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## How Ingles Aventurero Works.

Types of pages:

Simple: Hint 01 Reply 0A Reply 0B	Inverse: Reply 0A Reply 0B Hint 1	Only Reply: Reply 0A Reply 0B
Compound: Hint 0 Reply 0A Reply 0B Hint 1 Reply 1A Reply 1B	StartAndEndWithReply Reply 0A Reply 0B Hint 1 Reply 2A Reply 2B	Compound Start With Reply Reply 0A Reply 0B Hint 1 Reply 2A Reply 2B Hint 2

A reply-set consists of two possible replies, Reply 0A and Reply 0B make a reply set. If one of the replies in a reply set is matched, then the reply set is matched.

Every time a page is turned to, if there exists a reply-set that has not been matched on the page, then the leading hint, if it exists, will play. If there exists more than one reply-set that has not been matched on the page, then take the reply-set most at the top, and its leading hint will play, if it exists.

When a reply-set is matched if there is a hint directly below the reply set, then the hint will play.

User can see each reply in turn by pressing a horizontal scroll button and scrolling through them. When turning back to a page, the last showing reply should be showing.

User should be able to do the following:

1. Show first page.
  - a. Plays appropriate hint.
2. Page through script.

Page backwards then forwards leaves you at the same spot.
3. Scroll through responses.
4. See correct picture for page.
5. Microphone opens when microphone button is pressed.
6. Explains results of incorrect answer.

7. Match a response.
  - a. Turns to new page or plays next hint.
  - b. Last page, show Done With Scene Dialog.
8. Play sentence slowly by pressing turtle button.
9. Replays sentence.
10. Shows picture information dialog.
11. Shows voice information dialog.

Before signing APK:

set check button in fragment\_reply.xml to Visible.GONE

## II. Testing

### A. Page Testing:

#### A1. Page Testing

### B. ColloquyFragment Testing:

#### B.1. ColloquyFragment Testing onHiddenChanged(), onResume(), noticeResponses(), noticeFinishedPlaying()

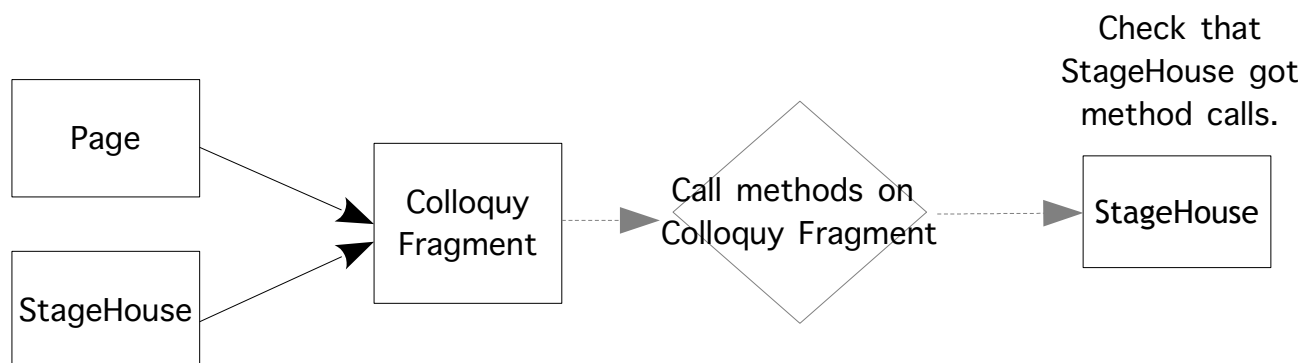
ColloquyFragment's methods that result in method calls to StageHouseActivity are onHiddenChanged(), onResume(), noticeResponses(), noticeFinishedPlaying() and the resultant calls to StageHouseActivity primarily depend on the ColloquyFragment's Page attribute.

The correct way to test this would be to add a page state and a StageHouse to ColloquyFragment, call each method and see if the correct methods are called on StageHouse.

This isn't impossible, although there are about 162 important page configurations, they boil down to 10 page states. I would pass in 10 representative pages.

I would pass in my own Activity that implemented the StageHouse interface.

Figure 1. Correct way to test ColloquyFragment.



