



Android™

USER MANUAL

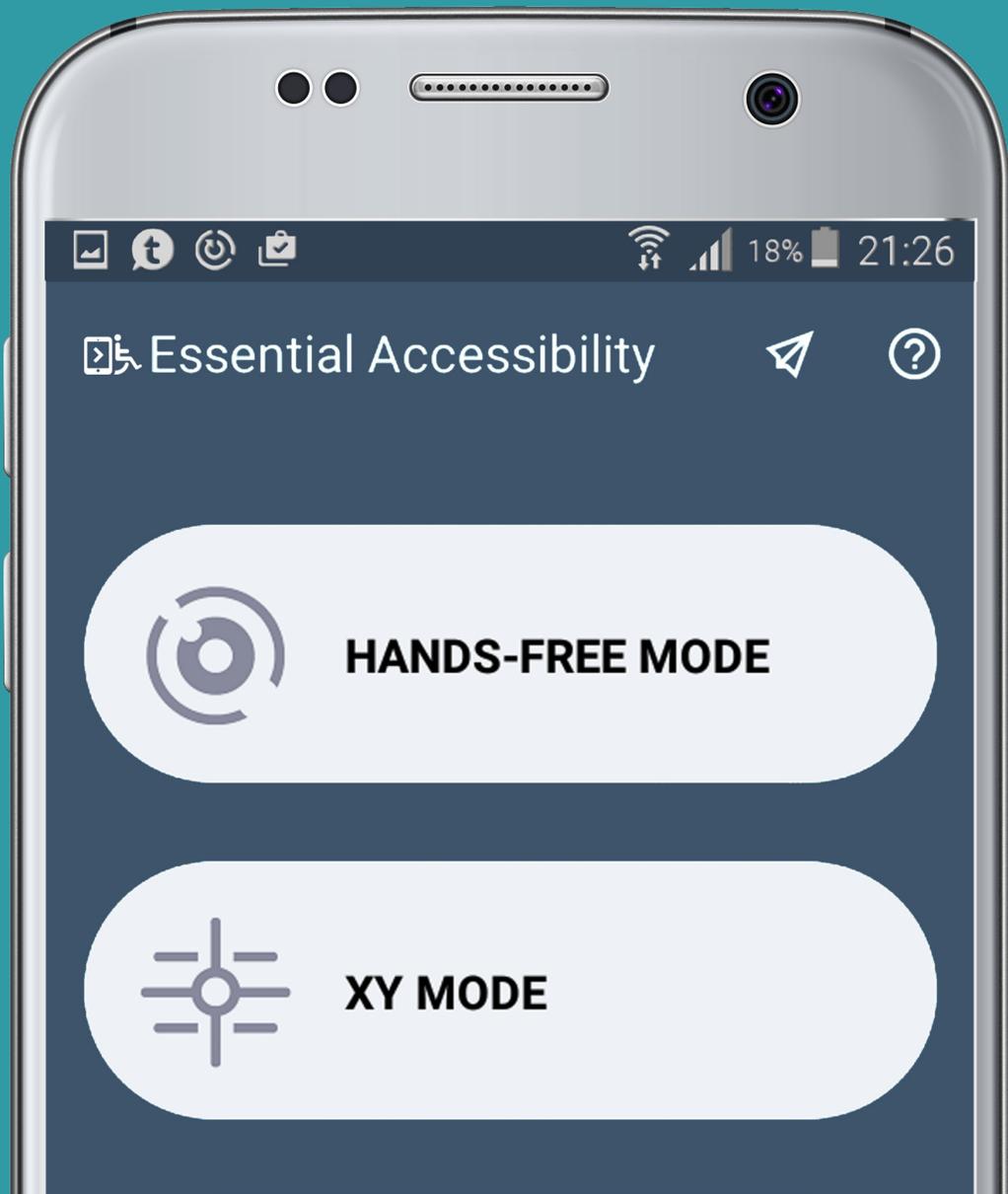


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I 1. SYSTEM REQUIREMENTS

Prerequisites

- Android v. 7.0 or higher

I 2. GETTING STARTED

eSSENTIAL Accessibility for Android™ checks to see if Android Event Injection service is enabled. If it is disabled, you will be prompted to enable it. Enabling this lets you turn on and use major application features and functions.

I 3. USING THE ACCESSIBILITY MODES

3.1. Using Hands-free Mode

Hands-free mode lets you control your mobile device without using your hands. Instead, you can control the cursor by moving your head. Moving your head in any direction lets you to navigate to any point on the screen. Hands-free mode also lets you perform tap, swipe, and scroll actions where the cursor stops.

To enter hands-free mode, tap the hands-free mode button (see **Figure 1**).

To perform a tap action, move the cursor until its stops on the screen where you want to tap. A loader appears on the cursor indicating the amount of time remaining to perform the action. Loader disappears as soon as the set amount of time is complete and action is performed.

To perform a scroll action, swipe action or to access other functions (such as open recent apps, home, back, volume up, and volume down), open the special menu. To open the special menu, hover over the special menu button (see **Figure 2**).



Figure 1: Hands-free mode button



Figure 2: Hands free special menu button



Default special menu (see **Figure 3**).

The action buttons available in this are:

- Lock cursor
- Drag
- Long click
- Volume up
- Volume down
- Back
- Home
- Recent apps



Figure 3: Showing Default Special menu

3.1.1 Performing Swipe Action

1. To start Swipe mode and perform swipe gesture, click on the Drag icon in the Default Special menu. Default cursor icon (see **Figure 7**) will change to Drag cursor icon (see **Figure 6**) and Default Special menu will change to Swipe gesture menu (see **Figure 4**).
2. To start swipe gesture, locate the starting point of the swipe gesture on screen and hover over that point for a set amount of time indicated by loader. This records the starting point of the gesture which is indicated by the change in the color of the drag cursor icon (see **Figure 5**).



Figure 4: Swipe gesture menu



Figure 5: Tinted drag cursor



Figure 6: Drag cursor



Figure 7: Default cursor



- To complete the gesture, locate the ending point of the swipe gesture on screen and hover over that point for a set amount of time indicated by the loader. This performs the swipe gesture. Swipe mode is automatically disabled and Drag cursor icon changes back to the Default cursor icon.
- In order to prevent automatic disabling of the swipe gesture mode after performing swipe, you have to start Lock swipe mode. To start Lock swipe mode click on the Drag icon twice. Default special menu changes to the Lock swipe gesture menu (see **Figure 8**) indicating that the Lock swipe mode is started.



Figure 8: Lock swipe gesture menu

3.1.2 Performing Long Click Action

- To start Long click mode and perform long click gesture, click on the Long click icon in the Default special menu. Default cursor icon (see **Figure 10**) will change to Long click cursor icon (see **Figure 11**) and Default special menu will change to Long click gesture menu (see **Figure 9**).
- To perform long click gesture, locate the point on screen where you wish to perform long click gesture and hover over that point for a set amount of time indicated by loader. This performs the long click action on that point. Long click mode is automatically disabled and Long click cursor icon changes back to the default cursor icon.

