CPCU Bomber Documentation

Created by
Piyaphat Pinyo 6231339321
Punthat Siriwan 6231342121

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CPCU Bomber

Introduction

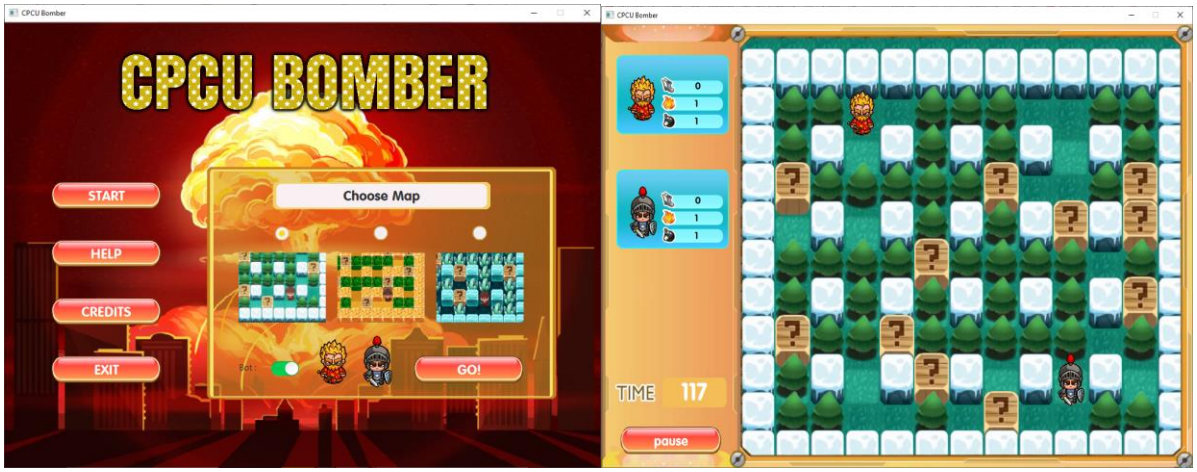
CPCUBomber is inspired by Bomberman's game which is a famous game around the 90s. This game can play as a singleplayer(player vs bot) or multiplayer(player1 vs player2). The objective of this game is to eliminate other players by using a powerful bomb. have fun and enjoy it!

Rules

the player needs to eliminate other players by planting the bomb to win.

Example

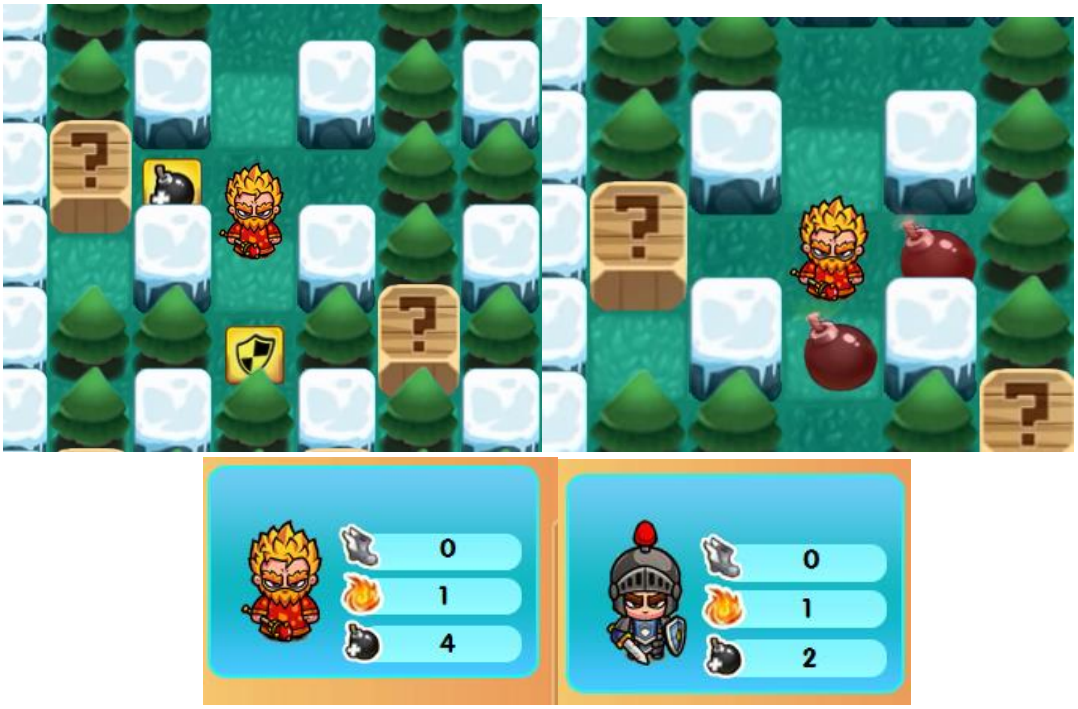
- mouse press on any map to select a game map, then press go



- use keypad to control the player and planting the bomb to destroy the object/entity (key bind in HELP menu) (bomb can destroy only the block, trees, items, player)

- collect the items, that will make your player more powerful!

//the items that each player consumed will show in the left sidebar.



- find the way or path to planting the bomb in front of the other players. the feel the taste of victory!

// press keypad R to restart.

// press ESC to open a select menu.

