










Test cases

Test Scenario	Test Case	Pre-conditions	Test Step	Test Data	Post-conditions	Expected Result	Actual Result	Pass/Fail
Check login functionality without code in storage.	Check response on entering valid code.	<ol style="list-style-type: none"><li>The app 'timeToLearn' must be installed.</li><li>The user tries to log in for the first time. No code is saved in storage.</li><li>'timeToLearn' is the current watch face.</li><li>The watch is connected to the internet.</li></ol>	<ol style="list-style-type: none"><li>The user enters the first four digits using the 'plus' and 'minus' buttons.</li><li>The user presses next.</li><li>The users enters the last four digits using the 'plus' and 'minus' buttons.</li><li>The user presses next.</li></ol>	Code: 61015763	<ol style="list-style-type: none"><li>The code is saved to the localStorage.</li><li>The words of the account are loaded with the code. And saved to the localStorage.</li><li>The mainPage becomes visible.</li></ol>	Login must be successful, the user is prompted with the main screen.	See expected result.	<div>✓</div>
	Check response on entering invalid code.	<ol style="list-style-type: none"><li>The app 'timeToLearn' must be installed.</li><li>The user tries to log in for the first time. No code is saved in storage.</li><li>'timeToLearn' is the current watch face.</li><li>The watch is connected to the internet</li></ol>	<ol style="list-style-type: none"><li>The user enters the first four digits using the 'plus' and 'minus' buttons.</li><li>The user presses next.</li><li>The users enters the last four digits using the 'plus' and 'minus' buttons.</li><li>The user presses next.</li><li>The user presses the screen when the popup appears.</li></ol>	Code: 00000000	<ol style="list-style-type: none"><li>The entered code will be erased.</li><li>The login screen will be shown again.</li></ol>	A popup appears telling the user the code is wrong. When the popup is pressed, the user is back to login.	See expected result.	<div>✓</div>
	Check response if there is no connection with the internet.	<ol style="list-style-type: none"><li>The app 'timeToLearn' must be installed.</li><li>The user tries to log in for the first time. No code is saved in storage.</li><li>'timeToLearn' is the current watch face.</li><li>The watch is not connected to the internet.</li></ol>	<ol style="list-style-type: none"><li>The user enters the first four digits using the 'plus' and 'minus' buttons.</li><li>The user presses next.</li><li>The users enters the last four digits using the 'plus' and 'minus' buttons.</li><li>The user presses next.</li><li>The user presses the screen when the popup appears.</li></ol>	Code: 61015763 (Any code can be entered here)	<ol style="list-style-type: none"><li>The entered code will be erased.</li><li>The login screen will be shown again.</li></ol>	A popup appears telling the user there is no connection to the internet. When the popup is pressed, the user is back to login.	See expected result.	<div>✓</div>
	Check response if the user has to few words in his account	<ol style="list-style-type: none"><li>The app 'timeToLearn' must be installed.</li><li>The user tries to log in for the first time. No code is saved in storage.</li><li>'timeToLearn' is the current watch face.</li><li>The user has less than five words in his account</li></ol>	<ol style="list-style-type: none"><li>The user enters the first four digits using the 'plus' and 'minus' buttons.</li><li>The user presses next.</li><li>The users enters the last four digits using the 'plus' and 'minus' buttons.</li><li>The user presses next.</li><li>The user presses the screen when the popup appears.</li></ol>	Account with less than 5 words saved.	<ol style="list-style-type: none"><li>The entered code will be erased.</li><li>The login screen will be shown again.</li></ol>	A popup appears telling the user there are too few words in his account. When the popup is pressed, the user is back to login.	See expected result.	<div>✓</div>
Check login functionality with code in storage.	Check response after restart with code in storage.	<ol style="list-style-type: none"><li>The app 'timeToLearn' must be installed.</li><li>'timeToLearn' is the current watch face.</li><li>The user has to be logged in at least once, so a code is saved.</li><li>The watch is currently off.</li></ol>	The user holds the power button.	None	<ol style="list-style-type: none"><li>The mainPage is loaded.</li><li>The userData is loaded.</li></ol>	The watch goes on, the watch face is loaded and the user will be in main screen where the user sees the last seen word.	See expected result.	<div>✓</div>

Test Scenario	Test Case	Pre-conditions	Test Step	Test Data	Post-conditions	Expected Result	Actual Result	Pass/Fail
	Check response after changing watch face with code in storage	1. The app 'timeToLearn' must be installed. 2. 'timeToLearn' is the current watch face. 3. The user has to be logged in at least once, so a code is saved.	1. The user changes the wathface by pressing and holding the screen. 2. The user selects a different watch face. 3. The users presses and holds the screen again. 4. The user selects the 'timeToLearn' app as his watch face	None	1. The mainPage is loaded. 2. The userData is loaded.	The app used for the watch face will be changed to some other app and then changed back to the 'timeToLearn' app. The user will be in the main screen where user sees the last seen word.	See expected result.	
