Phase 3 testing plan

Prepared by:

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Revised and edited by:

Ben StittIntroduction

The program to be tested is a full functioning offline and online version of a Chinese Checkers game for Android, with the capability of playing against artificial intelligence. It contains six activities. The first activity has a buttons which lead to either the offline configuration, online configuration, settings and help. The offline configuration activity is a configuration screen for the game you wish to play. It contains the options to set the number of players, their names and whether or not a certain players are computer opponent. It then launches the game activity that contains a canvas with the game board and buttons to confirm the player’s move and undo a move. The online list activity contains any current games you are involved in; it also allows you to create new online games. The other activities are a help activity and settings activity. The help menu contains FAQ’s and a basic tutorial for setting up a game. The settings activity contains a toggle for showing hints, it also contains the user information and setup to allow the user to play online.

Objectives

Verify the current phase programming is functional and works consistently.

Testing phases

UI Automated Unit testing

* MainActivity
  + offlineActivityConfigurationButton
    - Verify clickabilty
    - Verify visibility
    - Verify proper methods are being called
  + onlineListActivityButton
    - Verify clickabilty
    - Verify visibility
    - Verify proper methods are being called
  + helpActivityButton
    - Verify clickabilty
    - Verify visibility
    - Verify proper methods are being called
  + settingsActivityButton
    - Verify clickabilty
    - Verify visibility
    - Verify proper methods are being called
* OfflineConfigurationActivity
  + twoPlayerButton
    - Verify clickabilty
    - Verify visibility
    - Verify displays 2 input fields are shown
  + threePlayerButton
    - Verify clickabilty
    - Verify visibility
    - Verify displays 3 input fields are shown
  + fourPlayerButton
    - Verify clickabilty
    - Verify visibility
    - Verify displays 4 input fields are shown
  + sixPlayerButton
    - Verify clickabilty
    - Verify visibility
    - Verify displays 6 input fields are shown
  + offlineRedPlayerNameEditText
    - Verify visibility
    - Verify accepts text
    - Verify proper error on no input
  + offlineRedPlayerTypeButton
    - Verify visibility
    - Verify proper default selection
    - Verify clickability
    - Verify proper on AI selection difficulty settings are produced
  + OfflineRed PlayerEasyButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selction
    - Verify proper deselecting and selecting
  + OfflineRedPlayerMediumButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + OfflineRedPlayerHardButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + offlineGreenPlayerNameEditText
    - Verify visibility
    - Verify accepts text
    - Verify proper error on no input
  + offlineGreenPlayerTypeButton
    - Verify visibility
    - Verify proper default selection
    - Verify clickability
    - Verify proper on AI selection difficulty settings are produced
  + OfflineGreenPlayerEasyButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selction
    - Verify proper deselecting and selecting
  + OfflineGreenPlayerMediumButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + OfflineGreenPlayerHardButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + offlinePurplePlayerNameEditText
    - Verify visibility
    - Verify accepts text
    - Verify proper error on no input
  + offlinePurplePlayerTypeButton
    - Verify visibility
    - Verify proper default selection
    - Verify clickability
    - Verify proper on AI selection difficulty settings are produced
  + OfflinePurple PlayerEasyButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selction
    - Verify proper deselecting and selecting
  + OfflinePurplePlayerMediumButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + OfflinePurplePlayerHardButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + offlineBluePlayerNameEditText
    - Verify visibility
    - Verify accepts text
    - Verify proper error on no input
  + offlineBluePlayerTypeButton
    - Verify visibility
    - Verify proper default selection
    - Verify clickability
    - Verify proper on AI selection difficulty settings are produced
  + OfflineBluePlayerEasyButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selction
    - Verify proper deselecting and selecting
  + OfflineBluePlayerMediumButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + OfflineBluePlayerHardButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + offlineYellowPlayerNameEditText
    - Verify visibility
    - Verify accepts text
    - Verify proper error on no input
  + offlineYellowPlayerTypeButton
    - Verify visibility
    - Verify proper default selection
    - Verify clickability
    - Verify proper on AI selection difficulty settings are produced
  + OfflineYellowPlayerEasyButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selction
    - Verify proper deselecting and selecting
  + OfflineYellowPlayerMediumButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + OfflineYellowPlayerHardButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + offlineOrangePlayerNameEditText
    - Verify visibility
    - Verify accepts text
    - Verify proper error on no input
  + offlineOrangePlayerTypeButton
    - Verify visibility
    - Verify proper default selection
    - Verify clickability
    - Verify proper on AI selection difficulty settings are produced
  + OfflineOrangePlayerEasyButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selction
    - Verify proper deselecting and selecting
  + OfflineOrangePlayerMediumButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + OfflineOrangePlayerHardButton
    - Verify visibility
    - Verify clickability
    - Verify proper default selection
    - Verify proper deselecting and selecting
  + offlineGameActivityButton
    - Verify clickabilty
    - Verify visibility
    - Verify proper methods are being called
* OfflineGameActivity
  + moveResetButton
    - Verify clickabilty
    - Verify visibility
    - Verify proper methods are being called
  + moveDoneButton
    - Verify clickabilty
    - Verify visibility
    - Verify proper methods are being called
  + gameCanvas
    - Verify pieces are movable
    - Verify game hints are being displayed
    - Verify invalid moves are found
  + gamePlayerListButton
    - Verify clickabilty
    - Verify visibility
    - Verify proper methods are being called
  + Verify game is playable
* HelpActivity
  + Verify text is visible
* SettingsActivity
  + settingsShowMovesRadioGroup
    - Verify only one of the group members are selectable at a time
    - settingsShowMoveOnButton
      * Verify visibility
      * Verify clickability
      * Verify change is made in SharedPreference
    - settingsShowMoveOffButton
      * Verify visibility
      * Verify clickability
      * Verify change is made in SharedPreference
  + settingsUsernameEditText
    - Verify visibility
    - Verify accepts text or doesn’t depending on case
    - Verify proper error on no input