MainMenu scene

// START button: press on it to show START Scene.
// HELP button: press on it to show HELP Scene.
// CREDITS button: press on it to show CREDITS Scene.
// **EXIT** button: press on it to quit a game.

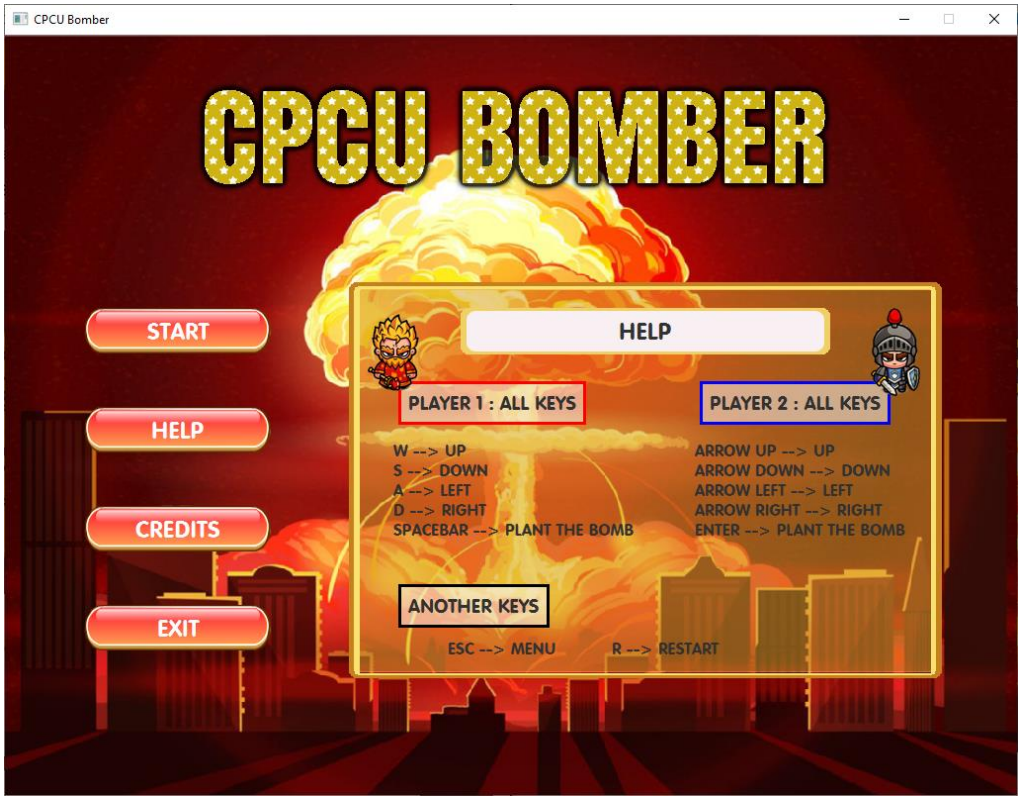
// mouseover the logo (CPCU Bomber) it will be sharper and make a little satisfying sound

START Scene:

// press on Bot button to on / off bot control. (+detail pop-ups)
// mouse on each of the characters to see who is player 1 / player2. (+detail pop-ups)
// choose the map by pressing on it, then press go.