Another way to do this is to prove that when ColloquyFragment receives a method call, it calls methods on StageHouseNotifier, which it in turn calls methods on a

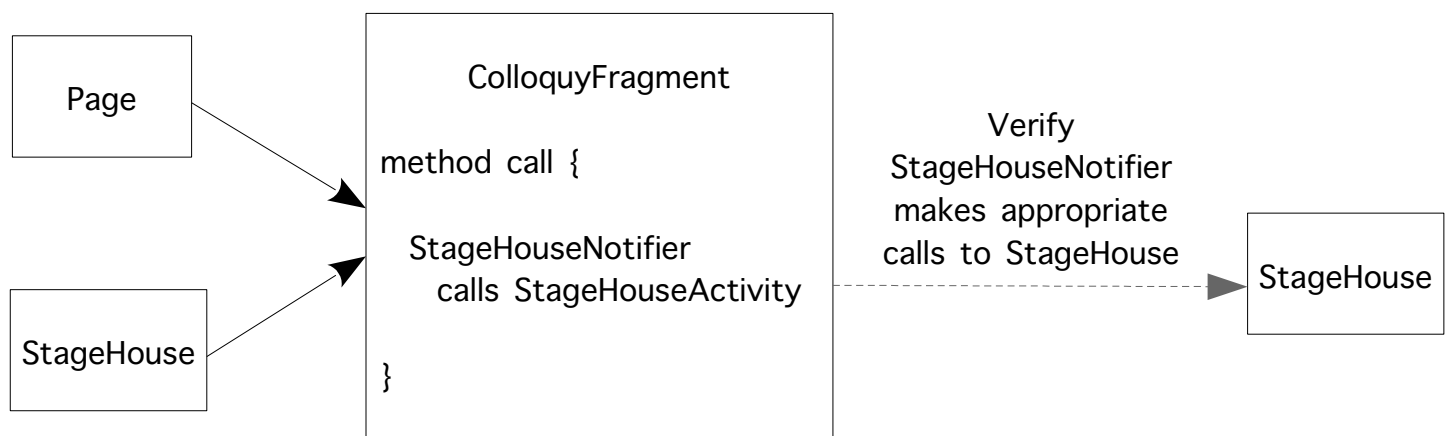
StageHouse, which it receives as a listener.

So first I have to prove that when ColloquyFragment receives a method call it instantiates a StageHouseNotifier passes it it's page and stageHouseActivity. I can prove that ColloquyFragment passes StageHouseNotifier it's page, but I can't prove that ColloquyFragment passes StageHouseNotifier it's Activity due to the limitations of Mockito. I'm willing to just believe this.

Secondly, I have to prove that when ColloquyFragment receives a method call, it calls the appropriate method on StageHouseNotifier.

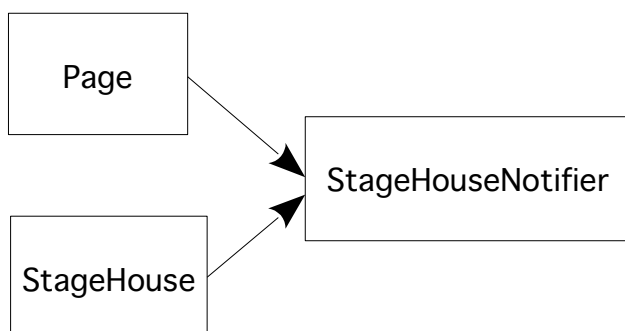
Thirdly I have to prove that StageHouseNotifier in turn calls the correct StageHouse method given the page it received. Again there are 162 important pages, but they can be represented as 10 page states.

Figure 2. Another way to test ColloquyFragment



#### Part 1:

Verify ColloquyFragment  
StageHouseNotifier passes Page and  
StageHouse to StageHouseNotifier



#### Part 2:

Verify StageHouseNotifier makes  
appropriate calls to it's listener given  
page, which I'm believing is  
StageHouseActivity



\*No way to verify ColloquyFragment is passing it's Activity as a StageHouse to StageHouseNotifier due to limitations in Mockito.

### C. Cases

C1. noticeResponses with a matched Matchable.Limited as its argument.

Cases -->	A	B	C	D	E
Page Attributes ↓					
aptHints	x	o	o	o	o
aptReplies	?	x	o	o	o
endingLeaders	?	?	x	o	o
anyReplies	?	?	?	x	o
lastPage	?	?	?	?	?
call backs					
noticeResponses( matched)	aptHints	flash aptReply	aptHints	allReplieHave BeenMatche d	there AreNoReplies ToMatch

C2. noticeResponses with a NON-matched Matchable.Limited as its argument.

