

# LG Smart TV and Media product UI Guideline

/ ver 4.18

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# History

Version	Date	No.	Page.	Description	Background
4.05	4/2/2012	1	All	Page numbering error fixed. Indexing reorganized	UX: Page number error found
4.10	9/25/2012	2	17	Recommendation Added: On-screen Keyboard should save last language setting.	Q: Keyboard should save last language for better user experience. Also NC Platform saves last language.
4.11	11/21/2012	3	38, 39	Description Changed: <Before> a. Fixed size: 728 (X) x 90 (Y) Pixel b. Fixed location (x, y) : (402, 24), or (514, 24) * Currently, LG TV only support for fixed location. Placing AD on another location is not allowed. <Updated> a. Size: 728x90px, 300x250px, and 180x150px; International standards (CASIE & IAB) b. Free location: App may place banner anywhere as long as the banner and the focus rectangle is on the screen	SBC: Advertisement Banner Description is incorrect. Requires update.
4.12	1/18/2012	4	18	Guideline Added: Pressing Remote's 'Exit' button or 'Exit' on-screen button from App sends user to LG Live TV without any pop-ups	SBC: There is no guideline for Exit navigation. Need to define Exit navigation.
4.13	2/8/2013	5	11	Description Added: "Wheel: Actual Key Codes are not provided. Apps will receive mouse wheel events"	R&D VOC: Developers can be confused. Require extra description
4.14	6/5/2013	6	All	Guideline updated. -Distinct mandatory/recommended items.	-
4.15	11/05/2013	7	14, 17, 18, 25	Recommendation Added: -App should be scrolled up/down using wheel keys -The playback control bar should be composed of Play/Pause, Stop, Skip, FF/REW, Back button -Pause indicator should be shown when the playback has been paused -Minimize the size of overlapped App on the Live TV	R&D: The task for improvement of usability
4.16	11/19/2013	8	16	Recommendation Added: Recommend using LG buttons and Progress bar	R&D: The task for improvement of usability
4.17	12/24/2013	9	18,19,20	Behavior of MHP CPs Added(18, 20page): -Video control may not work with playback control keys in the case of MHP(Multimedia Home Platform). -Pop-up may appear when user presses Remote's 'Exit' key or 'Exit' on-screen button in the case of MHP(Multimedia Home Platform). Description Added(19page): User can hide playback control bar by clicking the video screen with pointing cursor when it is appeared.	R&D: The task for improvement of usability SBC: Add some cases of exception according to MHP spec
4.18	6/16/2014	10	13,19	Change mandatory items to recommendations: -Over scan area rule (M02→ R01) -Display on-screen 'Q.Menu' button on video play screen (M08→R08)	Request from Russia R&D : Revise outdated UI rules
			24	1. Specify minimum target size by screen resolution 2. Define font size : Convert 'pt ' to 'px'	
			30	Update a behaviour of LG screen keyboard : Total 5 language keyboard can be selected	

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LG Smart TV and Media product UI Guideline

# Introduction

# 1. Purpose of this document

Introduction

This document contains guidelines you may follow in designing new, or optimizing existing application for LG Smart TV and Media Products.

***“ Design your application in harmonious compatibility with LG TV ”***

## Understand

Understand LG UI architecture and entry/exit points to your application

## Know & Apply

Know LG Magic Remote Control's interaction & behavior, then apply necessarily UI elements on your design

## Learn & Optimize

Learn TV UI design from Sample flow, and optimize your design for 10-foot experience

Here are tips from LG UX team for designing compelling user experience for your service and optimizing user interaction in 10 foot environment, which is lean-back .

## LG Platform User

**1** **Think TV & Media Product users as well.**  
Consider both users, not only your users using your services, but also LG users browsing your application respectively within LG TV's UI architecture and LG remotes.

## Seductive Landing

**2** **Hook up users with seductive landing page**  
Make landing page 'drop dead gorgeous'. Give users nice visual presentation at first landing page by composing different layout, aesthetic, and information visualization

## Interaction Rule

**3** **Obsess on detail interaction rule**  
Obsess on detailing interaction rules against systemical limitation. Sweat on ensuring the wireframed experience to be alive in coding.