(more pic down here) ↓↓

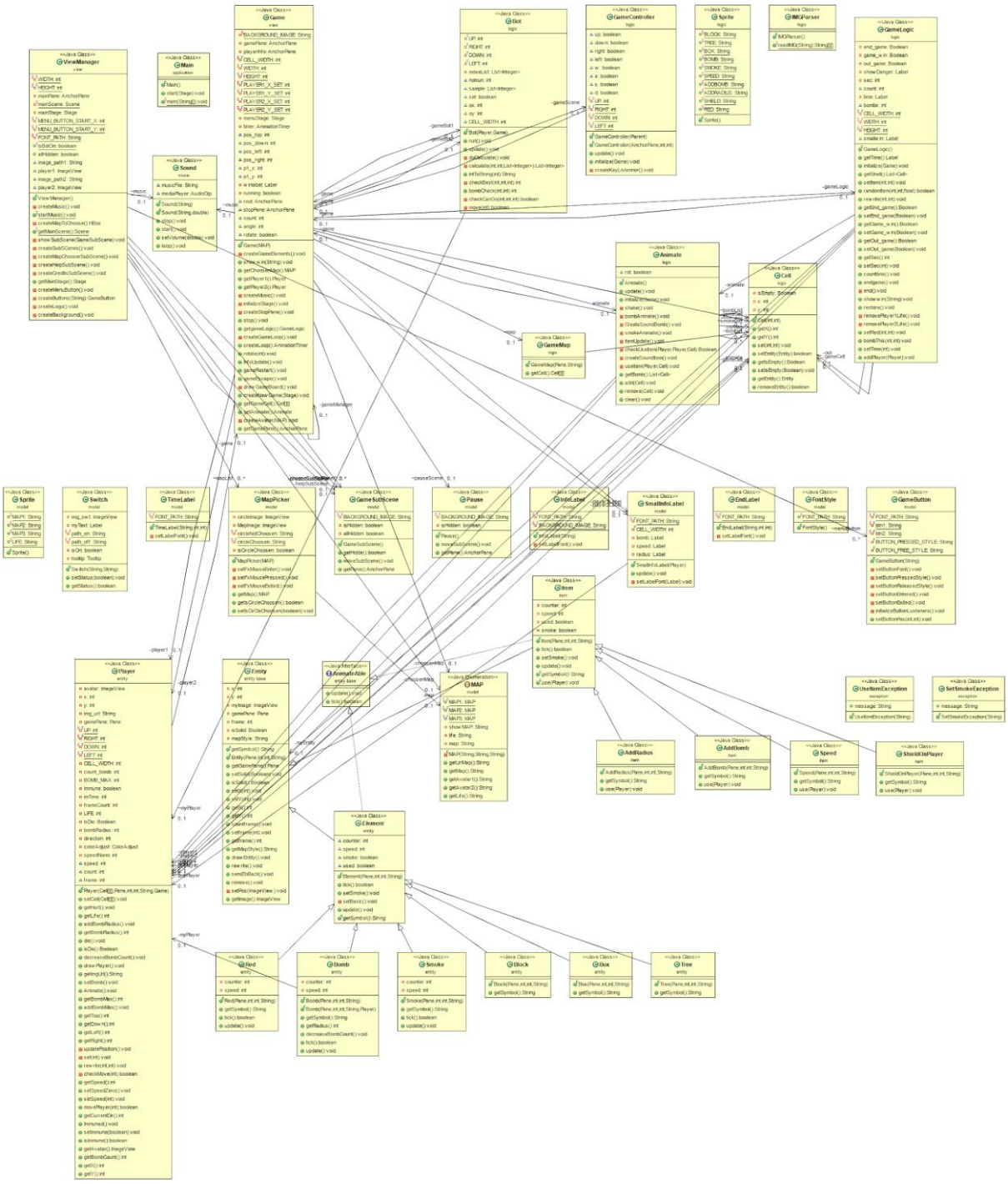
Help scene: show how to play. ↓↓



Credit scene: show the developer team. ↓↓

Exit button: exit the game.

Class diagram.



1.Package Application

1.1 class Main	
1.1.1 Methods	
+ void start(Stage primaryStage)	-show PrimaryStage
+ static void main(String[] args)	-main application

2. Package Entity

2.1 class Element extends Entity implements AnimateAble	
2.1.1 Fields	
- int count	for count frame
- int speed	if count%speed==0 will change animate frame
- boolean smoke	if true change this Entity to smoke
2.1.2 Constructor	
+ Element(Pane gamepane,int x ,int y,Stirng mapStyle)	super(gamePane,x,y,mapStyle)
2.1.3 methods	
+ boolean tick()	if count%speed==0 will call update()
+ void setSmoke() throws SetSmokeException	smoke mean Redbox - count frame - call update() if count%speed==0
+ void update() throws FileNotFoundException	- setElement to smoke if smoke==true
+ void setBasic()	- set to red block
+ *getStymbol()*	return image path
2.2 class Block extends Element	
2.2.1 Constructor	
+ Block(Pane gamePane, int x , int y ,String mapStyle)	super(gamePane,x,y,mapStyle) setSolid(true)
2.2.2 methods	

+ String getSymbol()	return Sprite.BLOCK
2.3 class Bomb extends Element	
2.3.1 Constructor	
+ Block(Pane gamePane, int x , int y ,String mapStyle)	super(gamePane,x,y,mapStyle) setSolid(false)
+ Block(Pane gamePane, int x , int y ,String mapStyle,Player player)	this(gamePane,x,y,mapStyle) initianlize player
2.3.2 methods	
+ String getSymbol()	return Sprite.Bomb
+ int getRadius()	return player bomb rardius
+ void decreaseBombCount()	decrease playerBombCount
+ boolean tick()	animate Gradually faster
+ void update()	update image
2.4 class Box extends Element	
2.4.1 Constructor	
+ Box(Pane gamePane, int x , int y ,String mapStyle)	super(gamePane,x,y,mapStyle) setSolid(true)
2.4.2 methods	
+ String getSymbol()	return Sprite.BOX
2.5 class Tree extends Element	
2.5.1 Constructor	
+ Tree(Pane gamePane, int x , int y ,String mapStyle)	super(gamePane,x,y,mapStyle) setSolid(true)
2.5.2 methods	
+ String getSymbol()	return Sprite.TREE

2.6 class Smoke extends Element	
2.6.1 Constructor	
+ Smoke(Pane gamePane, int x , int y ,String mapStyle)	super(gamePane,x,y,mapStyle) setSolid(false)
2.6.2 methods	
+ String getSymbol()	return Sprite.SMOKE
+ boolean tick()	this methods will return true if smoke time out
+ void update()	update image
2.7 class Red extends Element	
2.7.1 Constructer	
+ Red(Pane gamePane, int x , int y ,String mapStyle)	super(gamePane,x,y,mapStyle) setSolid(false)
2.7.2 methods	
+ String getSymbol()	return Sprite.RED
+ boolean tick()	this methods will return true if smoke time out
+ void update()	update image
2.8 class Player	
2.8.1 Feilds	
- ImageView avatar	avatar image
- int x	player x cell position
- int y	player y cell position
-String img_url	url avatar image
- Pane gamePane	gamePane that is player play