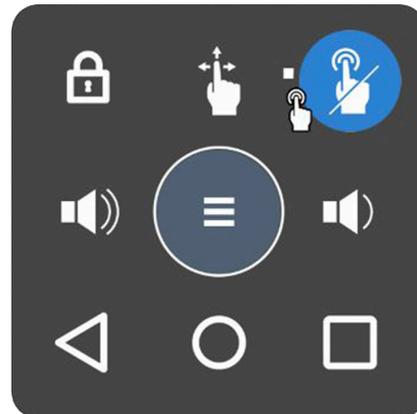


Figure 9: Long click gesture menu



Figure 10: Default cursor



Figure 11: Long click cursor



- In order to prevent automatic disabling of the Long click mode after performing long click, you have to start Lock long click mode. To start Lock long click mode, click on the Long click icon twice. Default special menu changes to the Lock long click gesture menu (see **Figure 12**) indicating that the Lock long click mode is started.



Figure 12: Lock long click gesture menu

To lock the cursor, tap the lock cursor button of the special menu. When the cursor is locked, the cursor cannot move and you cannot perform a tap action (see **Figure 13**).



Figure 13: Cursor is locked

To unlock the cursor, tap the unlock button at the bottom left corner of the screen (see **Figure 14**).

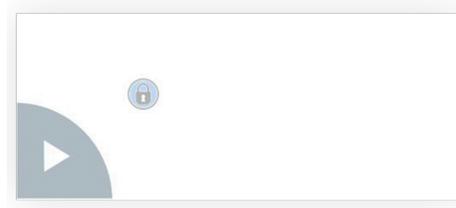


Figure 14: Unlock button

3.2. Using XY Mode

XY mode lets you control your device using on-screen coordinates.

Every point on the screen has latitude and longitude coordinates, like points on a map. Each point has “XY” coordinates, like the graph below (see **Figure 15**).

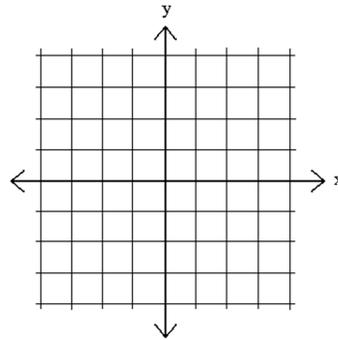


Figure 15: XY graph

XY mode lets you target a specific point on the screen. It helps you pinpoint the latitude and longitude coordinates where you want your cursor to target.

For example, your cursor targets the point where two **XY mode** lines intersect.

When **XY mode** is active, this is how it works:

1. A horizontal line moves down from the top of the screen. Tap when you want the horizontal line to stop.
2. A vertical line moves from the left to the right of the screen. Tap when you want the vertical line to stop.
3. The spot where the two lines intersect acts as your cursor and performs a specified action (see **Figure 16**).

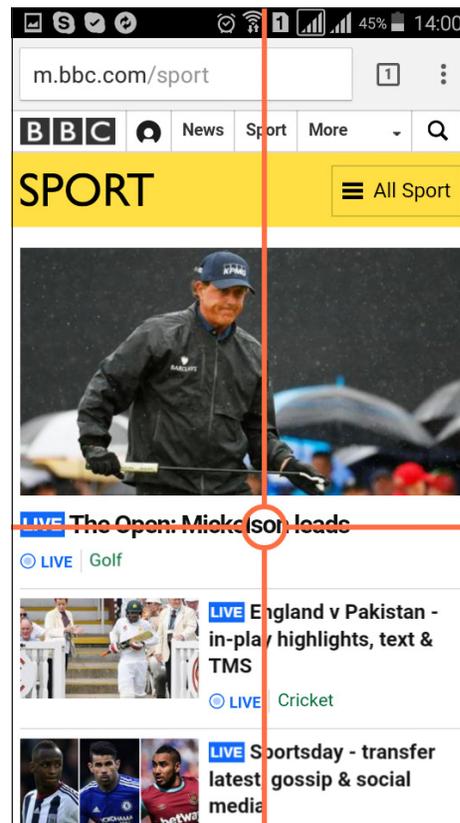


Figure 16: XY mode coordinate

To start **XY mode**, tap the **XY mode** button (see **Figure 17**).



Figure 17: XY mode button



Using XY mode with a switch device

You can pair eSSENTIAL Accessibility for Android™ to work with a switch device. To work as a pair, your mobile device and switch device must be configured. They can be synced for one-button or two-button control. You will be able to navigate to any position on the screen and perform mobile device actions, like tapping, scrolling, swiping, go back, go home, open recent apps, turn volume up, and turn volume down. In two-button mode, you can also assign switch device button to perform a direct action.

Controlling your device in one-button mode

In one-button mode, you can configure your switch device button to:

- start moving the **XY mode** horizontal line
- start moving the **XY mode** vertical line
- perform a tap action where your cursor intersects the horizontal and vertical lines
- open eSSENTIAL Accessibility for Android™ application's special menu, which is located in the top left corner of the screen (see **Figure 18**)
- perform a tap action on an item in the special menu

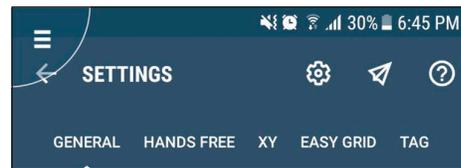


Figure 18: One-button mode special menu



The eSSENTIAL Accessibility for Android™ application’s special menu makes the phone’s hardware buttons accessible. Hardware buttons such as home, back, menu, volume up, and volume down can be accessed in this menu (see **Figure 19**). A navigational item, “Inverse”, is also available in this menu. “Inverse” lets you change the directions that the lines move.



Figure 19: One-button mode special menu items

3.2.1 Performing Swipe Action

1. To start Swipe mode and perform swipe gesture, click on the Drag icon in the One-button mode special menu. One-button mode special menu will change to Swipe gesture menu (see **Figure 20**).
2. To start swipe gesture, locate the starting point of the swipe gesture on screen and perform tap action. This records the starting point of the gesture.
3. To complete the gesture, locate the ending point of the swipe gesture on screen and perform tap. This performs the swipe gesture. Swipe mode is automatically disabled.
4. In order to prevent automatic disabling of the swipe gesture mode after performing swipe, you have to start Lock swipe mode. To start Lock swipe mode click on the Drag icon twice. One-button mode special menu changes to the Lock swipe gesture menu (see **Figure 21**) indicating that the Lock swipe mode is started.



Figure 20: Swipe gesture menu



Figure 21: Lock swipe gesture menu



3.2.2 Performing Long Click Action

1. To start Long click mode and perform long click gesture, click on the Long click icon in the One-button mode special menu. Default special menu will change to Long click gesture menu (see **Figure 22**).
2. To perform long click gesture, locate the point on screen where you wish to perform long click gesture and perform tap. This performs the long click action on that point. Long click mode is automatically disabled.
3. In order to prevent automatic disabling of the Long click mode after performing long click, you have to start Lock long click mode. To start Lock long click mode click on the Long click icon twice. One-button mode special menu changes to the Lock long click gesture menu (see **Figure 23**), indicating that the Lock long click mode is started.



