



Connected TV Applications for TiVo

Worldbox

Design Outline

25 Nov 2014

Glossary and Global Parameters

- activated** Button state while interactive text or imagery is being pressed, providing a 1 second 'flash' giving feedback that the remote control signal was received.
- active** Button state when interactive text or imagery has been pressed and is still 'on' but no longer in focus. Sometimes used to indicate active 'tabs' or other parent items that are 'on.'
- back button** Button that returns the user to a screen that the user was last on.
- button** A button can be text or an image, and has potentially 5 states: normal, focused, activated, active, and inactive.
- focus** A graphic indicator showing what area of the screen is actionable, analogous to mouse cursor on a PC. It is usually a bright outline or box.
- focused** Button state when interactive text or imagery is in focus.
- image button** Interactive image on the screen. An action is executed when in focus and the OK button on the remote is pressed.
- inactive** Button state when interactive text or imagery is temporarily not interactive ('greyed out').
- menu** A row or column of interactive text.
- normal** Button state when interactive text or imagery not in focus.
- text button** Interactive text on the screen. An action is executed when in focus and the OK button on the remote is pressed.

	normal colour	focused colour	activated colour	inactive colour	active / emphasis
text block	#EBEBEB				#6E6E6E
button mark	#EBEBEB	#EBEBEB	#EBEBEB	#594A51	#EBEBEB
button focus	#5A0005 <small>border: #F00000</small>		#B00000		

Helvetica Neue LT Std Thin
 Helvetica Neue LT Std Light



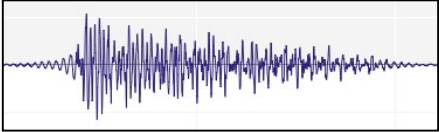
Examples of the button states of image buttons



Examples of the button states of text buttons



Global Parameters

Sounds	Description	
UPDOWN	This is the default sound indicating a remote control button press. Sounds a bit like a single strike on a wood block percussion instrument.	
SELECT	This sound indicates that the OK button was pressed. Sounds a bit like two strikes on a two toned wood block, rising in pitch.	
BONK	This sound indicates that a button press on the remote was received, but there is no action to perform. An example would be pressing DOWN at the right end of a menu. Sounds like a jarring timpani.	

Element	Button	Action
All	OK	Plays SELECT sound.
	LEFT, RIGHT, UP, DOWN	Plays UPDOWN sound.

Overview (Phase 1)

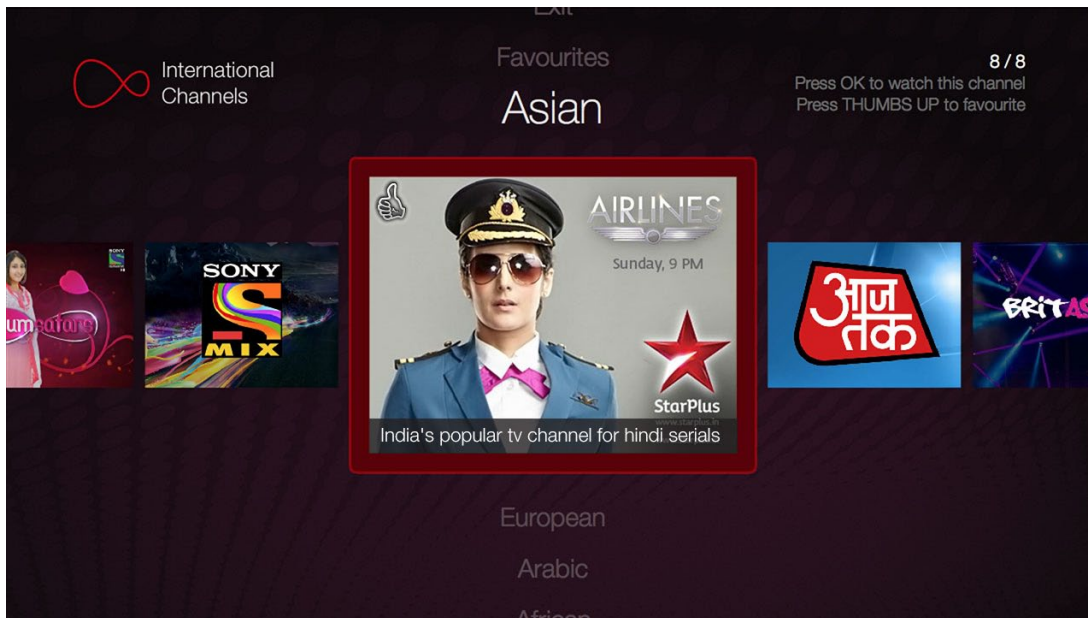
This application makes use of the over-the-top abilities of the TiVo set top box to give viewers access to niche international TV channels.

The app launches from the Apps & Games menu on the Home Screen or from a RED button press on channel 800.