- final int UP	UP= 0
- final int RIGHT	RIGHT=1
- final int DOWN	DOWN = 2
- final int LEFT	LEFT = 3
- int CELL_WIDTH	CELL width in pixel
- int count_bomb	count a number of bomb that player planting
- boolean immune	immune == true if player immuning
- int imTime	immune time
- int frameCount	frameCount for show animation frame
- int LIFE	player life
- Boolean isDie	isDie will be true if player die
- int bombRadius	contain bomb radius
- int direction	contain 0,1,2,3 that mean UP,RIGHT,DOWN,LEFT
- ColorAdjust colorAdjust	if player is immune wil call colorAdjust
- int speedNorm	initiallize speed
- int speedHue	initiallize speed hue animate
- int count	if count%12 == 0 : frame ++
- int frame	1 direction will have frame to animate player
- Cell[][] gameCell	contain gameCell
2.8.2 Constructor	
+ Player(Cell[][] gameCell,Pane gamePane , int x ,int y ,String img_url,Game game)	- recieve gameCell , gamePane , position x,y , Game , img_url -initialize value - drawPlayer()

2.8.3 methods	
+ void setCell(Cell[][] gameCell)	set gameCell
+ void getHurt()	call this method when player gethurt
+ void getLife()	return player life
+ void addBombRadius()	ombradius += 1
+ int getBombRadius()	return player BombRadius
+ void die()	this method call when need to kill player
+ Boolean isDie()	if player is dis return true
+ void decreaseBombCount()	this method call when bomb has already exploded
+ void drawPlayer()	addPlayer to gamePane
+ String getImgUrl	return url image player
+ int setBomb()	set bomb at (x,y) that player stay
+ int Animate()	animation player (walk / stay animation)
+ int getBombMax()	return maximum bomb that player can plant
+ int getTop()	return avatar top position
+ int getDown()	return avatar down position
+ int getLeft()	return avatar left position
+ int getRight()	return avatar right position
+ void updatePosition()	calculate avatar position to cell(x,y)
+ void set(int direction)	set player direction
+ void rewrite(int x,int y)	Swap the order of images for the correct view.

+ boolean checkMove(int direction)	recieve direction and check can player go with this direction
+ int getSpeed()	return player speed
+ void setSpeed()	set speed player
+ void movePlayer(int direction)	recieve direction and moveplayer to this direction
+ int getCurrentDir()	get player direction
+ void Immuned()	set immune effect
+ void setImmune(boolean op)	set player to immune state
+ boolean isImmune()	return true if player immune
+ ImageView getAvatar()	return avatar image
+ int getBombCount()	reuturn a number of bomb that player has planting
+ int getX()	return player position X (cell type)
+ int getY()	return player position Y (cell type)

3. Package Entity.base

3.1 Interface AnimateAble	
3.1.1 Methods	
+ void update throws FileNotFoundException	update the display of AnimateAble
+ boolean tick	use for countframe to change AnimateAble display
3.2 Class Entity	
3.2.1 Fields	
- int x,y	position cell (x,y)
- ImageView myImage	image of each entity
- int frame	use in frame count
- Boolean isSolid	check the state of entity
- String mapStyle;	path of the map
+ String getSymbol()	path of any object (symbol of each object)
- Pane gamePane	pane of the entity
3.2.2 Constructor	
+ Entity(Pane gamePane,int x,int y,String	- receive game pane
mapStyle);	- set the location of the entity by x,y
	- get the mapstyle (map chooser)
3.2.3 Methods	
+ Pane getGamePane()	get this gamepane
+ void setSolid(Boolean x)	set state of the entity by x if true player can't walk thought
+ Boolean isSolid()	return isSolid
+ void setX(int x)	set the x location of the entity
+ void setY(int y)	set the y location of the entity
+ int getX()	get the X posiiton of the entity
+ int getY()	get the Y location of the entity
+ void countframe()	count the frame to swap the pic of entity
+ void setframe(int frame)	sets the currently frame.
+ int getframe()	get the currently frame.
+ String getMapStyle()	get the mapstyle
+ void drawEntity()	-draw the entity in to the game

	-call setPos(ImageView todo)
	- add this entity in to the gamepane
+ void rewrite()	remove entity and draw again and add in gamepane
+ void sendToBack()	make this entity behind the other entity
+ void remove()	remove this entity from the gamepane
- void setPos(ImageView todo)	set pos X, pos Y of the entity in gamemap
+ ImageView getImage()	get the currently image

4. Package exception

4.1 class SetSmokeException extends Exception	
4.1.1 Fields	
+ String message	contain error message
4.1.2 Constructor	
+ SetSmokeException(String message)	call super() recieve message and set local message to this message
4.2 class UseItemException extends Exception	
4.2.1 Fields	
+ String message	contain error message
4.2.2 Constructor	
+ UseItemException(String message)	call super() recieve message and set local message to this message

5. Package item

5.1 class AddBomb extends Item	
5.1.1 Constructor	
+ AddBomb(Pane gamePane, int x , int y, String mapStyle)	recieve gamePane , position x,y and mapStyle setSolid to false
5.1.2 Methods	
+ String getSymbol()	return Sprite.ADDBOMB
+ void use (Player player) throws UseItemException	recieve player and this player add ability to plant bomb +1 (BOMB MAX +=1)
5.2 class AddRadius extends Item	
5.2.1 Constructor	
+ AddRadius(Pane gamePane, int x , int y, String mapStyle)	recieve gamePane , position x,y and mapStyle setSolid to false
5.2.2 Methods	
+ String getSymbol()	return Sprite.ADDRADIUS
+ void use (Player player) throws UseItemException	recieve player and this player add bomrardius 1 (bombRadius += 1)
5.3 class ShieldOnPlayer extends Item	
5.3.1 Constructor	
+ ShieldOnPlayer (Pane gamePane, int x , int y, String mapStyle)	recieve gamePane , position x,y and mapStyle setSolid to false
5.3.2 Methods	
+ String getSymbol()	return Sprite.SHIELD
+ void use (Player player) throws UseItemException	recieve player and set player immune