Figure 22: Long click gesture menu



Figure 23: Lock long click gesture menu

By pressing and holding your switch device button for one second, you can access a menu with these navigational items (see **Figure 24**):

- scroll up
- scroll down
- swipe left
- swipe right

At any time when scrolling and swiping actions are not available, you will receive a message notifying you that scrolling and swiping actions are unavailable.

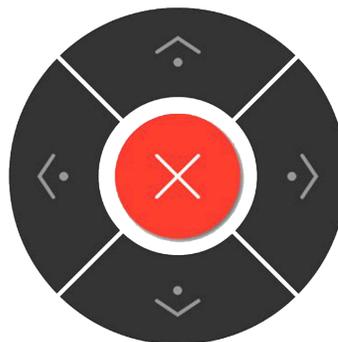


Figure 24: Navigational items



Controlling your mobile device in two-button mode

In two-button mode, you can assign direct actions for your switch device buttons.

Two examples:

Scenario 1: The first button is assigned to “Select” action. The second button is assigned to “Reverse direction” action.

Scenario 2: The first button is assigned to “Select” action. The second button is assigned to “Show menu” action.

CONTROLLING YOUR MOBILE DEVICE IN SCENARIO 1 IN TWO-BUTTON MODE

In two-button mode, you can press the first button on your switch device to:

- start moving the horizontal line
- start moving vertical line
- perform a tap action on the element that intersects the horizontal and vertical lines
- open eSSENTIAL Accessibility for Android™ application’s special menu, which is situated in the top left corner of the screen (see **Figure 18**)
- perform a tap action on an item in the special menu
- tap and hold the button for one second to access a menu with navigational items (see **Figure 24**)

Then, press the second button on the switch device to:

- change the movement direction of the horizontal and vertical line

CONTROLLING YOUR MOBILE DEVICE IN SCENARIO 2 IN TWO-BUTTON MODE

In two-button mode, you can press the first button on your switch device to:

- start moving the **XY mode** horizontal line
- start moving the **XY mode** vertical line
- Perform a tap action on an item in the special menus of the eSSENTIAL Accessibility for Android™ application

By pressing and holding your switch device button for one second, you can access a menu with these navigational items (see **Figure 24**):

- scroll up
- scroll down
- swipe left
- swipe right

Then, press the second button on the switch device to:

- open the special menu where the phone’s hardware buttons (such as home, back, menu, volume up, and volume down) as well as “Inverse” are accessible (see **Figure 19**)



3.3. Using Easy Grid Mode

Easy Grid mode lets you control your device using voice commands.

You can move the cursor to any point on the screen and perform an action with the cursor.

In this mode you can see a translucent grid on the screen and can move the cursor to the centre of any cell on the grid. The cells in this grid are labeled much like cells in a spreadsheet: columns are labeled with letters and rows are labeled with numbers. Each cell's label consists of a letter and a number. For instance, you can move the cursor to the second cell in the third row by saying **"Go to B3."**

See the table below for a list of voice commands.

Voice Commands	Action
Move left	Cursor moves left
Move right	Cursor moves right
Move up	Cursor moves up
Move down	Cursor moves down
Stop moving	Cursor stops moving
Jump left	Cursor jumps to the left and stops
Jump right	Cursor jumps to the right and stops
Jump up	Cursor jumps up and stops
Jump down	Cursor jumps down and stops
Hide cursor	Cursor becomes invisible
Show cursor	Cursor becomes visible
Go to A1...F7	Moves cursor to the specified cell



Action Commands	Action
Action tap	Performs a tap action
Show apps	Opens the page with all Apps
Action long tap	Performs a long tap action
Scroll down	Performs a scroll down action
Scroll up	Performs a scroll up action
Scroll left	Performs a scroll left action
Scroll right	Performs a scroll right action
Swipe down	Performs a swipe down action
Swipe up	Performs a swipe up action
Swipe left	Performs a swipe left action
Swipe right	Performs a swipe right action

Hardware Button Commands

Button home	Performs a home button click
Button menu	Performs a recent apps button click
Button back	Performs a back button click
Volume up	Performs a volume up button click
Volume down	Performs a volume down button click

Other Commands

Hide grid	Grid becomes invisible
Show grid	Grid becomes visible



3.4. Using Tag Mode

Tag mode lets you control your device using voice commands. It first highlights all the clickable points on a screen by letters and numbers, and you can use the voice commands, as described above in the Easy Grid mode, to move to these points and perform further actions using voice commands only. (see **Figure 25** and **26**).



Figure 25: Showing Tag mode



Figure 26: Showing Tag mode

There are restrictions on the clickable elements that are shown. Only the elements that are reported as clickable from an accessibility service point of view are shown. There may be more clickable points that can then be reached by moving the cursor with voice commands.

This mode is an enhancement to Easy Grid mode, to provide quicker access to the clickable points on your device screen.



3.5. Sending Feedback

You can send feedback about the eSSENTIAL Accessibility for Android™ application. To send feedback, tap the “Send feedback” button from the start screen (see **Figure 27**). A form will open where you can type in your questions or concerns (see **Figure 28**).

Type in your feedback and tap the “Send” button to send us feedback.

Tap the “Cancel” button to close the feedback form.



Figure 27: Send feedback button

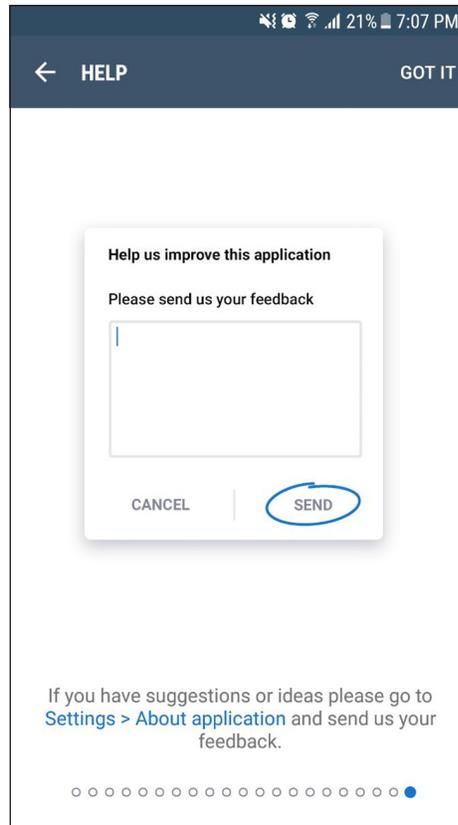


Figure 28: Feedback form



I 4. SETTINGS

4.1. General

4.1.1 About Application

In the about application section, you can check the eSSENTIAL Accessibility for Android™ version or send us feedback.

4.1.2 Activate on Launch

You may set eSSENTIAL Accessibility for Android™ to activate on launch. If activated, eSSENTIAL Accessibility for Android™ will automatically run in accessibility mode on your device. It retains the mode last used the last time it was open. Toggle the switch to turn on or turn off activate on launch. This function is turned on by default.

4.2. Hands-free mode

4.2.1 Cursor Sensitivity

You can adjust the cursor speed using the sliders (see **Figure 29**).