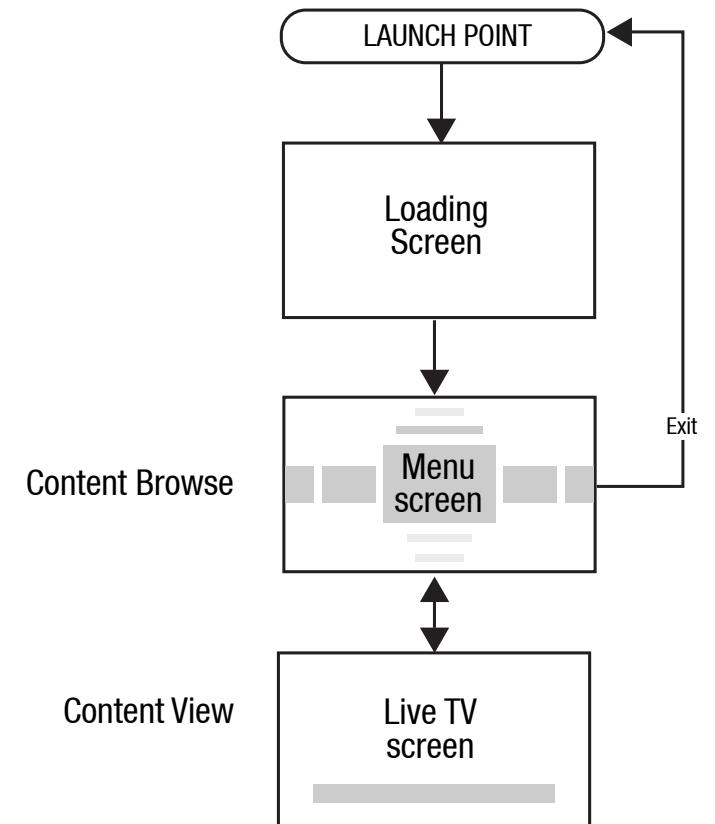
The experience will look and feel differently from the regular TiVo channel selections as it has unique functionality. Viewers are presented with an array of channel logos on horizontal carousels organised into different categories. The categories are names of world regions, except for 'Favourites.' 'Favourites' are saved by the user by pressing the THUMBS UP button.

Phase 1 of this app gives access to free channels only.

The names of the menu items and the number of menu items must be easily updatable (eg. through a configuration file). Each channel must have 2 associated graphics: a carousel image and a channel logo. The channel also must have a channel description and may have a custom tooltip message. All of these must also be easily updatable.



Menu Screen showing a carousel of channels



App Map

Example User Journey



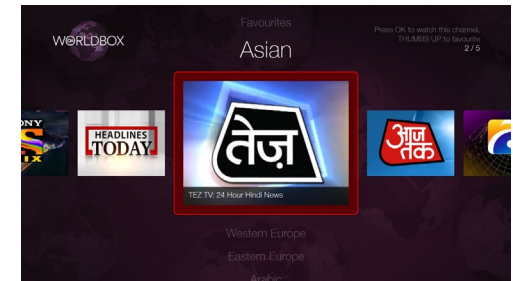
1. Apps & Games. OK pressed and app launches [Other launch points could be TiVo Home Screen righthand menu, or from a RED button press when tuned in to channel 800].



2. Loading screen.



3. Menu Screen. Screen loads with menu item expanded to show carousel. Focus stays in the centre (if there are enough carousel items to fill screen width). Items in all cardinal directions invite the user to explore using the ARROW buttons.



4. RIGHT pressed. Carousel that was to the right has moved to the centre. This channel has an optional description displayed.



5. UP pressed, vertical menu collapses and all items display at full contrast. Note the tooltip at upper right always updates every time the focus changes.



6. UP pressed. Menu items in focus increase in size.



7. OK pressed. Menu expands and unfocused category names blend into the background. As the Favourites category is empty a set of instructions tells the user how to populate it.



8. DOWN pressed. Menu collapses.



9. OK pressed, and menu expands to reveal carousel. Notice the tooltip instructs the user to press the THUMBS UP button to 'favourite.'



10. THUMBS UP pressed, the channel is now favoured. Thumbs up icon appears on channel image.



11. UP pressed 2 times.



12. OK pressed. Menu expands to show the Favourites category, now populated.

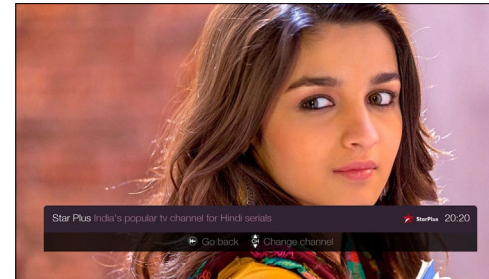
Example User Journey



13. DOWN pressed 2 times.



14. OK pressed, and RIGHT pressed. Since there are only a few channels in this category the carousel doesn't wrap. Focus moves left and right.



15. OK pressed. Full screen video appears. Pressing CHAN UP or CHAN DOWN will allow the user to switch between accessible channels in the category.



16. Info Bar hides after 3 seconds. Pressing the INFO button will recall it.



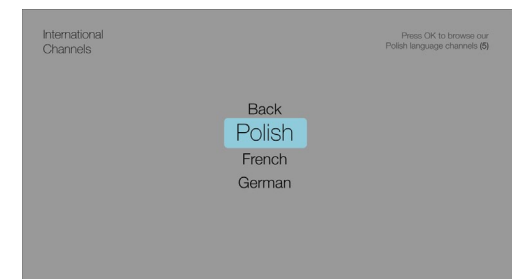
17. SKIP BACK pressed.



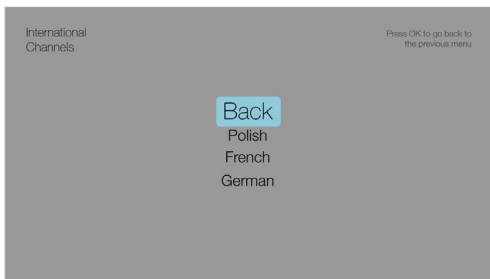
18. UP pressed.



19. UP pressed.



20. OK pressed. If the amount of content warrants it the user will be presented with multiple menus that organise content into narrower categories. (nb. black & white wireframe shown)



21. UP pressed.



22. OK pressed.



23. UP pressed 3 times.



24. OK pressed. App is closed, and the user is returned to the launch point. When the user re-launches they will begin on the carousel item for the channel that was last tuned into (in this example it would look like slide 17).

Menu Screen



The Menu Screen has multiple horizontal carousels nested in a collapsing vertical menu. Accessing each carousel is similar to browsing folder tabs labels in a file cabinet drawer and opening each folder one at a time.

Each carousel has a series of tiles that link to Over-The-Top (OTT) TV channels in a category (eg. name of a geographic region). Carousels with 5 or more items wrap continuously and the focus stays at centre screen.

