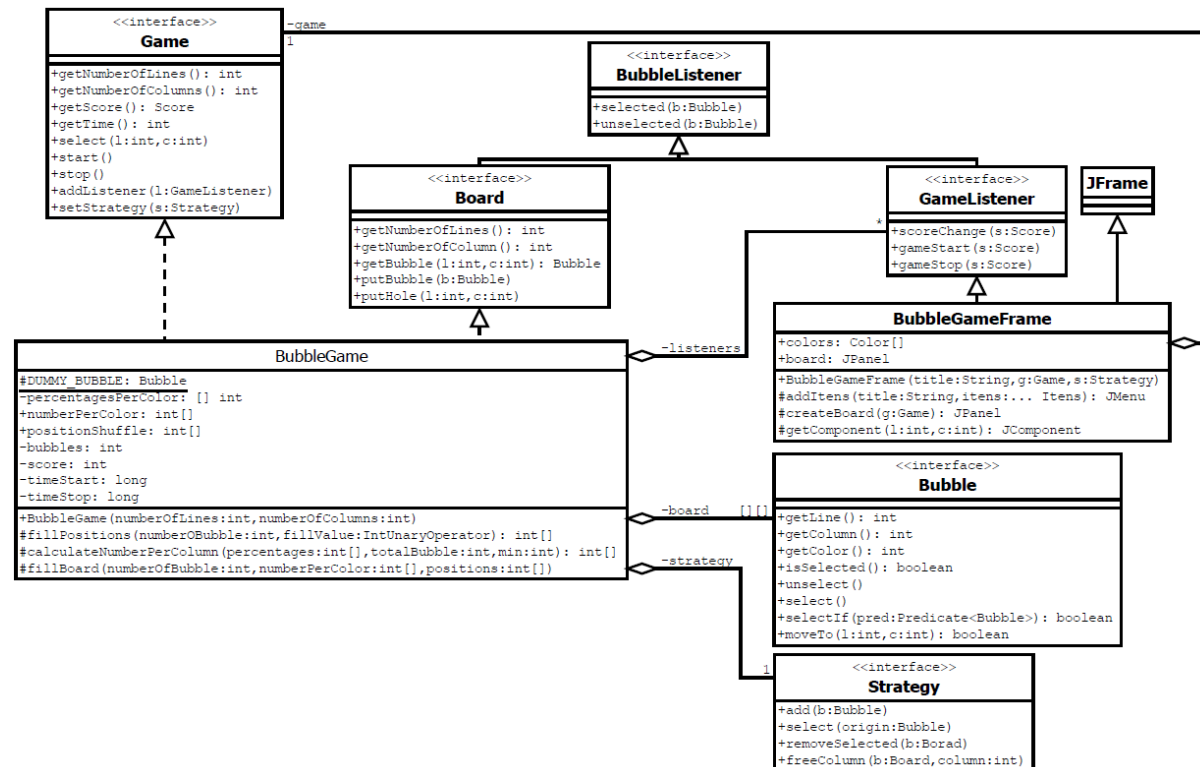


BubbleGame



```

classDiagram
    class JFrame {
        +JFrame(tittle:String)
        +getContentPane(): Container
        +setDefaultCloseOperation(c:int)
        +setJMenuBar(m:JMenuBar)
        +setResizable(b:boolean)
        +setVisible(v:boolean)
        +pack()
    }
    class BubbleGameFrame {
        +GRID_WIDTH: int
        +HOLE_COLOR: Color
        +colors: Color[]
        +BubbleGameFrame(title:String,g:Game,s:Strategy)
        #addItems(title:String,items:... Items): JMenu
        #createBoard(g:Game): JPanel
        #GetComponent(l:int,c:int): JComponent
    }
    class JMenuItem {
        +JMenuItem(t:String)
        +addActionListener(l:ActionListener)
    }
    class JMenu {
        +JMenu(t:String)
        +add(m:JMenuItem)
    }
    class JMenuBar {
        +add(m:JMenu)
    }
    class BubbleListener {
        <<interface>>
        +selected(b:Bubble)
        +unselected(b:Bubble)
    }
    class GameListener {
        <<interface>>
        +scoreChange(s:Score)
        +gameStart(s:Score)
        +gameStop(s:Score)
    }
    class Game {
        <<interface>>
        +addListener(l:GameListener)
        +setStrategy(s:Strategy)
        +select(l:int,c:int)
        +start()
        +stop()
        +getNumberOfLines(): int
        +getNumberOfColumns(): int
        +getScore(): Score
        +getTime(): int
    }
    class JButton {
        +JButton()
        +setPreferredSize(d:Dimension)
        +setBackground(c:Color)
        +addActionListener(a:ActionListener)
    }
    class JPanel {
        +JPanel()
        +setLayout(gridLayout)
        +add(square)
        +GetComponent(index:int): JComponent
    }
    class Timer {
        +Timer(ms:int,l:ActionListener)
        +start()
        +stop()
    }
    JFrame --|> BubbleGameFrame
    BubbleGameFrame --|> JMenuItem
    BubbleGameFrame --|> JMenu
    BubbleGameFrame --|> JMenuBar
    BubbleGameFrame o-- BubbleListener : *
    BubbleGameFrame o-- GameListener : *
    BubbleGameFrame o-- Game : -game 1
    BubbleGameFrame o-- JButton : NLxNC
    BubbleGameFrame o-- JPanel : -board 1
    BubbleGameFrame o-- Timer : time 1