Tapping the **“Apply”** button saves changes to the cursor settings.

Tapping the **“Cancel”** button discards all changes.

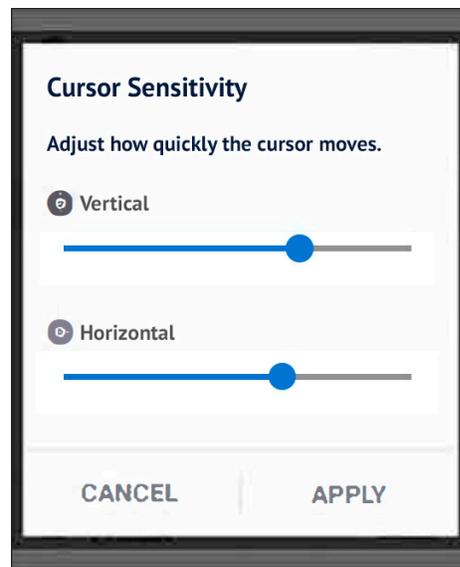


Figure 29: Cursor sensitivity setting



4.2.2 Auto-tap

Auto-tap is a feature that allows you to set conditions for automatic tapping. The application performs a tap action automatically when the cursor stops for a set amount of time. You can adjust the slider to set the number of seconds the cursor has stopped before it performs an automatic tap action (see **Figure 30**).

This screen also allows you to toggle on or off the repeat tap action. When turned on, the repeat tap action performs automatic taps in intervals when the cursor has stopped for a set amount of time. When turned off, a tap action is performed only once when the cursor has stopped. Toggle repeat tap switch to turn on or turn off auto-tap (see **Figure 30**).

Tapping the “Apply” button saves changes to the auto-tap settings.

Tapping the “Cancel” button discards all changes.

4.2.3 Auto-swipe

Auto-swipe is a feature that allows you to set conditions for automatic swiping. The application performs a swipe action when the cursor stops at the left or right edges of the screen for a set amount of time which is indicated by the loader. You can adjust the slider to set the number of seconds the cursor needs to stop at the edge of the screen before it performs a swipe action (see **Figure 31**).

Tapping the “Apply” button saves changes to the auto-swipe settings.

Tapping the “Cancel” button discards all changes.

*Toggle the switch to turn on or turn off auto-swipe (see **Figure 32**).*

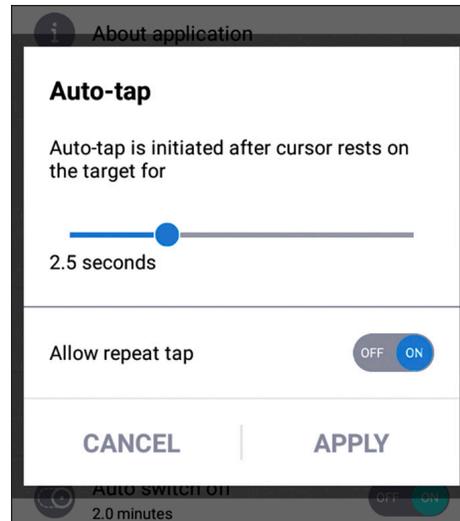


Figure 30: Auto-tap settings

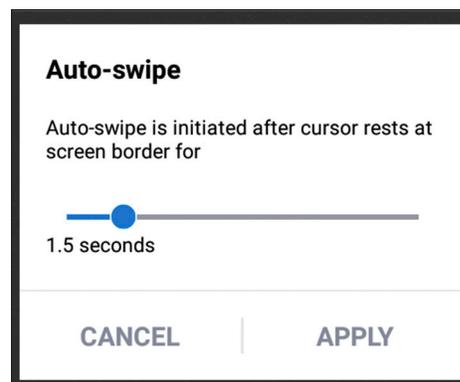


Figure 31: Auto-swipe settings



Figure 32: Auto switch-off settings



4.2.4 Auto Switch-off

Auto-switch off is a feature that allows you to set conditions for hands-free mode to turn off automatically (see **Figure 33**).

You may want to turn this on to save battery or to during periods of cursor inactivity. After a set amount of time, hands-free mode automatically turns off.

Tapping the **“Apply”** button saves changes to the auto switch-off settings.

Tapping the **“Cancel”** button discards all changes.

Toggle the switch to turn on or turn off auto switch-off (see **Figure 34**).

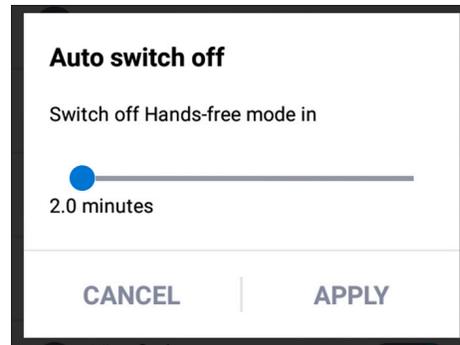


Figure 33: Auto switch-off settings



Figure 34: Auto switch-off toggle

4.2.5 Viewfinder

Viewfinder is a feature that detects your face position and assists in operating hands-free mode. You can set the application to automatically hide the viewfinder when your face is in focus. If turned on, the viewfinder automatically appears when your face is out of focus (see **Figure 35**).

You may set the position of the viewfinder on the screen.

These are the options:

- top left
- top middle
- top right

Tapping the **“Apply”** button saves changes to the viewfinder settings.

Tapping the **“Cancel”** button discards all changes.

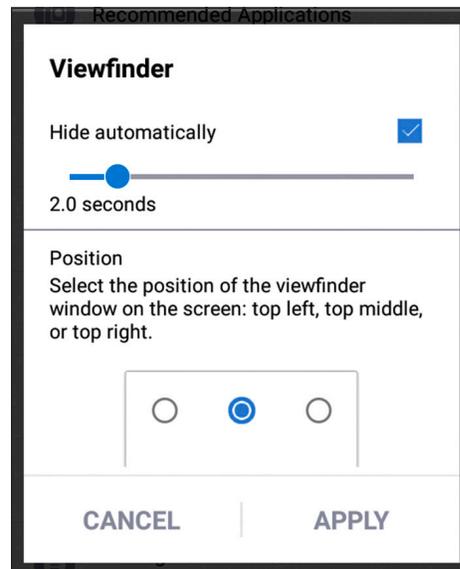


Figure 35: Viewfinder settings



4.2.6 Floating Menu

Floating menu is a feature that makes the phone's hardware buttons accessible. Hardware buttons such as home, back, menu, volume up, and volume down can be accessed in the floating menu.

The floating menu settings let you adjust the opacity of the floating menu. Opacity sets the visual transparency of the floating menu. You may adjust the opacity of the floating menu using the opacity slider (see **Figure 36**).

The floating menu also lets you set a fixed or unfixed position for the floating menu. Position of the floating menu can be:

- fixed, in one of the three unfixed screen positions
- unfixed, where the floating menu displays automatically beside the cursor when the cursor remains still for a set amount of time

To set a fixed position on the screen:

1. Toggle the "Follow cursor" slider to "off".
2. Select one of the three fixed screen positions: bottom left, bottom middle, or bottom right.
3. Tap "**Apply**" button to save changes.