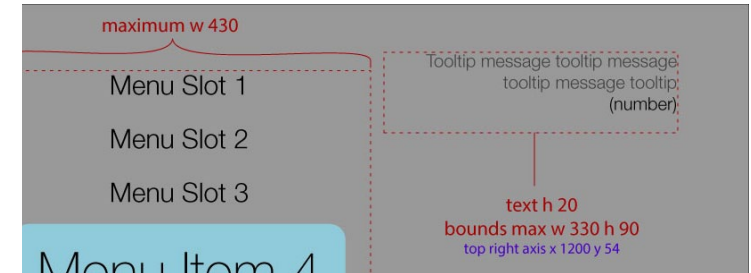
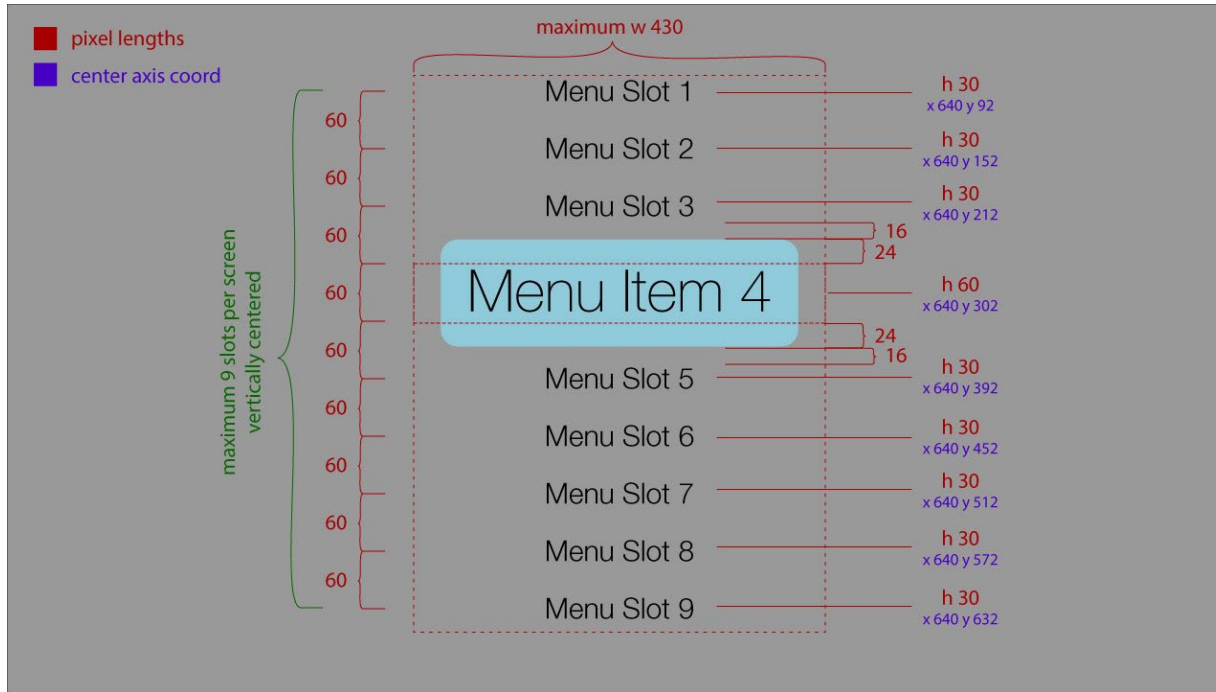
When items are in focus they scale to a larger size. A tooltip message in the upper right corner gives the user instructions about the item in focus.

The initial state of the Menu Screen on the first launch is on the first carousel item on the first carousel. Afterward the initial state is on the channel tile of the channel that was last watched.

Channels can be added to the Favourites carousel by pressing THUMBS UP, and upon doing this a thumbs up icon will appear on the upper left corner of the channel tile. This icon will not appear on the carousel items in the Favourites carousel itself, though.



Menu Screen



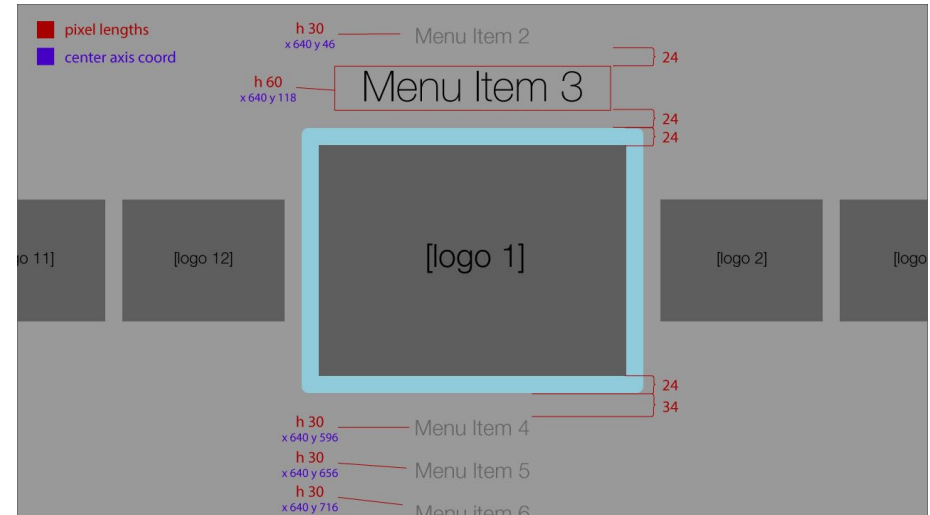
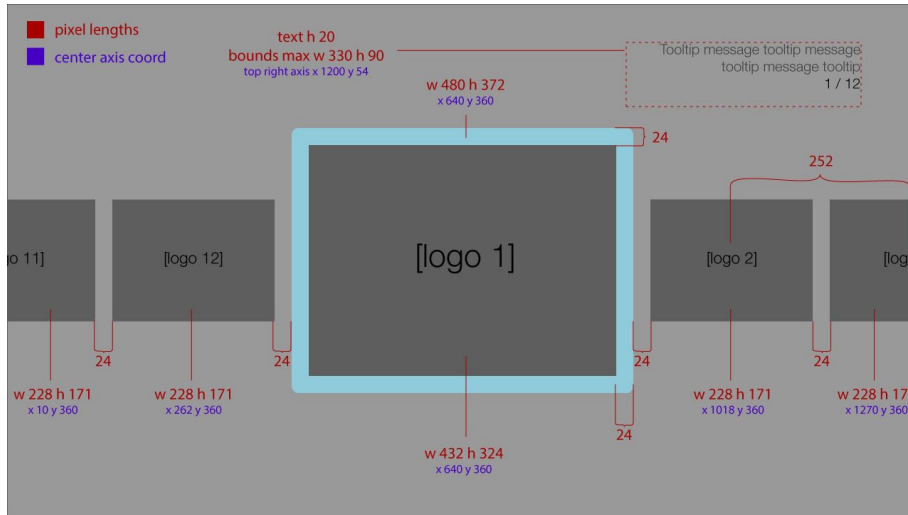
About the tooltip: the first 1 or 2 lines describe what will happen when the user presses OK. This message will be updated via the app config file (including any line breaks). The third line displays, in parentheses, the total number of carousel items associated with the menu item. If there are no carousel items (eg. empty Favourites) then the line read “(empty)”, and if there is no carousel associated (eg. Exit button) then the third line is hidden. The text is always right justified.