    JMenuItem --|> JMenu
    JMenu --|> JMenuBar

```

```

classDiagram
    class Bubble {
        <<interface>>
        +getLine(): int
        +getColumn(): int
        +getColor(): int
        +isSelected(): boolean
        +unselect()
        +select()
        +selectIf(pred: Predicate<Bubble>): boolean
        +moveTo(l: int, c: int): boolean
    }
    class BubbleListener {
        <<interface>>
        +selected(b: Bubble)
        +unselected(b: Bubble)
    }
    class Board {
        <<interface>>
        +getNumberOfLines(): int
        +getNumberOfColumn(): int
        +getBubble(l: int, c: int): Bubble
        +putBubble(b: Bubble)
        +putHole(l: int, c: int)
    }
    class Dummy
    class AbstractBubble {
        -line: int
        -column: int
        +AbstractBubble(b: Board, l: int, c: int)
        +getLine(): int
        +getColumn(): int
        +moveTo(l: int, c: int): boolean
        +equals(o: Object): boolean
        +toString(): String
        +hasCode(): int
    }
    class Hole {
        +Hole(b: Board, l: int, c: int)
        +getColor(): int
        +isSelected(): boolean
        +unselect()
        +select()
        +selectIf(pred: Predicate<Bubble>): boolean
        +moveTo(l: int, c: int): boolean
    }
    class SelectableBubble {
        -selected: boolean
        +SelectableBubble(b: Board, l: int, c: int)
        +isSelected(): boolean
        +unselect()
        +select()
        +selectIf(pred: Predicate<Bubble>): boolean
        +selectContiguos(pred: Predicate<Bubble>)
    }
    class CrossBubble {
        +color: int
        +CrossBubble(b: Board, l: int, c: int)
        +getColor(): int
        +select()
        +selectContiguos(pred: Predicate<Bubble>): boolean
    }
    class White {
        +White(b: Board, l: int, c: int)
        +getColor(): int
        +select()
        +selectContiguos(pred: Predicate<Bubble>)
    }
    Bubble <|-- AbstractBubble
    AbstractBubble <|-- Hole
    AbstractBubble <|-- SelectableBubble
    AbstractBubble <|-- CrossBubble
    AbstractBubble <|-- White
    BubbleListener <|-- Board
    Board o-- "1" AbstractBubble : #board
    
```