check background functionality	Check response on tapping on the time.	The main page is shown.	Tap on the time.	None	The index of the array where all landscapes are saved is increased by one.	The landscape of the background of the time changes to another landscape	See expected result.	
	Check response on double tapping on the time.	The main page is shown.	Double tap on the time.	None	The settings layer is set to visible.	Over the main page the settings page is shown.	See expected result.	
	Check response when changing the watchface	The main page is shown.	1. Tap on the time to change background. 2. Hold screen to change the watch face. 3. Change back to timeToLearn watch face.	None	Background number is increased and saved to localStorage.	Background is the same as before changing the watch face.	See expected result.	
check settings functionality	Check response on tapping on "reverse".	1. User is on the main page.	1. Double tap on the time. 2. Tap the button with the text "reverse". 3. Tap the word. 4. Tap on the left or on the right of the word to get another word.	None	The variable "reverse" in userData is changed.	The translation of the previous shown word is shown instead of the word. After tapping the translation, the previous shown word is shown below the translation. All words after are shown in reversed order.	See expected result.	
	Check if reverse state is the same after changing watchface.	User is on the main page	1. Double tap on the time. 2. Tap the button with the text "reverse". 3. Change the watch face	None	The variable "reverse" in userData is changed and saved to local storage.	After changing the watch face and switching back to TimeToLearn app, the order of the words is the same as before.	See expected result.	
	Check response on tapping "profile"	The main page is shown.	1. Double tap on the time. 2. Tap the button with the text "profile".	None	The visibility of profilePage is set to visible.	The profile page is shown with on the top a banner with "profile", in the middle a grey space with the medal for "words learned" is shown together with the number of words you have learned. On the bottom there is a back button to leave the profile page. On the side there are two buttons to navigate through the medals.	See expected result.	
	Check response on tapping "log out"	The main page is shown.	1. Double tap on the time. 2. Tap the button with the text "log out".	None	The localStorage is erased and the login screen visibility is set to visible.	After "log out" is clicked, the settings page disappears and the login screen is visible again.	See expected result.	
	Check response on tapping on the settings page.	The main page is shown.	1. Double tap on the time. 2. Tap the screen anywhere besides the other buttons.	None	The visibility of the settings page is set to hidden and thus the main page is visible again.	By tapping anywhere besides the other buttons, the settings page fades out and thus the main page is visible again.	See expected result.	

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	Check response on tapping on the back button in settings.	The main page is shown.	1. Double tap on the time. 2. Tap the button with the back arrow on it.	None	The visibility of the settings page is set to hidden and thus the main page is visible again.	By pressing the button, the settings page fades out and thus the main page is visible again.	See expected result.	
	Check response after an screen off.	The main page is shown.	1. Double tap on the time. 2. Wait for the watch screen to switch off. 3. After a screen off press the power button to turn on the screen.	None	The visibility of the settings page is set to hidden when the screen of the watch turns off and thus the main page is visible again when the watch is switched on.	When the screen turns on. The main page is visible.	See expected result.	
check reveal functionality	Check response on tapping on the word.	The main page is shown with a word or some words visible just below the middle, an open space and a orange button with glasses on the bottom of the screen.	Tap on the shown word(s).	None	The revealed page is set to visible. This page consists of the word(s), the translation and three other buttons: wrong, menu, right	Below the previous shown word(s) the translation appears. On the left and on the right a red and green area appears to indicate that this space detects taps too. On the bottom three buttons appear. From left to right: wrong (pressed when the user did not know the translation), menu (for extra options related to the words) and right (pressed when the user did know the translation).	See expected result.	