The menu is vertical one that ranges from 2 to 9 possible slots, always centered. The menu item in focus is 200% larger and takes up the vertical space of 2 unfocused menu items. The above shows the menu in the 'collapsed' state. A menu directory may contain more than 9 items, but a menu screen will never have more than 9 items.

Element	Button	Action
Menu (Collapsed)	UP, DOWN, LEFT, SKIP FWD	If the focus moves to a new menu item the text is doubled in size and the font changes to the emphasis font. The menu item that was previously in focus decreases to half its size and changes to the normal font.
	OK, RIGHT	The focus flashes it's activated state for 1 second and then the menu expands to reveal the carousel linked to the menu item. The focus moves to a carousel item and the tooltip message updates accordingly. Exception: if on the topmost menu item the user is returned to the previous screen (eg. quits the app if on the top menu, or goes back to a parent menu if on a submenu screen).
	UP, LEFT	Moves the focus to the next selectable menu item above and updates the tooltip text with the associated message. If already on the topmost menu item then BONK*.
	DOWN	Moves the focus to the next selectable menu item below and updates the tooltip text with the associated message. If already on the bottommost menu item then BONK*.
	SKIP FWD	Moves the focus to the bottommost selectable menu item, changing the tooltip text accordingly. If already on the bottommost selectable menu item then it moves the focus to the topmost selectable menu item.

* BONK - This is a sound indicates that a button press on the remote was received, but there is no action to perform.

Menu Screen

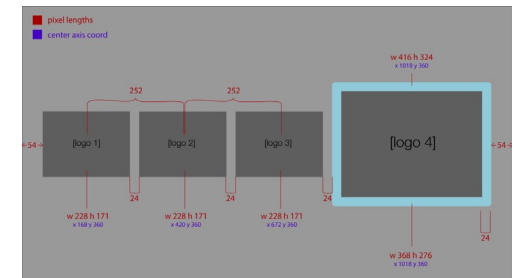
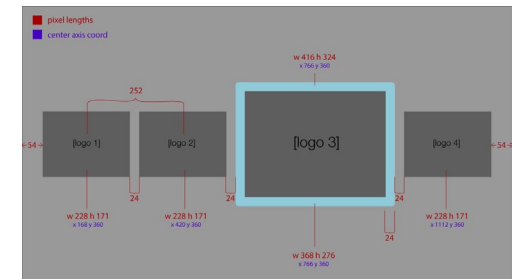
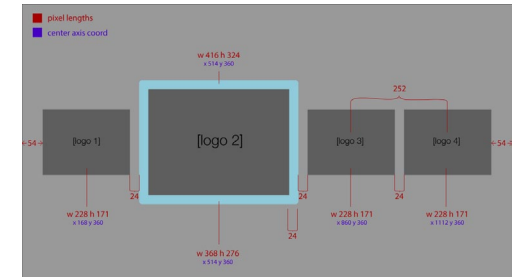
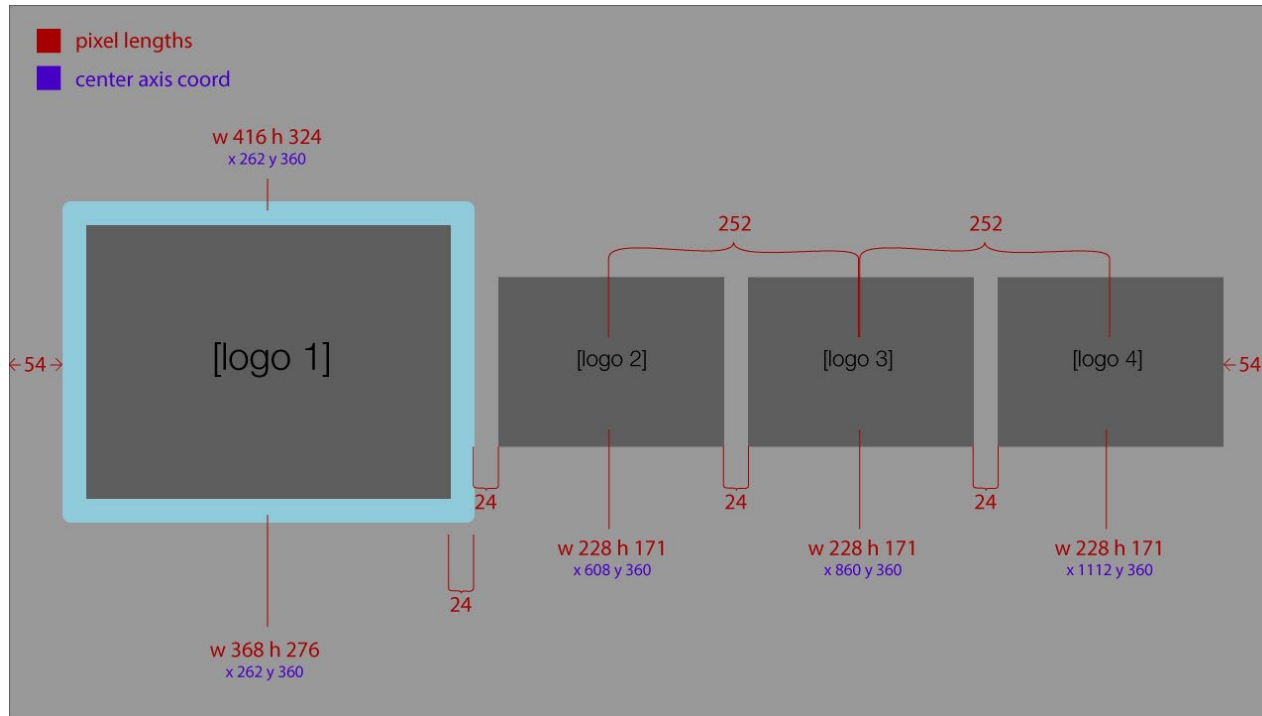