5.4 class Speed extends Item	
5.4.1 Constructor	
+ Speed(Pane gamePane, int x , int y, String mapStyle)	recieve gamePane , position x,y and mapStyle setSolid to false
5.4.2 Methods	
+ String getSymbol()	return Sprite.SPEED
+ void use (Player player) throws UseItemException	recieve player and this player add speed 1 (MAXIMUM at 5)
5.5 class Item extends Entity implements AnimateAble	
5.5.1 Fields	
- int counter	count frame
- int speed	aniamte speed
- boolean used	contain status that show that item already used ?
- boolean smoke	Camouflage items with smoke
5.5.2 Constructor	
+ Item(Pane gamePane,int x , int y , String mapStyle)	-recieve gamePane , position x,y, mapStyle initialize value
5.5.3 methods	
+ boolean tick()	-count frame -return true if item already used
+ setsmoke()	this method call when object has explode and get Item
+ update()	animate Item
+ *String getSymbol()*	return String path of item
+ *void use (Player player) throws UseItemException*	-receive player and apply effect to player

6. Package logic

6.1 Class Animate	
6.1.1 Fields	
- List<Cell> itemList	store all items that can animate
- List<Cell> smokeList	store all smoke in the game
- List<Cell> bombList	store all bombs in the game
- Game game	check the state of entity
- Player player1, player2	the common information of each player
6.1.2 Constructor	
+ Animate()	- initialize itemList
	- initialize smokeList
	- initialize bombList
6.1.3 Methods	
+ void update()	call itemUpdate(); smokeAnimate(); bombAnimate();
+ void initialize(Game game)	set the game type and player
- void shake()	shake the screen game play
- bombAnimate()	make the bomb blink when it closed to explode
- CreateSoundBomb()	make a sound when the bomb explode
- smokeAnimate()	make the smoke lighter when it closed to blow out
- void useitem(Player player, Cell tmp)	that player get the power item buff
- void itemUpdate()	the items appear after the smoke is gone.
- Boolean checkUseItem(Player player1,	if any player intersect the item, remove that item and
Player player2, Cell item)	that player call useitem(Player player,Cell tmp);
- void createSoundItem()	make a sound when the bomb explode
+ List<Cell> getBomb()	get all the bomb cell
+ void add(Cell tmp)	add that cell into list if it instance of item,smoke,bomb
+ void remove(Cell tmp)	remove that cell form the list that it was a

	member
+ void clear()	remove all member in the itemList,smokeList,bombList
6.2 Class Bot	
6.2.1 Fields	
- Player myPlayer;	player controller type = bot
- final int UP = 0, RIGHT = 1, DOWN = 2, LEFT = 3;	direction of the bot
- List<Integer> moveList	store move list of this bot
- Game game	this game information
- boolean set=false;	set the statement of bot
- int ox. oy	the location of the past posX and posY
- int CELL_WIDTH = 65;	the constant cell width
6.2.2 Constructor	
+ Bot(Player player, Game game)	- receive plater and game information
	- initialize moveList and sample
	- call doCalculate();
6.2.3 Methods	
+ void run()	call update()
+ void update()	make bot action all the time when the player alive
- void doCalculate()	call calculate(int x, int y, List<Integer> e) and show action information
- List<Integer> calculate(int x, int y, List<Integer> e)	calculate the move path
+ String IntToString(int x)	decode int to String
- int checkBest(int x, int y, int direc)	check the best move for bot from all the move path
+ int bombCheck(int x, int y)	check the bomb doesn't next to the bot
-boolean checkCanGo(int x, int y, int direction)	check the path can go there or not
- boolean move(int direction)	make the bot take action (move and plant the bomb)
6.3 Class Cell	

6.3.1 Fields	
- Entity myEntity	type of entity
- Boolean isEmpty	this cell is all ready exist or not
- int x,y	coordinates of cell (x.y)
6.3.2 Constructor	
+ '+Cell(int x,int y)	- initialize isEmpty = true
	- receive x,y and set the position of this cell
6.3.3 Methods	
+ int getX()	get position x
+ int getY()	get position y
+ void set(int x, int y)	set the coordinates of cell (x,y)
+ boolean setEntity(Entity e)	set the type of entity in this cell and always return true
+ boolean getIsEmpty()	give the formation that's this cell empty or not
+ void setIsEmpty(Boolean isEmpty)	set this cell is empty
+ Entity getEntity()	get the type of entity in this cell
+ boolean removeEntity()	remove the entity of this cell
6.4 Class GameController extens Scene	
6.4.1 Fields	
- boolean up = false, down = false, right = false, left = false	the direction of player1 while not moving
- boolean w = false, a = false, s = false, d = false;	the direction of player2 while not moving
- int UP = 0, RIGHT = 1, DOWN = 2, LEFT = 3;	the direction of the game
- Game game	this game information
6.4.2 Constructor	
+ GameController(Parent arg0)	receive Parent and use the constructor of scene with arg0
+ GameController(AnchorPane root, int width, int height)	receive root,width,height, then use the constructor of scene with that parameter
6.4.3 Methods	
+ void update()	update the action of each player
+ void initialize(Game game)	receive game and call createKeyListenner();
+ void createKeyListenner()	add the action when mouse click or key pressed