	Check response on tapping the button with the glasses icon.	The main page is shown with a word or some words visible just below the middle, an open space and a orange button with glasses on the bottom of the screen.	Tap on the orange button with the glasses on it.	None	The revealed page is set to visible. This page consists of the word(s), the translation and three other buttons: wrong, menu, right	Below the previous shown word(s) the translation appears. On the left and on the right a red and green area appears to indicate that this space detects taps too. On the bottom three buttons appears. From left to right: wrong (pressed when the user did not know the translation), menu (for extra options related to the words) and right (pressed when the user did know the translation).	See expected result.	
	Check response on tapping the wrong space.	The main page is shown with a word or some words and its translation under it. Left and right there is a red and a green area and below there are three buttons: red, orange and green.	Tap on the left side of the screen, on the red area.	None	By tapping the wrong space an event is sent to the server if there is a connection. If not the event is saved so it can be sent when there is a connection. The word is placed 5 steps further in the wordPair so it appears again after 5 words.	After clicking the wrong space a red image appears with an open book to notify the user about the clicked space. This image fades out and a new word appears on the main page.	See expected result.	
	Check response on tapping the wrong button.	The main page is shown with a word or some words and its translation under it. Left and right there is a red and a green area and below there are three buttons: red, orange and green.	Tap on the left red button on the bottom of the screen.	None	By tapping the wrong button an event is sent to the server if there is a connection. If not the event is saved so it can be sent when there is a connection. The word is placed 5 steps further in the wordPair so it appears again after 5 words.	After clicking the wrong button a red image appears with an open book to notify the user about the clicked space. This image fades out and a new word appears on the main page.	See expected result.	

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check feedback functionality	Check response on tapping the right space.	The main page is shown with a word or some words and its translation under it. Left and right there is a red and a green area and below there are three buttons: red, orange and green.	Tap on the right side of the screen, on the green area.	None	By tapping the right space an event is sent to the server if there is a connection. If not the event is saved so it can be sent when there is a connection. The word is placed 5 steps further after the first encounter in the wordPair so it appears again after 5 words. If the word is right again it will be placed 10 positions further in the wordPair.	After clicking the right space a green image appears with a graduation cap to notify the user about the clicked space. This image fades out and a new word appears on the main page.	See expected result.	
	Check response on tapping the right button.	The main page is shown with a word or some words and its translation under it. Left and right there is a red and a green area and below there are three buttons: red, orange and green.	Tap on the right green button on the bottom of the screen.	None	By tapping the right button an event is sent to the server if there is a connection. If not the event is saved so it can be sent when there is a connection. The word is placed 5 steps further after the first encounter in the wordPair so it appears again after 5 words. If the word is right again it will be placed 10 positions further in the wordPair.	After clicking the right button a green image appears with a graduation cap to notify the user about the clicked space. This image fades out and a new word appears on the main page.	See expected result.	
check menu functionality	Check response on tapping the menu space.	The main page is shown with a word or some words and its translation under it. Left and right there is a red and a green area and below there are three buttons: red, orange and green.	Tap in the middle of the space were the words are displayed.	None	The visibility of the menu page is set to visible.	After tapping the space the menu appears with three buttons "wrong translation", "I learned it" and "show context". On the bottom of the screen the back button is displayed.	See expected result.	
	Check response on pressing the menu button.	The main page is shown with a word or some words and its translation under it. Left and right there is a red and a green area and below there are three buttons: red, orange and green.	Tap on the middle orange button on the bottom of the screen.	None	The visibility of the menu page is set to visible.	After tapping the space the menu appears with three buttons "wrong translation", "I learned it" and "show context". On the bottom of the screen the back button is displayed.	See expected result.	