When the menu expands it reveals a carousel. If the carousel has more than 4 items the focus remains at centre screen and the carousel items move left and right (see proceeding pages for the carousel functionality when there are less than 5 items). The first item in the carousel appears first in focus, the second item is to the right of centre and the last item in the carousel first appears left of centre.

About the tooltip: on this screen state the first 2 lines of the tooltip lists what will happen if the user presses OK and how to favorite/unfavorite. The third line indicates the user's location on the carousel: the first number is the item in focus followed by a forward slash and then finally the total number of carousel items.

Element	Button	Action
Carousel (expanded menu, greater than 4 items)	OK	The focus flashes it's activated state for 1 second and then the linked screen loads (eg. if linked to a free channel the video screen will load).
	LEFT	Moves all carousel items one slot to the right, and updates the tooltip text with the associated message of the new carousel item in focus.
	RIGHT	Moves all carousel items one slot to the left, and updates the tooltip text with the associated message of the new carousel item in focus.
	UP, SKIP BACK	Moves the focus to the menu item above the carousel collapsing the menu (nb. to the title of the carousel)
	DOWN	Moves the focus to the menu item below the carousel collapsing the menu.
	THUMBS UP	If the carousel item isn't a user favourite then it gets favourited. A thumbs-up icon is added to the channel thumbnail, the tooltip message updates, and the channel is added to the Favourites carousel. If the channel is already a favourite then BONK.
	THUMBS DOWN	If the carousel item is a user favourite then it gets unfavourited. A thumbs-up icon is hides on the channel thumbnail, the tooltip message updates, and the channel is removed from the Favourites carousel. If the channel isn't a favourite then BONK.
	SKIP FWD	Resets the carousel to focus on the first carousel item.

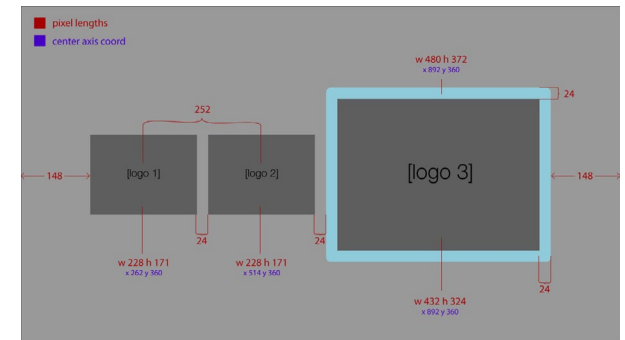
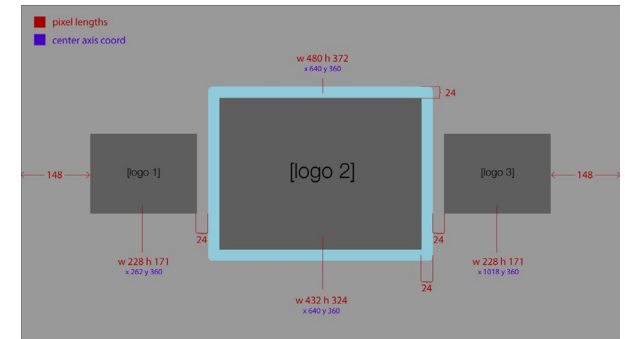
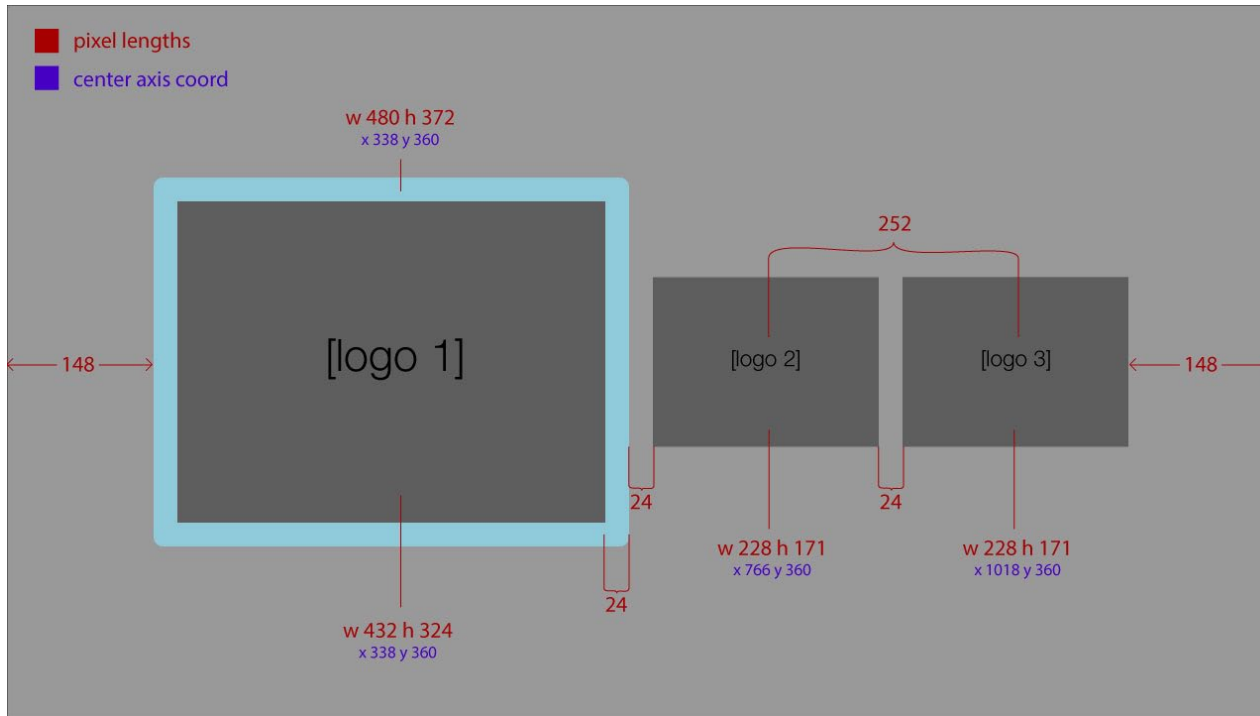
Menu Screen