6.5 Class GameLogic	
6.5.1 Fields	
- Cell[][] gameCell	list of Cell in thiss game match
- Player player1, player2	the information of player1 and player2
- Game game	the information of this game match
- Boolean end_game, game_win, out_game	status of the game
- Label showDanger	the common information of each player
- int sec = 120	game time limit
- int count = 0	time count
- Label time = new TimeLabel("" + sec, 13 * CELL_WIDTH, 11 * CELL_WIDTH);;	timer count show (decreased)
- int bombx = 0;	number of the bomb has been planted
- final int CELL_WIDTH = 65	constant of cell width
- List<Cell> out;	all cell in the game
- final int WIDTH = 17 * CELL_WIDTH;	pixel of width fullscreen
- final int HEIGHT = 11 * CELL_WIDTH + 40;	pixel of height fullscreen
- Animate animate	the things that animate in this game ex.bombs
- Label smallwin	label to show win text
- List<Player> allPlayer	player list (player1,player2)
6.5.2 Constructor	
+ GameLogic()	- initialize out_game,game_win,end_game = false;
	- initialize allPlayer = new ArrayList<Player>();
6.5.3 Methods	
+ Label getTime()	get the label of timer count
+ void initialize(Game game)	receive game and initialize gameCell player out
+ List<Cell> getShell()	destroy the map by itself when it's time up
+ void setItem(int x, int y)	random probability of item to spawn
+ boolean randomItem(int x, int y, float percent)	randoms the items to spawn after the bomb explode
+ rewrite(int x, int y)	draw map again from cell (x,y)
+ boolean getEnd_game()	get status of end_game
+ void setEnd_game(Boolean end_game)	receive data and set the end_game status

+ boolean getGame_win()	get status of game_win
+ void setGame_win(Boolean game_win)	receive data and set the game_win status
+ boolean getOut_game()	get status of out_game
+ void setOut_game(Boolean out_game)	receive data and set the put_game status
+ int getSec()	get the currently time
+ void setSec(int sec)	set the timer
+ void counttime()	timer of the game & notification appear when it's nearly time out
+ void endgame()	end this game match
+void showwin(String text)	show win text after any player win
+ void restore()	restore every field to default & clear all statement or methods to default
- void removePlayer1Life()	remove player1 life
- void removePlayer2Life()	remove player2 life
+ void setRed(int x,int y)	when the game is nearly out of time the block will turn to red block
+ void bombThis(int x, int y)	destroy the object that's near the bomb when it exploded
+ void setTime(int time)	set the timer //duplicate to getsec()
+ void addPlayer(Player player)	add player to the playerList
6.6 Class GameMap	
6.6.1 Fields	
- Cell[][] myMap	Array of cell in the game map
6.6.2 Constructor	
+ GameMap(Pane gamePane,String mapStyle)	- Initialize a map with the content loaded using
	IMGParser with the path is mapStyle
6.6.3 Methods	
+ String[][] readIMG(String filename)	read img file and save the value RGB then load out
6.7 Class IMGParser	
6.7.1 Methods	
+ Cell[][] getCell()	get the cell list of this map

6.8 Class Sprite	
6.8.1 Fields	
+ String BLOCK	the constant using for rendering of block
+ String TREE	the constant using for rendering of tree
+ String BOX	the constant using for rendering of box
+ String BOMB	the constant using for rendering of bomb
+ String SMOKE	the constant using for rendering of smoke
+ String SPEED	the constant using for rendering of speed item
+ String ADDBOMB	the constant using for rendering of addbomb item
+ String ADDRADIUS	the constant using for rendering of addradius item
+ String SHIELD	the constant using for rendering of shield item
+ String RED	the constant using for rendering of shield item

7. Package model

7.1 class EndLabel extends Label	
7.1.1 Fields	
- String final String FONT_PATH	FONT_PATH= FontStyle.FONT_PATH
7.1.2 Constructor	
+ EndLabel(String text,int w,int h)	- recieve text , height , width - initialize font - set Width , height
7.1.3 methods	
- void setLabelFont()	setFont type
7.2 class FontStlye	
7.2.1 Fields	
+ String FONT_PATH	class loader font path
7.3 class GameButton extends Button	
7.3.1 Fields	
-final String FONT_PATH	FONT_PATH= FontStyle.FONT_PATH
-final String btn1	classloader button1
-final String btn2	classloader button2 (hover)
- final String BUTTON_PRESSED_STYLE	set button style
- final String BUTTON_FREE_STYLE	set button style