UI Automated Integration testing

* MainActivity and OfflineConfigurationActivty and HelpActivity and Settings Activity
* Redo unit tests
* Verify transitions between activities are functional
* MainActivity and OfflineConfigurationActivty and GameBoardActivity and HelpActivity and Settings Activity
* Redo unit tests
* Verify transitions between activities are functional

Manual testing

* Verify game play is complaint with the rules of Chinese Checkers as stated at <http://www.mastersgames.com/rules/chinese-checkers-rules.htm>
* Verify AI players are obeying game rules and functions with noticeable difference in skill levels.
* Verify dialog functionality
  + NewGameDialog – Online List Activity
    - Verify is called at proper time
    - Verify visibility
    - numberOfPlayersRadioGroup
      * Verify only one of the group members are selectable at a time
      * twoPlayer Button
        + Verify clickability
        + Verify visibility
      * threePlayerButton
        + Verify clickability
        + Verify visibility
      * fourPlayerButton
        + Verify clickability
        + Verify visibility
      * sixPlayerButton
        + Verify clickability
        + Verify visibility
    - dialogAcceptButton
      * Verify clickabilty
      * Verify visibility
      * Verify proper methods are being called
      * Verify proper transition
    - dialogCancelButton
      * Verify clickabilty
      * Verify visibility
      * Verify proper methods are being called
      * Verify proper transition
  + ResumeDialog – Offline & Online Game Activity
    - Verify is called at proper time
    - Verify visibility
    - dialogAcceptButton
      * Verify clickabilty
      * Verify visibility
      * Verify proper methods are being called
      * Verify proper transition
    - dialogCancelButton
      * Verify clickabilty
      * Verify visibility
      * Verify proper methods are being called
      * Verify proper transition
  + EndofGameDialog– Offline & Online Game Activity
    - Verify is called at proper time
    - Verify visibility
    - dialogCancelButton
      * Verify clickabilty
      * Verify visibility
      * Verify proper methods are being called
      * Verify proper transition
    - dialogAcceptButton
      * Verify clickabilty
      * Verify visibility
      * Verify proper methods are being called
      * Verify proper transition