To set an unfixed position on the cursor:

1. Toggle the "Follow cursor" slider to "on".
2. Tap "**Apply**" button to save changes.

Tapping the "Apply" button saves changes to the floating menu settings.

Tapping the "Cancel" button discards all changes.

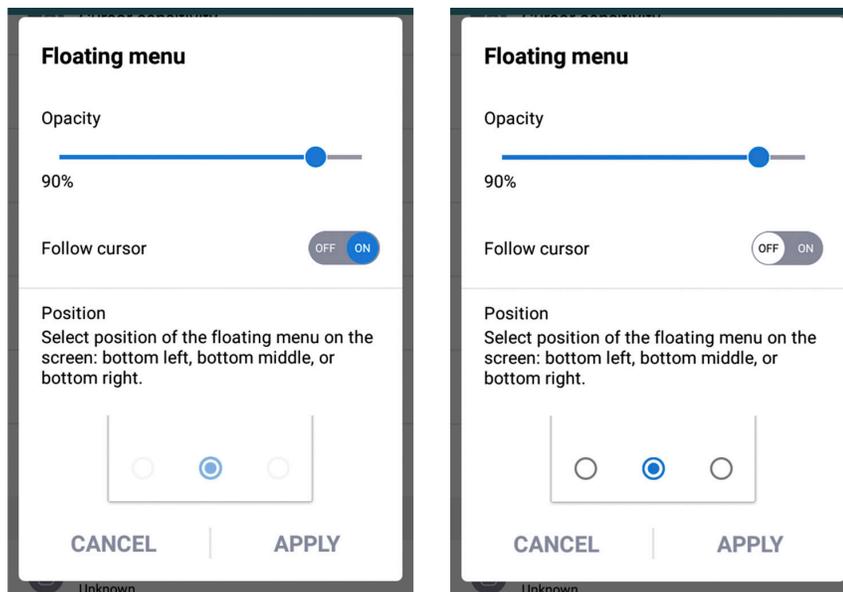


Figure 36: Floating menu settings



4.2.7 Custom Cursor

Custom cursor is a feature that lets you change the shape of the cursor. Select your preferred cursor shape.

Tapping the “Apply” button saves changes to the cursor settings.

Tapping the “Cancel” button discards all changes.

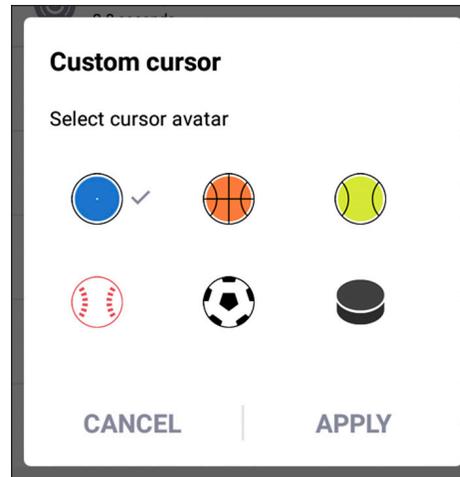


Figure 37: Custom cursor settings

4.3. XY Mode

4.3.1 Device Type

To use an Android device in **XY mode**, your switch device must be synced for one-button or two-button mode configuration.

Connect your switch device to your mobile phone (see your *switch device user manual*).

Configure switch device in a few steps

Step 1: Choose the number of buttons you intend to use.

FOR ONE-BUTTON USAGE

Step 2: Tap the one-button option on your switch device (see **Figure 39**).

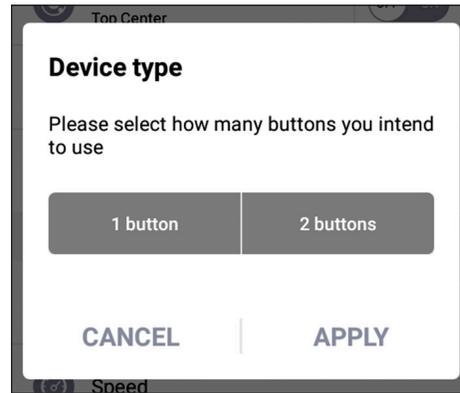


Figure 38: One-button or two-button mode configuration

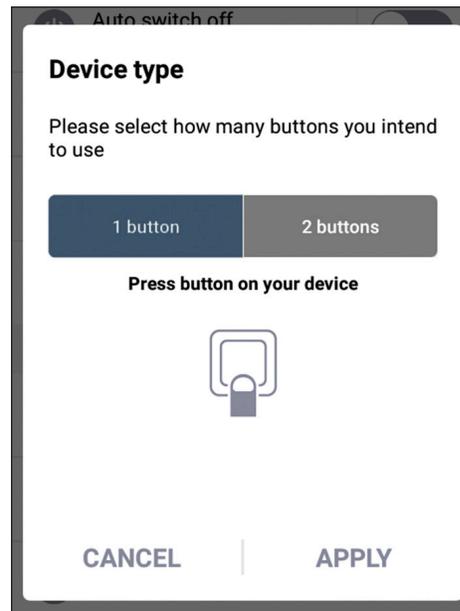


Figure 39: One-button mode selected



Step 3: Apply settings, cancel settings, or reconfigure and start again (see **Figure 40**).

Tapping the **“Apply”** button saves changes to the button mode configuration settings.

Tapping the **“Cancel”** button discards all changes.

Tapping **“Reconfigure”** button restarts XY mode configuration.

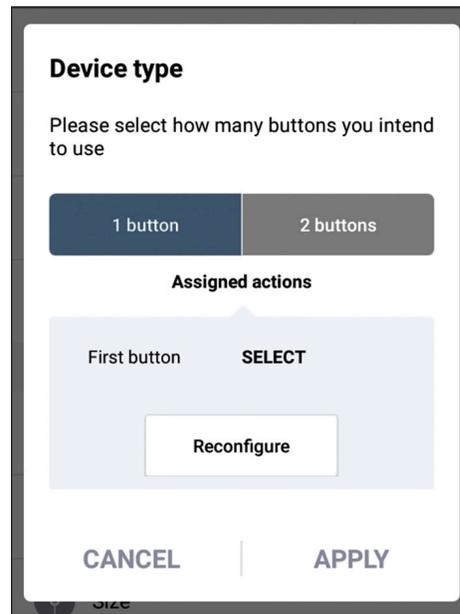


Figure 40: Apply, cancel, or reconfigure

FOR TWO-BUTTON USAGE

Step 1: Choose the number of buttons you intend to use (see **Figure 38**).

Step 2: Press the first button on your switch device.

If the application recognizes the button, then the application will display a confirmation message (see **Figure 41**).