7.3.2 Constructor	
+ GameButton(String text)	-recieve text and apply text to button -initialize button
7.3.3 methods	
- void setButtonFont()	set button font
- void setButtonPressedStyle()	set button pressed style and play sound
- void setButtonReleasedStyle()	set button released style and play sound
- void setButtonEntered()	set button entered style and play sound
- void setButtonExited()	set button exited and play sound
- void initializeButtonListeners()	set Event button click
+ void setButtonPos(int x , int y)	-translate button (-50%,-50%) -set position to (x,y)
7.4 GameSubScene extends SubScene	
7.4.1 Fields	
- String final String BLACKGROUND_IMAGE	classloader background image
- boolean isHidden	status that subscene hidden / show
7.4.2 Constructor	
+ GamSubscene()	- initialize size , background - isHidden = true
7.4.3 methods	
+ boolean getHide()	return isHidden
+ void moveSubScene()	show / move this subscene
+ AnchoPane getPane()	return this.getRoot()
7.5 class InfoLabel extends Label	

7.5.1 Fields	
- final String FONT_PATH	FONT_PATH = FontStyle.FONT_PATH
- final String BACKGROUND_IMAGE	Classloader background image
7.5.2 Constructor	
+ InfoLabel(String text)	- recieve text - initialize text , background , font
7.5.3 methods	
- void setLabelFont()	set Font
7.6 enum MAP	
7.6.1 enum	
MAP1(Sprite.MAP1,Sprite.LIFE,"map1/"),MAP2(Sprite.MAP2,Sprite.LIFE,"map2/"),MAP3(Sprite.MAP3,Sprite.LIFE,"map3/");	
7.6.2 Fields	
- String showMAP	little image url (show in menu)
- String life	life image url
- String map	map type
7.6.3 Constructor	
- MAP(String showMAP,String life,String map)	- recieve showMAP , life , map and initialize
7.6.4 methods	
+ String getUrlMap()	return little image url (show in menu)
+ String getMap()	return map type
+ String getAvatar1()	return path avatar 1
+ String getAvatar2()	return path avatar 2
+ String getLife()	return LIFE path

7.7 class MapPicker extends VBox	
7.7.1 Fields	
- ImageView circleImage	Little circle on top Image View (in menu)
- ImageView MapImage	Little Map ImageView (in menu)
- final String circleNotChoosen	contain path circle that not choosen
- final String circleChoosen	contain path circle that choosen
- MAP map	contain map
- boolean isCircleChoosen	contain status is circle choosen
7.7.2 Constructor	
+ MapPicker(MAP map)	- recieve map - initialize style - isCircleChoosen = false - set on Mouse event
7.7.3 methods	
- void setFxMouseEnter()	set effect on mouse enter
- void setFxMousePressed()	set effect on mouse pressed
- void setFxMouseExited()	set effect on mouse exited
+ MAP getMap()	return this.map
+ boolean getIsCircleChoosen()	return isCircleCoosen
+ void setIsCirCleChoosen(boolean isCircleCoosen)	this.isCircleCoosen =isCircleCoosen
7.8 class pause extends SubScene	
- final String BLACKGROUND_IMAGE	classloader background image
- boolean isHidden	status that subscene hidden / show
7.8.2 Constructor	

+ Pause()	- initialize size , background - isHidden = true
7.8.3 methods	
+ void moveSubScene()	show / move this subscene
+ AnchoPane getPane()	return this.getRoot()
7.9 **class SmallInfoLabel extends AnchorPane**	
- final String FONT_PATH	FONT_PATH= FONTStyle.FONT_PATH
- final int CELL_WIDTH	CELL_WIDTH = 65
- final Label bomb	show bomb BOMB_MAXthat player have
- final Label speed	show bomb SPEED that player have
- final Label radius	show bomb radius that player have
- private Player player	for any SmallInfoLabel will have its own player
7.9.2 Constructor	
+ SmallInfoLabel()	- recieve player and set player to this player -initialize label , font , background, set position
7.9.3 methods	
+ void update()	update all label in this class
- void setLabelFont()	set label font
7.10 class Sprite	
7.10.1 Fields	
+ String MAP1	ClassLoader MAP1
+ String MAP2	ClassLoader MAP2
+ String MAP3	ClassLoader MAP3

+ String LIFE	ClassLoader LIFE
7.11 class Switch	
7.11.1 Fields	
- ImageView img_swt	switch image
- Label myText	label that show before switch
- final String path_on	path switch on with classloader
- final String path_off	path switch off with classloader
- boolean isOn	contain status of button isOn / isOff
- Tooltip tooltip	tooltip when mouse hover
7.11.2 Constructor	
+ Switch(String text,String detail)	- recieve labeltext and detail - initialize - set style - set on mouse aciton
7.11.3 methods	
+ void setStatus(boolean tmp)	set switch status
+ boolean getStatus	get switch status
7.12 class TimeLabel extends Label	
7.12.1 Fields	
- final String FONT_PATH	FONT_PATH = FontStyle.FONT_PATH
7.12.2 Constructor	
+ TimeLabel(String text,int w,int h)	- recieve text , width , hieght - initialize - set font
7.12.3 methods	
- void setLabelFont()	set font style

8. Package music

8.1 class Sound	
8.1.1 Fields	
- String musicFile	contain music path
- AudioClip mediaPlayer	audio player
8.1.2 Constructer	
+ Sound(String path)	this(path,0.1)
+ Sound(String path,double x)	- recive path file , x (volume) - set path , volume - play music
8.1.3 methods	
+ void stop()	music stop
+ void start()	music start
+ void setvolume(double x)	set volume to x
+ void loop()	music loop on