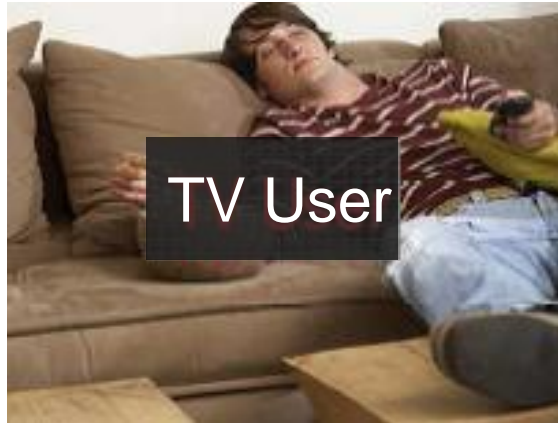
## Simplicity

**4** **Strive for simplicity**  
Having more features creates complexity to users. Select key features, provide simple experience to user by placing better experience ahead of more features.

## 2. UI Design for TV Viewing Environment

Introduction

TV viewing environment is defined below. As a guiding principle, user experience that allows the user to control the TV and Media equipment with minimum effort is provided. Therefore, UX needs to be designed such that the existing PC-based Internet service is appropriate for the TV viewing situation.



TV User



PC User

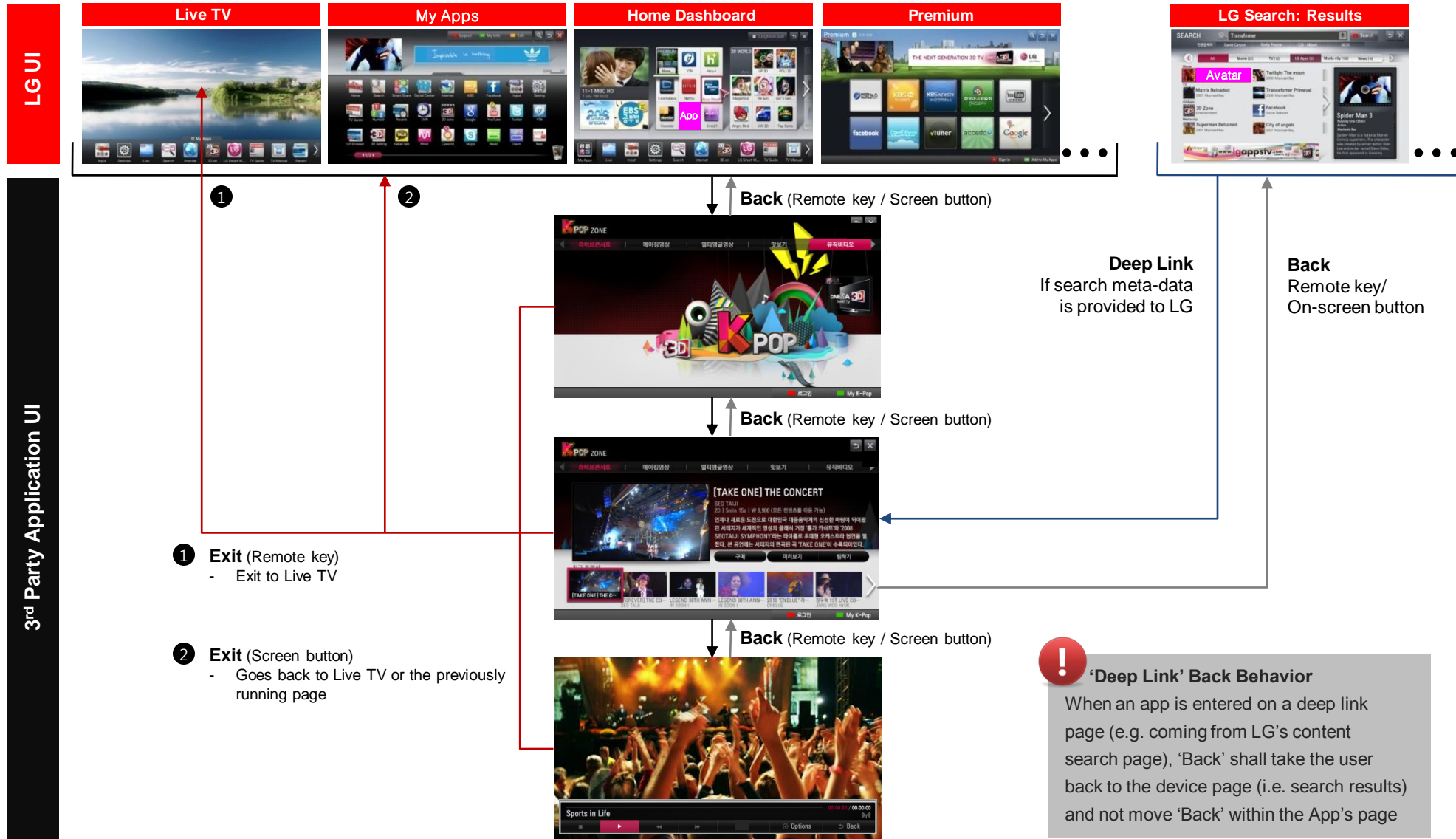
<b>Distance from Screen</b>	<b>10 Foot (3.5 Meter)</b>	<b>2 Foot (70cm)</b>
<b>Environment</b>	<b>Fun Environment</b> <b>Family/Social Environment</b>	<b>Work Environment</b> <b>Single-user Environment</b>
<b>User Behavior</b>	<b>Lean-back</b> The user will typically be sitting 10 feet (3.5meter) away from the screen  <b>Passive Browsing</b> Low concentration and involvement (user's role)  <b>Comfortable Posture</b> Comfortable posture involving lying back or face downward	<b>Lean-forward</b> The user sits upright, control from a close range  <b>Active Interaction &amp; Searching</b> High concentration and involvement (user's role)  <b>Constrained Posture</b> Constrained posture in front of the desk
<b>User's Goal</b>	<b>Entertaining</b> Primarily for entertainment Often there is no specific target/goal Single contents, exploring structure	<b>Working</b> Goal-oriented, based on various needs There is a specific target/goal Infinite type and number, searching structure