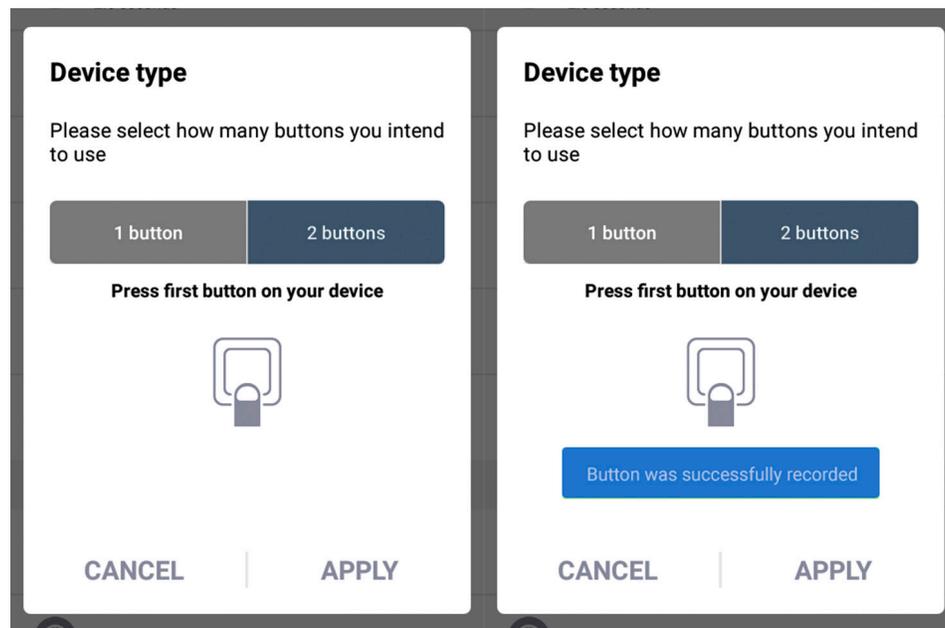


Figure 41: First button recognized for two-button mode



Step 3: Assign an action for the first switch device button among these options:

- Select
- Reverse direction
- Show menu

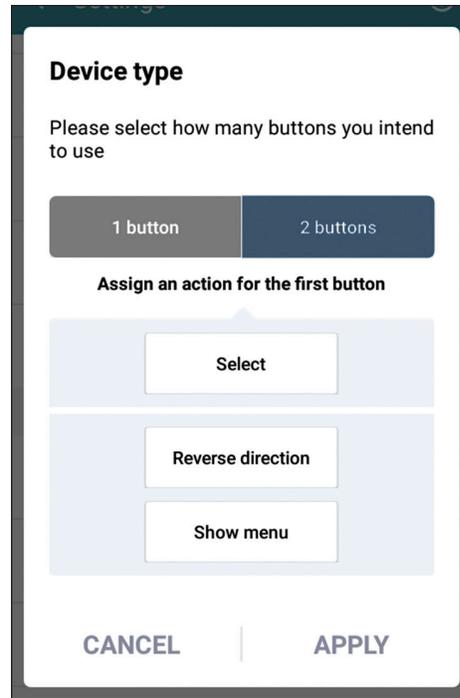


Figure 42: Assign an action

Step 4: Press the second button on your switch device.

If the application recognizes the button, then the application will display a confirmation message.

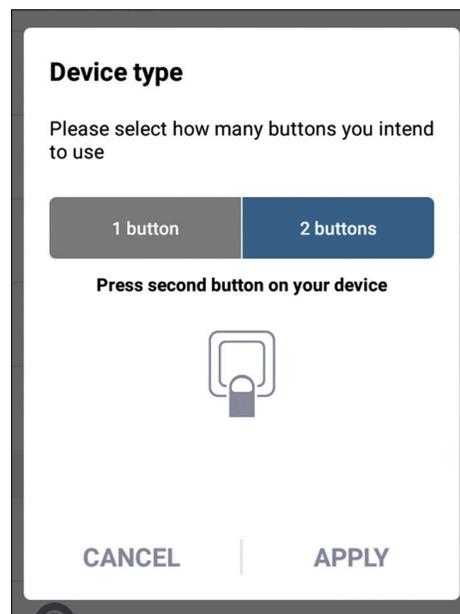


Figure 43: Instruction to press the second button



Step 5: Assign an action for the second switch device button among these options:

- Select
- Reverse direction
- Show menu

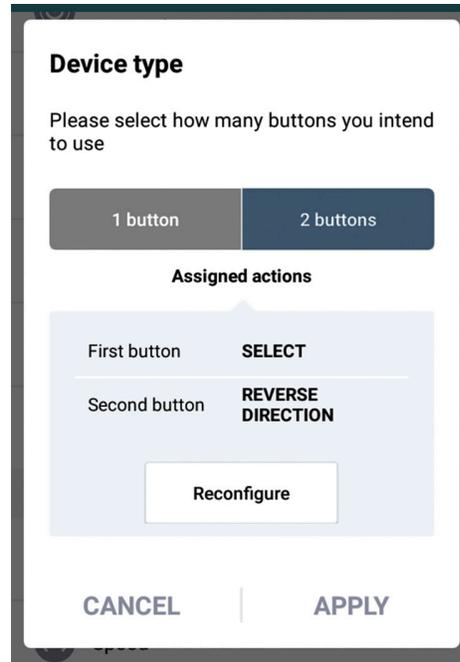


Figure 44: Action assigned

Step 6: Apply settings, cancel settings, or reconfigure and start again (see **Figure 45**).

Tapping the **"Apply"** button saves changes to the button mode configuration settings.

Tapping the **"Cancel"** button discards all changes.

Tapping "Reconfigure" button restarts XY mode configuration.

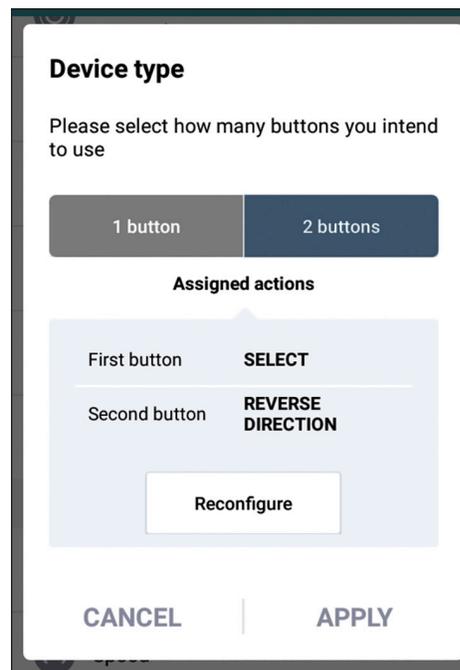


Figure 45: Two-button mode configured



4.3.2 Scanning Speed

Scanning speed is a feature that allows you to set the speed of the horizontal and vertical lines in **XY mode** (see **Figure 46**).

You can set the movement speed for the vertical bar and horizontal bar. You may also set the scanning speed, which is how quickly the focus changes between items in the floating menu.

Tapping the **“Apply”** button saves changes to the scanning speed settings.

Tapping the **“Cancel”** button discards all changes.

