



BHARATIYA VIDYA BHAVAN'S
SARDAR PATEL INSTITUTE OF TECHNOLOGY
Munshi Nagar, Andheri (W), Mumbai - 400058
DEPARTMENT OF MASTER OF COMPUTER APPLICATION

Academic Year – 2022-23

Class: F.Y.MCA Semester: I Subject: **Software Engineering Lab**
Subject In charge: Nikhita Mangaonkar Course Code: MC503

NAME : Aditya Salunke

UID: 2022510053

EXPERIMENT NO: 04

EXPERIMENT TITLE: Draw the behavioral view diagram : Activity diagram and sequence

Objective:

- 1.To design Activity Diagram.
- 2.To identify and implement activity diagram notations from given case study.
- 3.To implement activity diagram specification.
- 4.To design Sequence Diagram.
- 5.To identify and implement sequence Diagram notations from given case study.
- 6.To implement Sequence Diagram specification

DATE TURN 1:

DATE TURN 2:

PRACTICAL EVALUATION:

PI1: On Time	PI2:Performance	PI3: Documentation	PI5 : Lab Ethics	Marks Per Experiment
0.5	3	1	0.5	5



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ADD ACTIVITY DIG & SPECIFICATION

ACTIVITY DIAGRAM SPECIFICATION

Step	User	System Admin	Business Rules
1	View Home Screen		
2	Choose Opponent		BR_1
3	Choose Player		BR_2
4	Choose Bot		BR_3
5	Save		BR_4
6		Set game session against selected opponent	BR_5
7	Start Game		BR_6
8	View Loading Screen		BR_7
9		Compute the result of the game	BR_8
10	View Result		BR_9
11		Replay	BR_10
12	Exit		BR_11



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ID	Business Rules	Business Rule description
BR_1	Choose opponent	Player Bot
BR_2	Choose Player	Option player is selected
BR_3	Choose Bot	Option Bot is selected
BR_4	Save	The user selected opponent option is saved
BR_5	Set game session against selected opponent	System set game session with user and his selected opponent option
BR_6	Start Game	Initialize game
BR_7	View Loading Screen	Display the user selected opponent vs user
BR_8	Compute the result of the game	Compute if any player has won the game or if the game is tied
BR_9	View Result	Display the result of the game
BR_10	Replay	Navigate user to home screen
BR_11	Exit	User exits successfully



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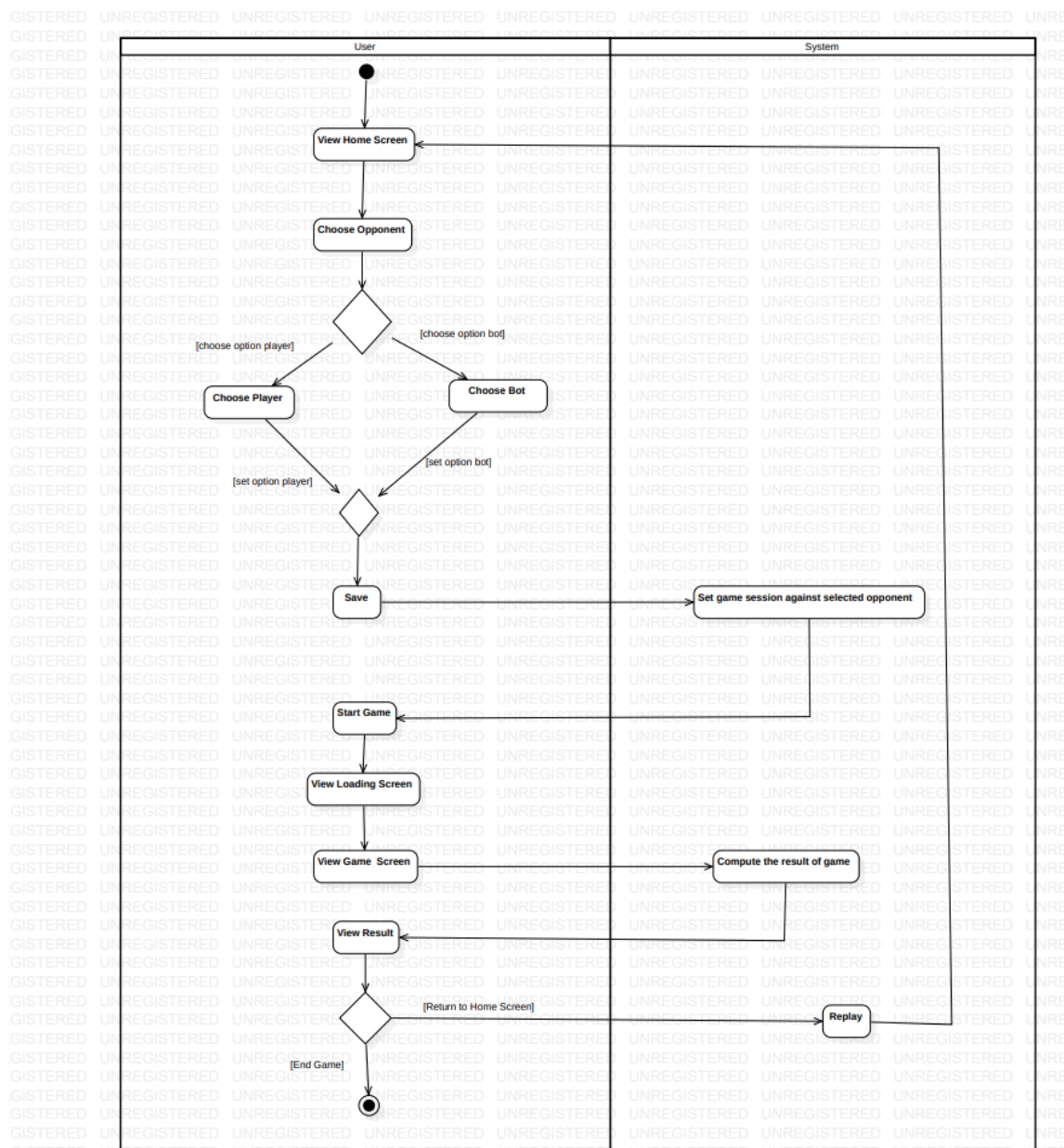
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Activity Diagram