	Check response on pressing the "wrong translation" button.	The menu page is shown with three buttons "wrong translation", "I learned it" and "show context". On the bottom of the screen the back button is displayed.	Press the button with the text "wrong translation".	None	An event is sent to the server (when there is a connection), notifying the server that the current displayed word has to be erased. The word pair is always deleted from the local storage. The menu page visibility is set to hidden so the main page can be seen again.	After pressing the button the menu fades out and the main page is visible again. On the word space a red image appears with a trash can to notify the user about his or her action. When the image fades out a new word is on the main page.	See expected result.	
	Check response on pressing the "I learned it" button	The menu page is shown with three buttons "wrong translation", "I learned it" and "show context". On the bottom of the screen the back button is displayed.	Press the button with the text "I learned it".	None	An event is sent to the server (when there is a connection), notifying the server that the current displayed word should not be returned to the watch. The word pair is always deleted from the local storage. The menu page visibility is set to hidden so the main page can be seen again.	After pressing the button the menu fades out and the main page is visible again. On the word space a green image appears with a graduation gap to notify the user about his or her action. When the image fades out a new word is on the main page.	See expected result.	

Test Scenario	Test Case	Pre-conditions	Test Step	Test Data	Post-conditions	Expected Result	Actual Result	Pass/Fail
	Check response on pressing the "show context" button	The menu page is shown with three buttons "wrong translation", "I learned it" and "show context". On the bottom of the screen the back button is displayed.	1. Press the button with the text "show context". 2. Tap on the context in the word space.	None	The visibility of the menu page is set to hidden and a canvas becomes visible in which the sentence is printed in which the word was found. This canvas lies on top of the word space. After tapping the canvas the word is shown again.	The menu page fades out and the context appears on the same place where the words are normally displayed. After tapping the context, the context disappears and the word becomes visible again.	See expected result.	
	Check response on tapping on the menu page.	The menu page is shown with three buttons "wrong translation", "I learned it" and "show context". On the bottom of the screen the back button is displayed.	Tap the screen anywhere besides the other buttons.	None	The visibility of the menu page is set to hidden and thus the main page is visible again.	The menu page fades out and thus the main page is visible again.	See expected result.	
	Check response on tapping on the back button in menu.	The menu page is shown with three buttons "wrong translation", "I learned it" and "show context". On the bottom of the screen the back button is displayed.	Tap the button with the back arrow on it.	None	The visibility of the menu page is set to hidden and thus the main page is visible again.	The menu page fades out and thus the main page is visible again.	See expected result.	
	Check response after an screen off.	The menu page is shown with three buttons "wrong translation", "I learned it" and "show context". On the bottom of the screen the back button is displayed.	1. Wait for the watch screen to switch off or do a arm twist. 2. After a screen off press the power button or do a arm twist to turn on the screen.	None	The visibility of the menu page is set to hidden when the screen of the watch turns off and thus the main page is visible again when the watch is switched on.	The main page is visible.	See expected result.	
check profile functionality	Check response after pressing the left button.	The profile page is shown.	Tap the button on the left of the screen.	None	The medalPos is lowered by one. If the medalPos is zero, it will become four. And the medal is drawn on the screen.	The page icon number is updated, the previous medal is shown.	See expected result.	
	Check response after pressing the right button	The profile page is shown.	Tap the button the right of the screen	None	The medalPos is increased by one. If the medalPos is four, it will become zero. And the medal is drawn on the screen.	The page icon number is updated, the next medal is shown.	See expected result.	
	Check response after pressing the back button	The profile page is shown.	Tap the button on the bottom of the screen with the back arrow on it.	None	The visibility of the profile page is set to hidden.	The profile page fades out and the main page appears again.	See expected result.	