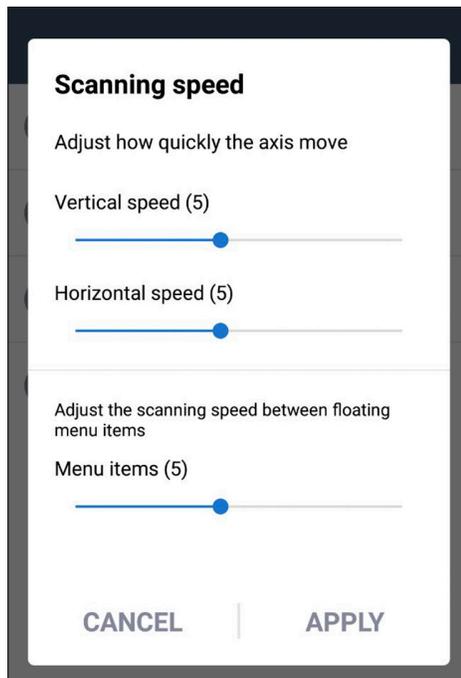


Figure 46: Scanning speed settings

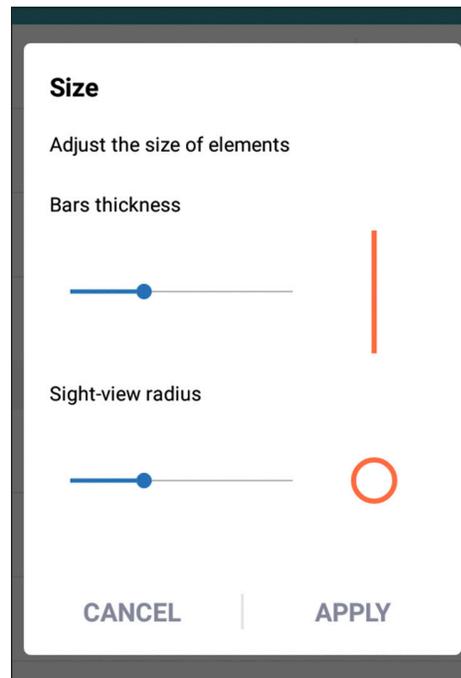


Figure 47: Line size setting

4.3.3 Size

Size is a feature that allows you to set size of **XY mode** lines. You can set the thickness of the vertical and horizontal lines and the size of the sight-view radius using sliders (see **Figure 47**).

Tapping the **“Apply”** button saves changes to the settings.

Tapping the **“Cancel”** button discards all changes.



4.3.4 Lines Colour

Set the colour of the vertical and horizontal lines and axis.

Select the colour you prefer.

Tapping the **“Apply”** button saves changes to the lines colour.

Tapping the **“Cancel”** button discards all changes.

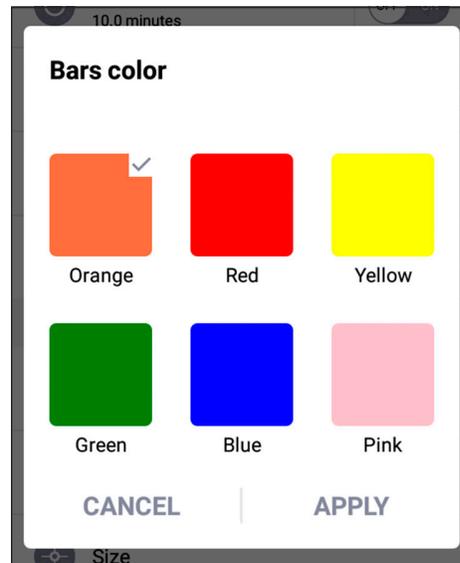


Figure 48: Line colour settings

4.4. EASY GRID MODE

4.4.1 Cursor Speed

You can adjust the cursor speed using the sliders (see **Figure 49**).

Tapping the **“Apply”** button saves changes to the cursor settings.

Tapping the **“Cancel”** button discards all changes.

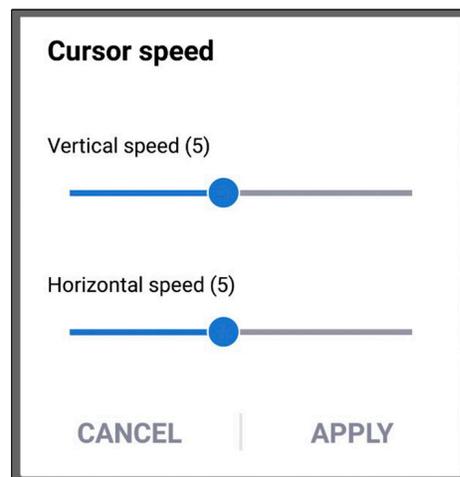


Figure 49: Cursor speed settings



4.4.2 Grid Color

Set the colour of the grid. Select your preferred colour.

Tapping the “Apply” button saves changes to the lines colour.

Tapping the “Cancel” button discards all changes.

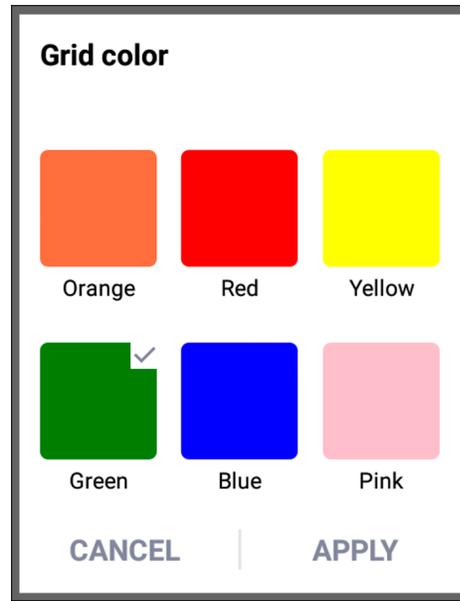


Figure 50: Grid color setting

4.4.3 Grid Opacity

You may adjust the opacity of the Grid using the opacity slider (see **Figure 51**).

Tapping the “Apply” button saves changes to the cursor settings.

Tapping the “Cancel” button discards all changes.

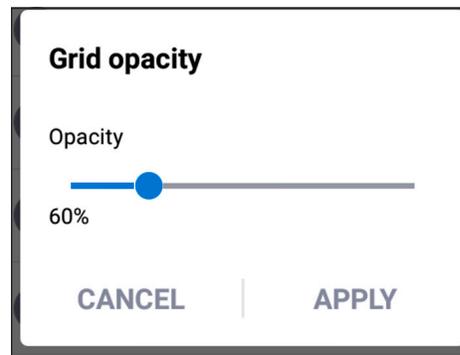


Figure 51: Grid opacity setting



4.4.4 Grid Thickness

You may adjust the thickness of the Grid using the bars thickness slider (see **Figure 52**).

Tapping the **“Apply”** button saves changes to the lines colour.

Tapping the **“Cancel”** button discards all changes.

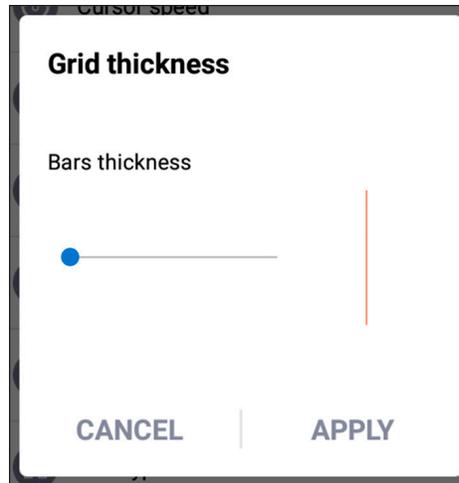


Figure 52: Grid thickness setting

4.4.5 Grid Cells

You may adjust the number of rows and columns in the grid (see **Figure 53**).