Cases -->	F	G	H
Page Attributes ↓			
aptHints	?	?	?
aptReplies	x	o	o
endingLeaders	?	?	?
anyReplies	?	o	x
lastPage	?	?	?
call backs			
noticeResponses( NONmatched)	notifyNoMatchWit hAptReplies	notifyMeasureCont ainsNoReplies	notifyAllRepliesHa veBeenMatched

### C3. noticeJustShowing()

If there are any aptHints, then a callback to noticeAptHints() is made to StageHouse listener. If there are aptReplies but no aptHints, which could be the case when there is one Reply followed by a hint or just one reply, then flash the reply. That's it, nothing else will trigger a callback to StageHouse.

1. Notice for justShowing(), case M, all the replies have been answered, but the user has scrolled or answered his way to this page. Do not hint for already answered hints.
2. Notice for justShowing(), in cases L and M, endingLeaders row doesn't matter, both should be '?'. Ending leaders are not played in justShowing() calls. If one of the ending leaders was an aptHint, then it would belong to case I.
3. justShowing() should set flag doNotPlayNextLine to true if the ancillary reply is before the set of hints.
4. justShowing() should not set flag doNotPlayNextLine to true if the ancillary reply is after the set of hints.
5. Point of justShowing() is to play enough to get the correct reply. If there are no apt replies, then nothing gets played. If there are a set of hints before the reply, then all the hints need to be played. If there there are a set of apt hints below the apt reply, then only play the first hint.

Cases -->	I	J	K	L	M	N
Page Attributes ↓						
aptHints	x	o	o	o	o	o
aptReplies	?	x	x	o	o	o
endingLeaders	?	o	x	x	o	o
anyReplies	?	?	can't happen	?	x	o
lastPage	?	?		?	?	can't happen
call backs						
justShowing()	aptHints	flash Reply		do Nothing	do nothing	

### C4. playingEnded (currentPlayerTime)

Play the next line if it is a hint, unless a flag is set, which states that only the first hint should be played. If the next line is a reply, then flash the reply, unless the reply is already matched.

If the line is the last line of the page or story, and there are no aptReplies, then act accordingly. The line will never be

lastLineInPage refers to the case where the playTime from noticeFinishedPlaying's arguments matches the last line in the page. All these cases are when flag doNotPlayNextLine is set to false;

Cases -->	O	P	Q	R	S	T
Page Attributes ↓						
nextLineHint	x					
nextLineUnmatchedReply						
nextLineMatchedReply						
anyReplies						
lastLineInPage						
lastPage						
call backs						
noticeFinishedPlaying						

#### D. List of Tests

##### List of Tests

Views: ColloquyFragment with one Hint shows HintFragment.	ColloquyWHintFragmentTest
Views: ColloquyFragment with one Reply shows ReplyFragment. ReplyFragment does not have scroller button.	ColloquyWReplyFragmentTest
Views: ColloquyFragment with one LineSetFragment shows text for each reply. Scrolls through each reply and loops around. ReplyFragment does have scroller button.	ColloquyWReplyLineSetFragmentTest
Views: ColloquyFragment with one Reply and one Hint shows Fragments correctly.	ColloquyWLinesFragmentTest
ViewPagerScrolling: Scroll through script. Check every page for Hint and Reply Text. Should end at last page in script.	ViewPagerGoThruScriptTest,
ViewPagerChangePath: Scroll onto secondary	ViewPagerChangePathTest