	Check response after an screen off.	The profile page is shown with two buttons on the side of the screen, a medal with information in the middle and a back button on the bottom.	1. Wait for the watch screen to switch off. 2. After a screen off press the power button to turn on the screen.	None	The visibility of the profile page is set to hidden when the screen of the watch turns off and thus the main page is visible again when the watch is switched on.	The main page is visible.	See expected result.	
check mainpage functionality	Check if the temperature is correct.	The main page is shown.	1. Check the current temperature at your current location. 2. Check the displayed temperature on the watch.	Temperature at the current location.	With an api the location is determined and with the location the temperature is loaded from another api.	The correct temperature is displayed on the top of the screen.	See expected result.	
	Check if the weather type is correct.	The main page is shown.	1. Check the current weather type at your current location. 2. Check the displayed weather type on the watch.	Weather type at the current location.	With an api the location is determined and with the location the weather type is loaded from another api.	The correct weather type is displayed on the top of the screen.	See expected result.	

Test Scenario	Test Case	Pre-conditions	Test Step	Test Data	Post-conditions	Expected Result	Actual Result	Pass/Fail
	Check if the date is correct.	The main page is shown.	<ol style="list-style-type: none"> <li>1. Check the current date at your current location.</li> <li>2. Check the displayed date on the watch.</li> </ol>	Date at the current location.	With a function provided by tizen the date is loaded from the OS.	The correct date is displayed on the top of the screen.	See expected result.	<div>✓</div>
	Check if the time is correct.	The main page is shown.	<ol style="list-style-type: none"> <li>1. Check the current time at your current location.</li> <li>2. Check the displayed time on the watch.</li> </ol>	Time at the current location.	With a function provided by tizen the time is loaded from the OS.	The time is displayed on the upper part of the screen.	See expected result.	<div>✓</div>
check popup functionality	Check if a popup appears when there are too few words left.	The main page is shown.	<ol style="list-style-type: none"> <li>1. Tap the shown word to reveal the translation.</li> <li>2. Tap the button in the middle on the bottom of the screen.</li> <li>3. Press the button "wrong translation" or "I learned it".</li> <li>4. Repeat this action until a popup appears.</li> </ol>	None	In the app there should be at least the same amount of words as there are flashcards. When this amount is reached, a popup on top of the word space becomes visible.	The popup appears on top of the word space which disappears after 3 seconds.	See expected result.	<div>✓</div>
	Check if a popup appears when the learning streak is increased	The app is used for one day.	<ol style="list-style-type: none"> <li>1. Use the app the next day.</li> <li>2. Wait until the popup appears.</li> <li>3. Close the popup by pressing the button on the bottom of the screen.</li> </ol>	None	The date when the app is used, is saved to the local storage. When the app is used on another day, the date is compared to the saved date and if the difference is one day, the streak is increased. The popup canvas is not visible anymore.	A popup is shown with a medal (with glasses), the current learning streak and fireworks. The popup fades out when the button is pressed and the main page is visible.	See expected result.	<div>✓</div>
	Check if a popup appears when a new achievement is accomplished for learning session	The app is used for some minutes.	<ol style="list-style-type: none"> <li>1. Use the app until the popup appears without the screen going off.</li> <li>2. Close the popup by pressing the button on the bottom of the screen.</li> </ol>	None	Longest session time is updated and saved to localStorage. The popup canvas is not visible anymore.	In the profile page the longest session will be updated.	See expected result.	<div>✓</div>
	Check if a popup appears when a new achievement is accomplished for total time	The app is used for some minutes.	<ol style="list-style-type: none"> <li>1. Use the app at least 15 minutes</li> <li>2. Close the popup by pressing the button on the bottom of the screen</li> </ol>	None	The popup canvas is not visible anymore.	Popup is shown on the screen and can be closed with the button	See expected result.	<div>✓</div>
	Check if a popup appears when a new achievement is accomplished for words learned	No words are currently learned	<ol style="list-style-type: none"> <li>1. Tap the menu button on the revealedPage</li> <li>2. Tap 'I learned it' button.</li> <li>3. Close the popup by pressing the button on the bottom of the screen</li> </ol>	None	wordsLearned is updated and saved to the localStorage. The popup canvas is not visible anymore.	Popup is shown on the screen with the message 'you learned your first word!'. In profile words learned is now 1.	See expected result.	<div>✓</div>