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ADD SEQUENCE DIG & SPECIFICATION

Specification for Sequence Diagram

Sr.No.	Articrafts	Description
1	Objects	User Home Screen Choose Opponent Choose Player Choose Bot Start Game Loading Screen Game Screen Compute Result Result
2	Synchronous messages	Navigate to Home Screen Select Opponent Choose Player Choose Bot Opponent Player selected Opponent Bot selected Display loading screen with opponent Player Display loading screen with opponent Bot play against Player play against Bot Compute result Compute result Display Result Display Result
3	Asynchronous messages	Return to Home Screen



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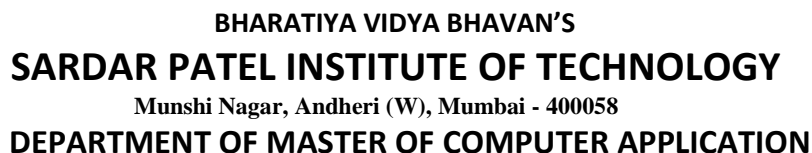
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4	Guard	User can select Player or Bot as his opponent
5	Types of frames	Alternate Frame Optional Frame
6	Actors	User
7	Self loop	The app will traverse back to home screen if user choose to return



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```
sequenceDiagram
    participant User
    participant HomeScreen as Home Screen
    participant ChooseOpponent as Choose Opponent
    participant ChoosePlayer as Choose Player
    participant ChooseBot as Choose Bot
    participant StartGame as Start Game
    participant LoadingScreen as Loading Screen
    participant GameScreen as Game Screen
    participant ComputeResult as Compute Result
    participant Result as Result

    Note over ChooseOpponent: seq alt
    User->>ChooseOpponent: 1: Select Opponent
    ChooseOpponent->>ChoosePlayer: 2: Chooses Player
    ChooseOpponent-->>ChooseBot: 9: Choose Bot
    Note over ChoosePlayer: [else]
    ChoosePlayer->>ChooseBot: 10: Opponent Bot selected
    ChooseOpponent->>StartGame: 3: Opponent Player selected
    ChoosePlayer->>StartGame: 4: Display loading screen with opponent Player
    ChooseBot->>StartGame: 12: Display loading screen with opponent Bot
    StartGame->>GameScreen: 5: play against Player
    StartGame->>GameScreen: 11: Play against bot
    GameScreen->>ComputeResult: 6: Compute result
    GameScreen->>ComputeResult: 13: Compute result
    ComputeResult->>Result: 7: Display result
    ComputeResult->>Result: 14: Display result
    Note over User,HomeScreen: seq opt
    User->>HomeScreen: 8: Navigate to Home Screen
    HomeScreen->>ChooseOpponent: 15: Return to Home Screen
    Note over User,HomeScreen: [(return home screen)]
```