9.Package view

9.1 class Game	
9.1.1 Fields	
- String BACKGROUND_IMAGE	path background image
- AnchorPane gamePane	anchor pane show game
- AnchorPane playerInfo	anchor pane show player iniformation
- GameController gameScene	Scene game
- final int CELL_WIDTH	CELL_WIDTH = 65
- final int WIDTH	17 *CELL_WIDTH
- final int HEIGHT	11 * CELL_WIDTH + 40
- final int PLAYER1_X_SET	PLAYER1_X_SET=3
- final int PLAYER1_Y_SET	PLAYER1_Y_SET=2
- final int PLAYER2_X_SET	PLAYER2_X_SET=9
- final int PLAYER2_Y_SET	PLAYER2_X_SET=9
- Stage menuStage	mainStage
- AnimationTimer timer	ticker timer control (send tick to) every class
- Cell[][] gameCell	map cell
- MAP choosenMap	if player choose map when they click program will auto save map they click in choosenMap
- Player player1	player1
- Player player2	player2

- Game gameManager	for start new game
- SmallInfoLabel player1Label	information label for player1
- SmallInfoLabel player2Label	information label for player2
- Label winlabel	this label show when player win / lose
- Animate animate	contain a lot of animate able and animate them together
- Sound music	music playing in background
- GameLogic gameLogic	gameLogic will progress anythins for example how bomb can explode , set Iteme , rewrite , etc
- Bot gameBot1	bot controller with player 1
- Bot gameBot2	bot controller with player 2
- private boolean running	if stop pane show running = false
- AnchorPane root	root of all pane
- AnchorPane stopPane	if stopgame this stopPane will show
- Pause pauseScene	pauseScene is subscene that show in stop pane
- int count	count frame (count++ when timer handle)
- int angle	if need to shake scene just set angle
- boolean rotate	set rotate true for enable function shake scene
- GameMap map	its contain gameCell
9.1.2 Constructor	
+ Game(MAP choosenemap)	- recieve choosenMap - initalizeStage - createeGamellop() - running = true

9.1.3 methods	
- void createGameElements()	create all elements in game
+ void showwin(String text)	if game end call this method to show win/losee
+ MAP getChoosenMap()	return mapChoosen
+ Player getPlayer1()	return player1
+ Player getPlayer2()	return player2
- void createMusic()	palyer music background
- void initializeStage()	- music start - initialize stage
- void createStopPane()	create all element in stoppane
+ void stop()	call this method if want to stop game
+ GameLogic getgameLogic()	return gameLogic
+ void createGameLoop()	- call createLoop() - timer.start()
+ void createLoop()	loop is created form this method
+ void rotate(int angle)	- recieve angle if you want to shake scene call this method
+ void InfoUpdate()	update infomation label
+ void gameRestart()	if you need to restart game call this method
+ void gameEscape()	if you need to exitgame call this method
- void drawGameBoard()	this method draw box , tree , block , etc.
+ void createNewGame(Stage menuStage)	this method is for initialize game
+ Cell[][] getGameCell()	retur gameCell

+ Animate getAnimate()	return animate
- void createAvatar(MAP choosenMap)	this method createAvatar , bot
+ AnchorPane getGamePane()	return gamePane
9.2 class ViewManager	
9.2.1 Fields	
- final int WIDTH	WIDTH=1024
- final int HEIGHT	HEIGHT = WIDTH * 3 / 4
- AnchorPane mainPane	mainPane
- Scene mainScene	main scene that show in view manager
- Stage mainStage	main stage that show in view manager
- final int MENU_BUTTON_START_X	MENU_BUTTON_START_X = 175
- final int MENU_BUTTON_START_Y	MENU_BUTTON_START_X = 300
- final String FONT_PATH	FONT_PATH = FontStyle.FONT_PATH
- List<GameButton> menuButton	its contain all button in menu
- List<GameSubScene> allPane	its contain all subscene
- List<MapPicker> mapList	its contain all of map that game have
- MAP choosenMap	this variable contain map that player choose
- GameSubScene creditsSubScene	credit subscene
- GameSubScene helpSubScene	help subscene
- GameSubScene chooseSubScene	choose map subscene

# Sound music	music
+ boolean isBotOn	isBotOn=true
- String image_path1	ClassLoader.getSystemResource("cha1.png")
- ImageView player1	ImageView(image_path1)
- String image_path2	ClassLoader.getSystemResource("cha2.png")
- ImageView player2	ImageView(image_path2)
9.2.2 Constructor	
- ViewManager()	-initialize -createMusic(); -createSubSCenes(); -createBackground(); -createMenuButton(); -createLogo();
9.2.3 methods	
- void createMusic()	initialize music
+ void startMusic()	start music
- HBox createMapToChoose()	create map to choose in menu
+ Scene getMainScene()	return mainScene
- void showSubScene(GameSubScene subScene)	if you want to show subscene call this method
- void createSubScenes()	createMapChooserSubScene() createCreditsSubScene() createHelpSubScene()
- void createMapChooserSubScene()	gerenate all map to choose in menu
- void createHelpSubScene()	initialize help subscene
- void createCreditsSubScene()	initialize credit subscene
+ Stage getMainStage()	return mainStage

- void createMenuButton()	create all button in viewmanager
- GameButton createButtons(String text)	if you want to add button to menu call this method
- void createLogo()	draw logo
- void createBackground()	draw background