If the carousel has less than 5 items the carousel remains stationary and the focus moves left and right. By default the first item is in focus when the menu expands. If there are 4 items then the size of the item in focus is reduced to better fit the entire carousel on the screen.

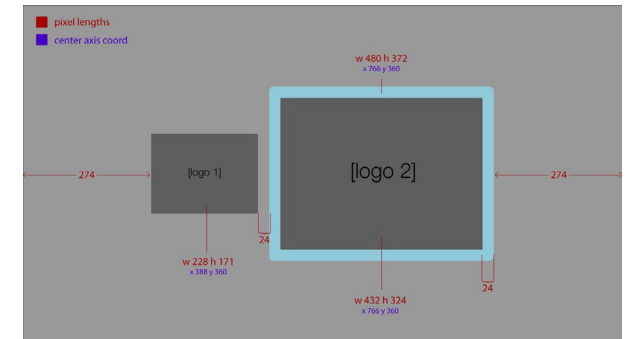
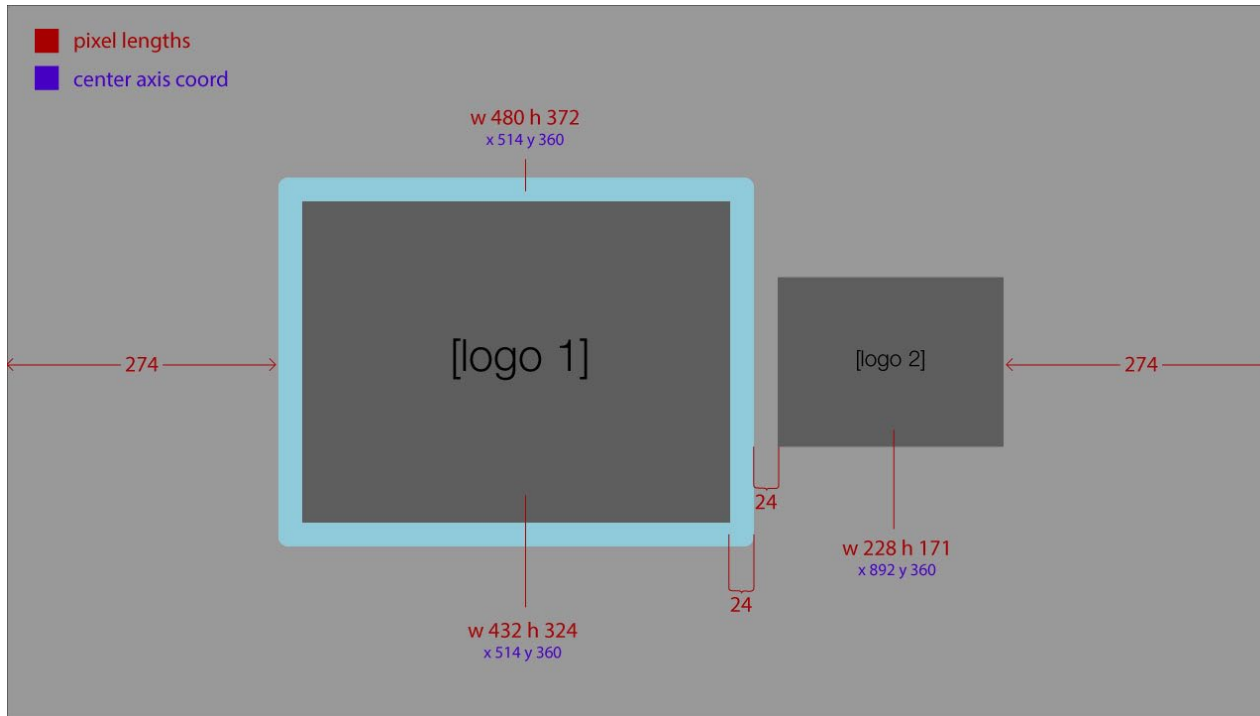
Element	Button	Action
Carousel (expanded menu, 4 items)	OK	The focus flashes it's activated state for 1 second and then the linked screen loads (eg. if linked to a free channel the video screen will load).
	LEFT	Moves the focus one slot to the left and updates the tooltip message. If already on the leftmost item then BONK.
	RIGHT	Moves the focus one slot to the right and updates the tooltip message. If already on the rightmost item then BONK.
	UP, SKIP BACK	Moves the focus to the menu item above the carousel collapsing the menu (nb. to the title of the carousel)
	DOWN	Moves the focus to the menu item below the carousel collapsing the menu.
	THUMBS UP	If the carousel item isn't a user favourite then it gets favourited. A thumbs-up icon is added to the channel thumbnail, the tooltip message updates, and the channel is added to the Favourites carousel. If the channel is already a favourite then BONK.
	THUMBS DOWN	If the carousel item is a user favourite then it gets unfavourited. A thumbs-up icon is hides on the channel thumbnail, the tooltip message updates, and the channel is removed from the Favourites carousel. If the channel isn't a favourite then BONK.
	SKIP FWD	Moves the focus on the last carousel item. If already on the last carousel item then it moves the focus to the first carousel item.