path and check that it stops at last page. Make sure all texts along path are correct. Scroll backwards all the way to the beginning and then forwards again and should lead onto secondary path not the default path.	
ColloquyFragment: Check in onPause() and noticeResponses(), the appropriate hints are returned to StageHouse in notifyNewAptHints().	Case where ColloquyFragment is on a new path, has 1 Hint and where responses array is empty. ColloquyFragmentAndNotifierITest01
ColloquyFragment: Check in onPause() and noticeResponses(), the appropriate hints are returned to StageHouse in notifyNewAptHints().	Case where ColloquyFragment is on a new path, has 1 Reply, responses are incorrect for first section and then correct responses are received. ColloquyFragmentAndNotifierITest02
ColloquyFragment: Check in onPause() and noticeResponses(), the appropriate hints are returned to StageHouse in notifyNewAptHints().	Case where ColloquyFragment is on a new path, has 1 Hint and 1 Reply, responses are incorrect for first section and then correct responses are received. ColloquyFragmentAndNotifierITest03
ColloquyFragment: Check in onPause() and noticeResponses(), the appropriate hints are returned to StageHouse in notifyNewAptHints().	Case where ColloquyFragment is on a new path, has 1 Hint and 1 Reply then 1 Hint, responses are incorrect for first section and then correct responses are received. ColloquyFragmentAndNotifierITest04
ColloquyFragment: test .noticeResponses(responses). Verify that ColloquyFragment makes a StageHouseNotifier, passes itself to it as an EavesDropper, and calls .notifyStageHouse() method on StageHouseNotifier.	ColloquyFragmentAndNotifierIUTest
ColloquyFragment: test .onPause() calls the correct StateHouse and StageHouseNotifierII methods.	Can't test this because I can't verify a method has been called on a spy which would be ColloquyFragment in a ActivityInstrumentationTestCase2 test. I am not going to test flashes in a AndroidJUnit4 test, and can not test .onPause() method in a UnitTest. So am left with only testing that calls to StageHouse happened in a few cases in ColloquyFragNotifierITests00 through 04.
ReplyFragment's marker shows up on Fragment after correct responses matched.	CollFragCorrResponsesTest

#### Manual Testing (for now....)

Testing getting apt hints.	Start Script.	Page 0 gets hints.
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	Select correct responses.	Page 8 shows, get hints.
	Scroll forward.	Page 9 shows, no hints.
	Select correct responses.	Page 10 shows, get hints. Waits some seconds, then after some time scrolls to Page 15.
		In Page 15 get hints.
	Scroll to beginning of script.	Get no hints.
	Scroll forward to Page 10 (3 scrolls)	Wait. Should NOT automatically scroll to next page.
	Scroll forward to Page 14.	Page 14 shows.
	Select correct responses.	Page 15 shows, with hints.
	Scroll to second reply. Select correct responses.	Page 16 shows. 1 <sup>st</sup> hints play, then second hints play.
	Scroll backward to Page 15.	Show page 14.
	Scroll to 1 <sup>st</sup> reply (pan 0a). Select correct responses.	Should show page 20. get hint.
	Select correct responses.	Should play 1 <sup>st</sup> hint then 2 <sup>nd</sup> hint.
	Scroll to beginning of script.	Get no hints.
	Scroll to Reply 2.	
	Select correct responses.	Page 1 shows, gets hints.
	Scroll to Reply 2.	
	Select correct responses.	Page 2 shows, gets hints.
	Select correct responses on Reply 4.	Show what correct responses should have been.
	Select correct responses on Reply 1.	Reply 1 should flash. Show hints for Hint 2.
	Select correct response on Reply 2.	Page 22 shows, get hints.
	Scroll to beginning of script.	no hints.
	Scroll to Reply 1.	
	Select correct response on Reply 1.	Page 8 shows, get hints.

## TODO:

1. Replies, Hints, ReplyLineSets need to respond to viewImage clicks correctly and have to show themselves correctly (information image should not appear if there is no extra info).
2. ColloquyFragment: 1. has to respond to noticeResponses correctly by 1. marking reply fragments as correct, flashing before sending Hints to be played to StageHouse. 2. put in microphone. 3. respond to EavesDropper interface. 4. respond to calls from LineFragments. 5. call correct methods on StageHouse in onPause.
3. StageHouseActivity needs to respond to StageHouse interface: most importantly a. calls to play multiply hints and move to correct page after hints are played, b. calls to move to correct page, c. show dialogs (correct replies, information...)
4. Need a ViewPagerGoThruScript that goes through all types of pages with all combinations of receiving correct replies and paging through default pages.
5. All Fragments and Activities have to respond to configuration changes correctly. 1. check start SpeechRecognitionActivity using startActivityForResult from ColloquyFragment. What happens during a configuration change when Activities are destroyed? Does ColloquyFragment still get a onActivityResult() call?
6. Final view changes and colors.
7. Need a test that goes to end of Script and ends it.
8. Add Start story from here that deletes story from this page forward.
9. test tracker doesn't delete reset of story when reply is matched twice.

## DONE:

2. ColloquyFragment: 1. has to respond to noticeResponses correctly by **a. marking reply fragments as correct, b. flashing when correct response is matched.** 3. respond to EavesDropper interface by flashing before sending Hints to be played to StageHouse. **5. call correct methods on StageHouse in onPause.**