Performance and stress testing

N/A

Regression testing

* Verify previous functionality is still intact
* Verify previous phase bugs are no longer present

Ease of use testing

A focus group shall be assembled and given access to the functioning application they will also be given a set of tasks to accomplish. Each member of the focus group shall then fill out an Ease of Use Testing Form (REPLACE\_APPENDIX\_<Ease of use testing feedback form>) . The forms will then be tallied and actions shall be taken in accordance with the results at the retrospective meetings.

Acceptance testing

Criteria and this phase testing to be determined by team lead.

Testing feedback procedure

At the end of each test phase or immediately following a failure of an in phase test, a Test Feedback Form (REPLACE\_APPENDIX\_<Test feedback form>) shall be generated. The feedback form will be generated as an issue on GitHub with the contents of the (REPLACE\_APPENDIX\_<Test feedback form>). Further action shall be determined on case bases.

Features to be tested

* MainActivity
  + Button functionality
  + Transition to OfflineConfigurationActivity
  + Transition to HelpActivity
  + Transition to SettingsActivity
* OfflineConfigurationActivity
  + Button functionality
  + Transition to OfflineGameActivity
  + Transition to HelpActivity
  + Transition to SettingsActivity
  + Transition to MainActivity
* OfflineGameActivity
  + Button functionality
  + Game playability
  + Popup Dialogs
  + Transition to HelpActivity
  + Transition to SettingsActivity
* OnlineListActivity
  + Button functionality
  + Player lobby tracking
  + Transition into proper OnlineGameActivty with updated state
  + Transition to HelpActivity
  + Transition to SettingsActivity
* OnlineGameActivity
  + Button functionality
  + Game playability
  + Popup Dialogs
  + Transition to HelpActivity
  + Transition to SettingsActivity
* SettingsActivity
  + Toggle functionality
  + Button functionality
  + Popup Dialogs
  + Transition back to activity called from
* HelpActivity
  + Button functionality
  + Transition back to activity called from
* Game adheres to rules as specified at <http://www.mastersgames.com/rules/chinese-checkers-rules.htm>
* AI Opponents

Features not to be tested

N/A

Dependencies

Availability of classes and modules for current phase.

Tools

Eclipse

JUnit API

Android Testing API

Approvals

Name Project Role Signature Date

Curtis Smith Project Lead \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Peter Pobojewski Deputy Lead \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Ben Stitt Documentation Lead \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Saajid Mohammed Test Lead \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

APPENDICES

REPLACE\_APPENDIX\_<Test feedback form>

Test feedback form

Project: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Phase: \_\_\_\_\_\_\_\_\_\_\_\_\_ Test Phase: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_

Tester: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pass\Fail\Extra Consideration Required: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Remarks (If fail what caused failure): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Test Output (If Applicable): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Action Taken: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Tester Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_ Project Lead Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Test Lead Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Project Lead Name: \_\_\_\_\_\_\_\_\_\_\_\_\_

Test Lead Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

REPLACE\_APPENDIX\_<Ease of use testing feedback form> Ease of use testing feedback form

Give each of the tasks a rating from 0 to 10 based on the difficulty of accomplishing the relevant tasks.

Task 1 Score: \_\_\_\_\_

Task Remarks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Task 2 Score: \_\_\_\_\_

Task Remarks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Task 3 Score: \_\_\_\_\_

Task Remarks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Task 4 Score: \_\_\_\_\_

Task Remarks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Task 5 Score: \_\_\_\_\_

Task Remarks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Task 6 Score: \_\_\_\_\_

Task Remarks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Task 7 Score:\_\_\_\_\_

Task Remarks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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General Remarks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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