Menu Screen



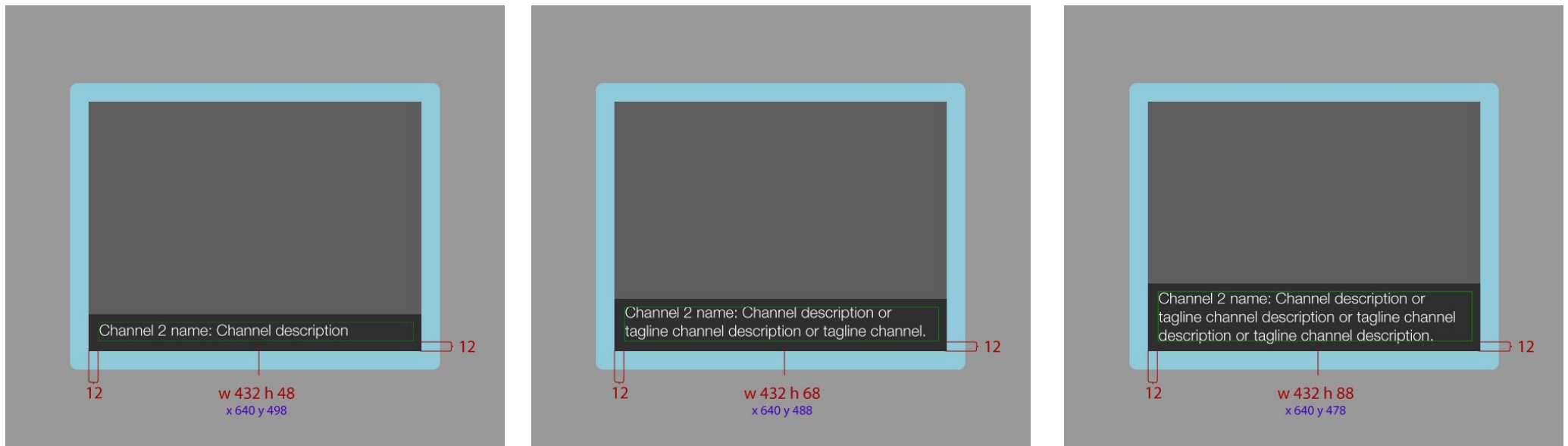
Element	Button	Action
Carousel (expanded menu, 3 items)	OK	The focus flashes it's activated state for 1 second and then the linked screen loads (eg. if linked to a free channel the video screen will load).
	LEFT	Moves the focus one slot to the left and updates the tooltip message. If already on the leftmost item then BONK.
	RIGHT	Moves the focus one slot to the right and updates the tooltip message. If already on the rightmost item then BONK.
	UP, SKIP BACK	Moves the focus to the menu item above the carousel collapsing the menu (nb. to the title of the carousel)
	DOWN	Moves the focus to the menu item below the carousel collapsing the menu.
	THUMBS UP	If the carousel item isn't a user favourite then it gets favourited. A thumbs-up icon is added to the channel thumbnail, the tooltip message updates, and the channel is added to the Favourites carousel. If the channel is already a favourite then BONK.
	THUMBS DOWN	If the carousel item is a user favourite then it gets unfavourited. A thumbs-up icon is hides on the channel thumbnail, the tooltip message updates, and the channel is removed from the Favourites carousel. If the channel isn't a favourite then BONK.
	SKIP FWD	Moves the focus on the last carousel item. If already on the last carousel item then it moves the focus to the first carousel item.

Menu Screen



Element	Button	Action
Carousel (expanded menu, 2 items)	OK	The focus flashes it's activated state for 1 second and then the linked screen loads (eg. if linked to a free channel the video screen will load).
	LEFT	Moves the focus one slot to the left and updates the tooltip message. If already on the leftmost item then BONK.
	RIGHT	Moves the focus one slot to the right and updates the tooltip message. If already on the rightmost item then BONK.
	UP, SKIP BACK	Moves the focus to the menu item above the carousel collapsing the menu (nb. to the title of the carousel)
	DOWN	Moves the focus to the menu item below the carousel collapsing the menu.
	THUMBS UP	If the carousel item isn't a user favourite then it gets favourited. A thumbs-up icon is added to the channel thumbnail, the tooltip message updates, and the channel is added to the Favourites carousel. If the channel is already a favourite then BONK.
	THUMBS DOWN	If the carousel item is a user favourite then it gets unfavourited. A thumbs-up icon is hides on the channel thumbnail, the tooltip message updates, and the channel is removed from the Favourites carousel. If the channel isn't a favourite then BONK.
	SKIP FWD	Moves the focus on the last carousel item. If already on the last carousel item then it moves the focus to the first carousel item.

