenes |
| - IntroStage:Stage |
| - cur_scoreboard: ArrayList<PlayerData> |
| + ViewManager() |
| + getMainStage() : Stage |
| - createButton() : void |
| - currentSubScene(GameSubScenes) : void |
| - makeBackground() : void |
| - makeLogo() : void |
| - createSubscene() : void |
| + showMainMenu(Stage) : void |
| - display_Load_ScoreBoard(): void |
| - display_Load_SaveFiles():void |

**PlayerData**

| |
|---|
| - name:ArrayList<String> |
| - player_score:ArrayList<int> |
| + PlayerData(ArrayList<String>, ArrayList<int>) |
| + get_name():ArrayList<String> |
| + get_player_score():ArrayList<int> |

**GameButtons**

| |
|---|
| + GameButtons(String) |
| - setButtonFont() : void |
| - setButtonPressed() : void |
| - setButtonReleased() : void |
| - button_actions() : void |

<<extends>> **Buttons**

<<interface>>
**Serializable**

**GameData**

| |
|---|
| - startBall: Ball |
| - currObjColor: ArrayList<String> |
| - prevObjColor: ArrayList<String> |
| - currObstacle_id: int |
| - prevObstacle_id: int |
| - currObjAngles: ArrayList<Float> |
| - prevObjAngles: ArrayList<Float> |
| - currPt:boolean |
| - prevPt:boolean |
| - gp1_layout:float |
| - gp2_layout:float |
| - cSwitch_flag:boolean |
| + get_startBall(): Ball |
| + get_currObjColor(): ArrayList<String> |
| + get_prevObjColor(): ArrayList<String> |
| + get_currObstacle_id(): int |
| + get_prevObstacle_id(): int |
| + get_currObjAngles(): ArrayList<Float> |
| + get_prevObjAngles(): ArrayList<Float> |
| + get_currPt():boolean |
| + get_prevPt():boolean |
| + get_gp1_layout():float |
| + get_gp2_layout():float |
| + get_cSwitch_flag():boolean |

**GameSubScenes**

| |
|---|
| + flag:int = 0 |
| + subPane: AnchorPane |
| + GameSubScenes() |
| + moveSubScene() : void |

<<extends>> **SubScene**

**GameAnimations**

| |
|---|
| + IntroAnimation(ImageView) : void |
| + changeColor(Circle) : void |

<<extends>> **Animations**

**GameManager**

| |
|---|
| - gamePane:AnchorPane |
| - gameScene:Scene |
| - gameStage:Stage |
| - gp1:AnchorPane |
| - gp2:AnchorPane |
| - gameTimer:AnimationTimer |
| - start_ball:Circle |
| - menuStage:Stage |
| - jumplock:boolean = false |
| - start_ball_radius:double = 10.0f |
| - arc_obstacle_radius:double = 60.0f |
| - temp1:GameObstacles |
| - temp2:GameObstacles |
| - curObstacle:GameObstacles |
| - prevObstacle:GameObstacles |
| - curPane:AnchorPane |
| - gp1_obstacle:GameObstacles |
| - gp2_obstacle:GameObstacles |
| - queue:Queue<GameObstacles> |
| - startFlag: int |
| - colorSwitch: Circle |
| - pts: Circle |
| - score: int |
| - scoreDisplay: InfoLabel |
| - currPt: Point |
| - prevPt: Point |
| - pauseSubscene: GameSubScenes |
| - defeatSubscene: GameSubScenes |
| - resumeButton: GameButtons |
| - SaveAndExitButton: GameButtons |
| - exitButton: GameButtons |
| - SpendPointsToContinue: GameButtons |
| - exitToMainMenu: GameButtons |
| - cur_scoreboard: ArrayList<PlayerData> |
| + GameManager() |
| - createSpaceListener() : void |
| - pauseButtonActionListener() : void |
| - pauseGame() : void |
| - createGameLoop() : void |
| + createNewGame(Stage) : void |
| + resumeGame(Stage, GameData): void |
| - createBackGround() : void |
| - moveBackground() : void |
| - chooseObstacleRandom(AnchorPane, float, float) : GameObstacles |
| - checkCollisionColorSwitch() : void |
| - checkCollisionPoints() : void |
| - checkCollisionObstacle() : void |
| - createColorSwitch(AnchorPane) : void |
| - createPoints(AnchorPane) : void |
| - createScoreDisplay() : void |
| - createPauseButton():void |
| - createSubScenes() : void |
| - saveGame() : void |
| - checkPointsToContinue():boolean |
| - updateScoreBoard():void |

**Queue<GameObstacles>**

**Circle**

**AnimationTimer**

<<extends>>

**ColorSwitch**

| |
|---|
| - cs_flag:boolean |
| + makeColorSwitch(float, float):Circle |

**GameObstacles**

| |
|---|
| # obstacle_id: int |
| # arc_components:ArrayList<Arc> |
| # line_components:ArrayList<Line> |
| # animation: Timeline |
| + GameObstacles() |
| + get_obstacle_id() : int |
| + createObstacles(float, float): void |

**ArrayList<Arc>**

<<extends>> **Shape**

<<extends>>

**InfoLabel**

| |
|---|
| + InfoLabel(String) |
| - setLabelFont() : void |

<<extends>> **Label**

**Points**

| |
|---|
| - flag: boolean |
| + makePoints(float, float) : Circle |
| + getFlag(): boolean |
| + setFlag(boolean): void |

**Ball**

| |
|---|
| - start_ball_pos_Y:double = 350.0f |
| - start_ball_pos_X:double = 300.0f |
| - start_ball_vel_Y:double = 0 |
| - start_ball_vel_X:double = 0 |
| - gravity:float = 80 |
| + makeStartBall() : Circle |
| + jump(double) : void |

**Obstacle_1**

| |
|---|
| + Obstacle_1(int) |
| + createObstacle(float, float): void |
| + addAnimation(float, float, AnchorPane): void |

**Obstacle_2**

| |
|---|
| + Obstacle_2(int) |
| + createObstacle(float, float): void |
| + addAnimation(float, float, AnchorPane): void |

**Obstacle_3**

| |
|---|
| + Obstacle_3(int) |
| + createObstacle(float, float): void |
| + addAnimation(float, float, AnchorPane): void |

**Obstacle_4**

| |
|---|
| + Obstacle_4(int) |
| + createObstacle(float, float): void |
| + addAnimation(float, float, AnchorPane): void |

**Obstacle_5**

| |
|---|
| + Obstacle_5(int) |
| + createObstacle(float, float): void |
| + addAnimation(float, float, AnchorPane): void |

<<extends>>