Tapping the **“Apply”** button saves changes to the cursor settings.

Tapping the **“Cancel”** button discards all changes.

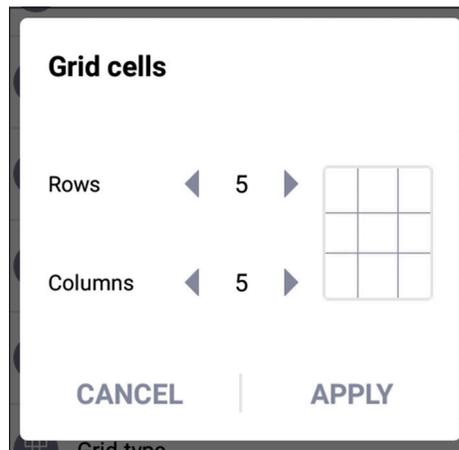


Figure 53: Grid cells settings



4.4.6 Grid Type

You may adjust the type of rows and columns in the grid.

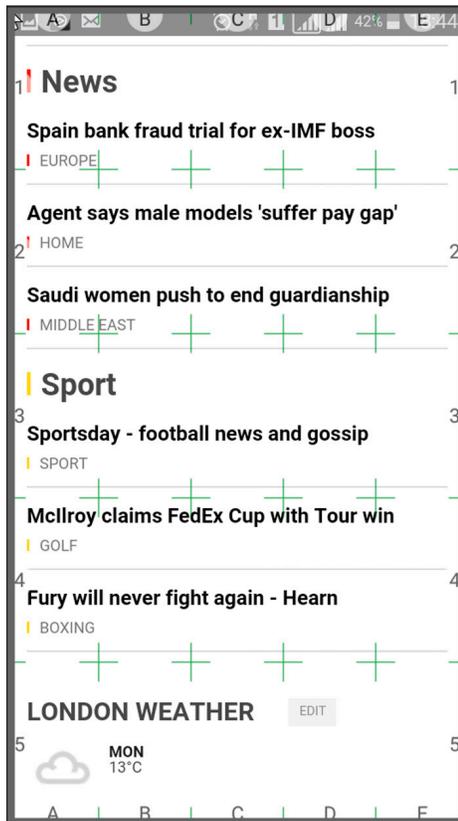


Figure 54: Ruler grid

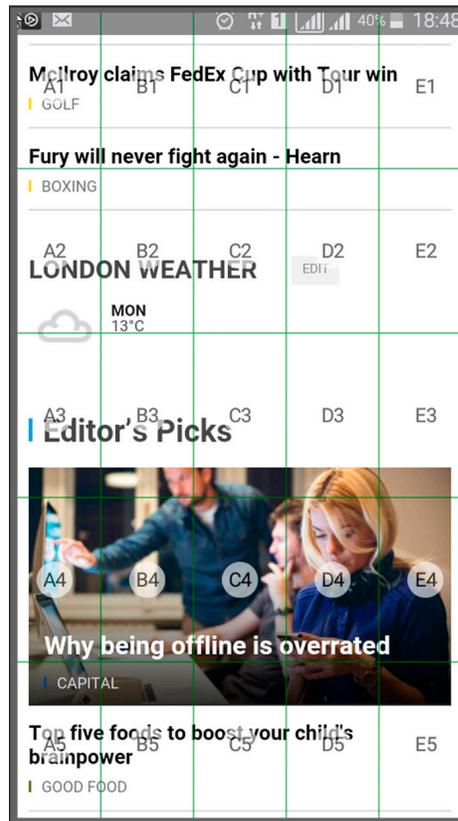


Figure 55: Mesh grid

Tapping the **“Apply”** button saves changes to the cursor settings.

Tapping the **“Cancel”** button discards all changes.

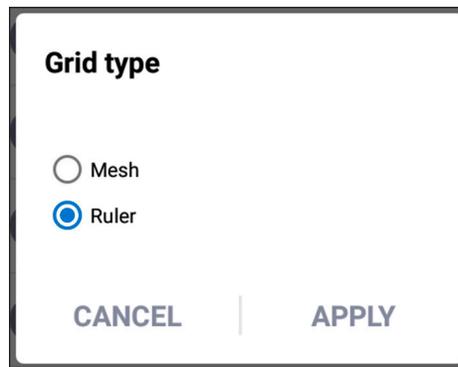


Figure 56: Cursor speed settings



4.4.7 Hide Grid Timeout

You can adjust the time after which the grid will automatically hide.

Tapping the **“Apply”** button saves changes to the cursor settings.

Tapping the **“Cancel”** button discards all changes.



Figure 57: Enable/disable hiding grid by timeout

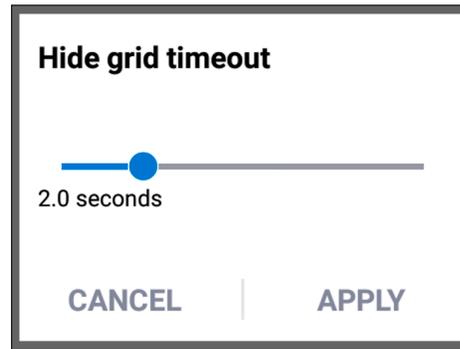


Figure 58: Hide grid timeout settings

4.5. TAG MODE

4.5.1 Cursor Speed

You can adjust the cursor speed using the sliders (see **Figure 59**).

You can use commands like “Go to B6”, which will move the cursor to this position, then use command “Action tap”, to change the cursor speed.

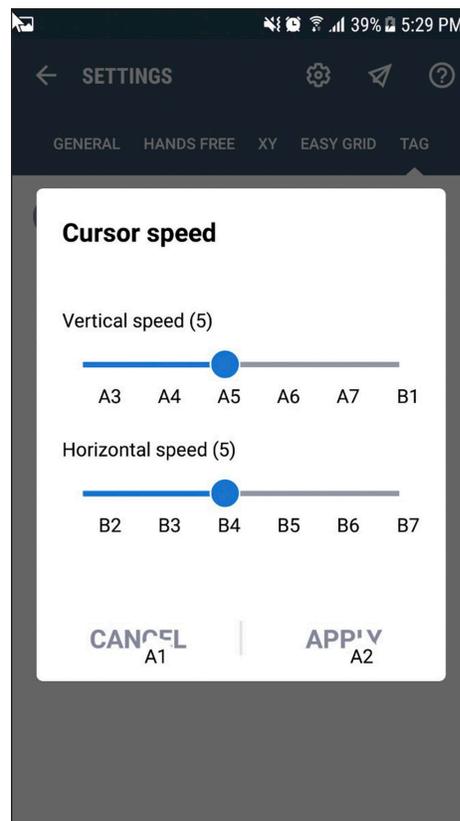


Figure 59: Cursor speed settings



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