# 3. LG Smart TV Navigation Architecture

Introduction

Entry & Exit points from LG Smart TV UI (Platform version\_NetCast4.0)



# 4. LG Magic Remote Controller

Introduction

**LG Magic Remote is a Pointing input device, which works like an air mouse. On-screen cursor will follow the remote.**

**It is a simple Point & Click device just like a PC mouse, therefore most users who have used a PC before can easily use LG Magic Remote.**

- Support 2 modes : Screen Cursor Mode & 4way Navigation Mode

## Screen Cursor Mode:

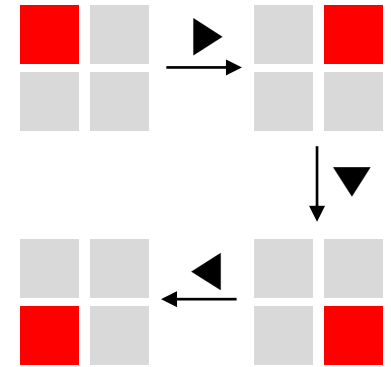
(Screen Cursor)

→ All of UI shall be working with Cursor, OK, and Back

## 4way Navigation Mode:

(Up/Down/Left/Right)

→ All of UI shall be navigable by moving focus with 4 way navigation, OK, and Back



**Switching mode from one another;**

1. Switching to **Screen Cursor Mode** from 4way navigation mode: **by shaking remote**
2. Switching to **4way Navigation Mode** from Screen Cursor Mode: **by pressing arrow buttons**

**However, both modes must not be co-used at the same time. When one mode is on, another mode must be off**

## LG Magic Remote image



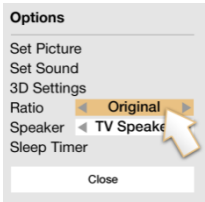
# 4. LG Magic Remote Controller

Introduction

## LG Magic Remote Keys available for developer

(Platform version\_NetCast4.0)



Button	Behavior	Keys available for developer
Power	Power On/Off	<b>No</b> (LG Native Control)
Back	Back to previous	<b>Open</b>
Home	Send user to LG Home Dashboard	<b>No</b> (LG Native Control)
4 way arrows	<ul style="list-style-type: none"> <li>▲ Move focus up</li> <li>▼ Move focus down</li> <li>◀ Move focus left</li> <li>▶ Move focus right</li> </ul>	<b>Open</b>
Ok	Select item	<b>Open</b>
Wheel	Page/List Scroll, Zoom in/out, ...	<b>Open</b>
Volume	Increase/Decrease Volume	<b>No</b> (LG Native Control)
Channel	Channel Changing	<b>Open</b> , only when used for channel changing within application
3D	3D On/Off	<b>No</b> (LG Native Control)
123 Q.Menu	LG Native UI : Opens LG My Apps CP/App UI : Opens LG Q.Menu   <i>LG Q.Menu</i>	<b>No</b> (LG Native Control)