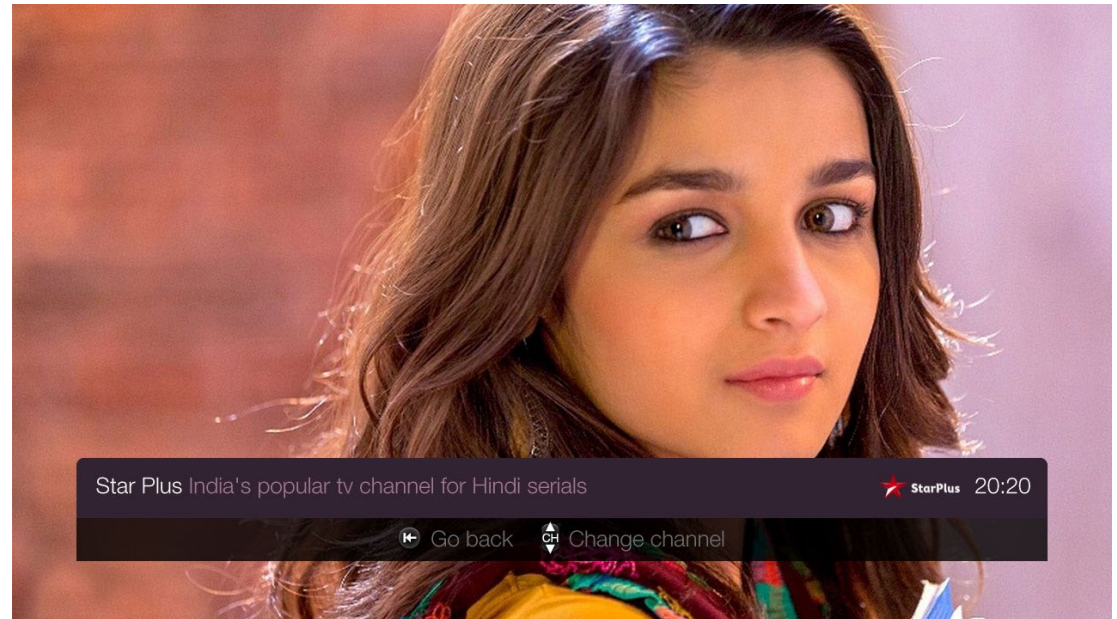
Menu Screen



About the channel description: the configuration file can have a channel description along with reference to channel artwork. If the description is present it will appear at the bottom of a carousel item when it is in focus. A dark overlay graphic appears behind the text so that it's legible over artwork. The size of the text block and overlay depends on how many lines the description wraps into. The multiline block always populates from the bottom up so that there is no large empty space with short descriptions. The maximum length of the channel description is about 130 characters (nb. this is not a hard limit, as the character limit on a multiline block of text is highly variable and is dependent on the length of words. Short words will fit more characters in the block than long words, especially if there's no syllable hyphenation to break up the long words). The text is 20pt with a leading of 24 pt, the box immediately behind the text is #000000 at 75% opacity.

About the carousel item artwork: the config file should refer to image URLs so that channel artwork can be quickly changed.

Live TV Screen



Channel with Status Bar

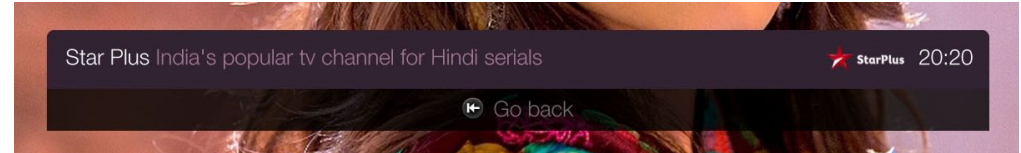
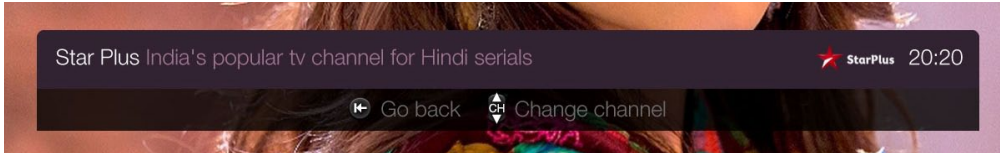
The screen displays the full screen Over-the-top live TV stream. It's much like a traditional TV channel — no programme metadata or video transport control (these may be added in future versions).

When the user 'tunes in' to the live TV channel stream a Status Bar appears showing the channel name, channel description, channel logo, and a clock showing the current time of day (using a 24 hour clock format). The channel name and description are the same text displayed on the Menu Carousel item. The channel logo must be updateable via the configuration file.



The Status Bar hides when the user is idle for 3 seconds.

Live TV Screen



If there are other accessible channels in the category a 'Change channel' prompt appears as the second button hint. Else it only shows "Go back"



Measurements and positions of the Status Bar. Values of the parts of the Status Bar are relative to the Status Bar with the top left as the origin point.

Button	Action
SKIP BACK, LEFT	Returns to the Menu Screen with the focus on the carousel item that was last tuned in to. If the channel was changed on the Live TV Screen the focus on the Menu Screen will reflect that change.
CHAN UP	Tunes into the next available channel in the category. If the current channel is the last one in the category then tune into the first available channel in the category.
CHAN DOWN	Tunes into the previous available channel in the category. If the current channel is the first one in the category then tune into the last available channel in the category.
INFO	Show the Status Bar for 3 seconds. If the Status Bar is visible then start the 3 second count again.
RECORD, THUMBS UP, THUMBS DOWN, PLAY, RWD, FWD, PAUSE, STOP, SKIP FWD, SLOW, RED, GREEN, YELLOW, BLUE	BONK.