**!** **Local Keys** (buttons on the TV)  
function same as the **buttons on remote controller**



LG Smart TV and Media product UI Guideline

# Mandatory/Recommended UI Guidelines

# 1. Mandatory/Recommended Check List

Mandatory/Recommended UI Guidelines

The following is mandatory check list to migrate your application into LG Smart TV. Please check the current status before UI submission. (If your application meets the requirement below, please put the checkmark)

UI Element	Behavior
Screen Layout	<b>M01</b> <input type="checkbox"/> UI screen must adopt LG screen resolution size (1280x720pixel)
	<b>R01</b> <input type="checkbox"/> Over-scan Area Rule: All selectable objects, text, and company branding logo must be placed within the Safe Area
Navigation Scheme	<b>M02</b> <input type="checkbox"/> App must be fully navigable using the following Remote Keys: Up, Down, Left, Right, OK, Back
	<b>M03</b> <input type="checkbox"/> App must be fully navigable using Screen-cursor and following Remote Keys: OK, Back, and wheel up/down
On-screen Button	<b>R02</b> <input type="checkbox"/> App should be scrolled up/down using wheel keys
	<b>R03</b> <input type="checkbox"/> Display on-screen 'Back/Exit' button
	<b>R04</b> <input type="checkbox"/> Recommend using LG buttons and Progress bar
	<b>M04</b> <input type="checkbox"/> App UI must include 'List Scrolling' button (carousel within a page)
	<b>M05</b> <input type="checkbox"/> If App has text/number input, App must support via on-screen keyboard
	<b>R05</b> <input type="checkbox"/> Maintain keyboard language state, even when application is closed
	<b>R06</b> <input type="checkbox"/> Recommend using LG keyboard
	<b>M06</b> <input type="checkbox"/> If App has playback control, App must support via on-screen menu
	<b>R07</b> <input type="checkbox"/> The playback control bar should be composed of following buttons: Play/Pause button, Stop button, Skip button, Scanning button, Back button
	<b>R08</b> <input type="checkbox"/> Display on-screen 'Q.Menu' button on video play screen (only for TV, it should not be displayed on LG Media Products & Bluray)
	<b>R09</b> <input type="checkbox"/> The playback controls on-screen menu should be made visible when the OK key is pressed, and hidden after a specific timeout (e.g. 5 seconds)
	<b>R10</b> <input type="checkbox"/> Pause indicator should be shown when the playback has been paused
Back/Exit Behavior	<b>M07</b> <input type="checkbox"/> Pressing Remote's 'Back' physical key or 'Back' on-screen button from App's landing(entry) page sends user to previous LG menus
	<b>M08</b> <input type="checkbox"/> Pressing Remote's 'Exit' physical key or 'Exit' on-screen button from App sends user to LG Live TV or previously running page
	<b>M09</b> <input type="checkbox"/> When an App is entered on a deep link page, 'Back' shall take the user back to the device page and not move 'Back' within the App's page
	<b>M10</b> <input type="checkbox"/> Sequence of 'Back' action should lead consumer back to original entry point
Visual Treatment	<b>M11</b> <input type="checkbox"/> Visual states idle, focused required for all selectable objects(button, menu, tab, ...)
	<b>R11</b> <input type="checkbox"/> App should always have focus when in 4way navigation mode
	<b>M12</b> <input type="checkbox"/> App should never leave the screen black
	<b>R12</b> <input type="checkbox"/> Current focus should be clearly distinct to users
	<b>M13</b> <input type="checkbox"/> Minimum target area size for selectable object is 54x54 pixel
	<b>M14</b> <input type="checkbox"/> Text has to be readable from 3.5meter(10 foot) distance from TV
	<b>R13</b> <input type="checkbox"/> Font size varies in 4 types from Title Large, Large, Medium to Small.
<b>R14</b> <input type="checkbox"/> Recommended fonts are 'LG Display' and 'Tiresias font'	
Others	<b>R15</b> <input type="checkbox"/> Minimize the size of overlapped App on the Live TV
	<b>R16</b> <input type="checkbox"/> Apply LG In-App Advertising in your application and receive revenue share
	<b>R17</b> <input type="checkbox"/> When users press share/like button (i.e. Facebook) in your application from LG TV, it should display 'via LG Smart TV' on Facebook web page

## 2. Screen Layout

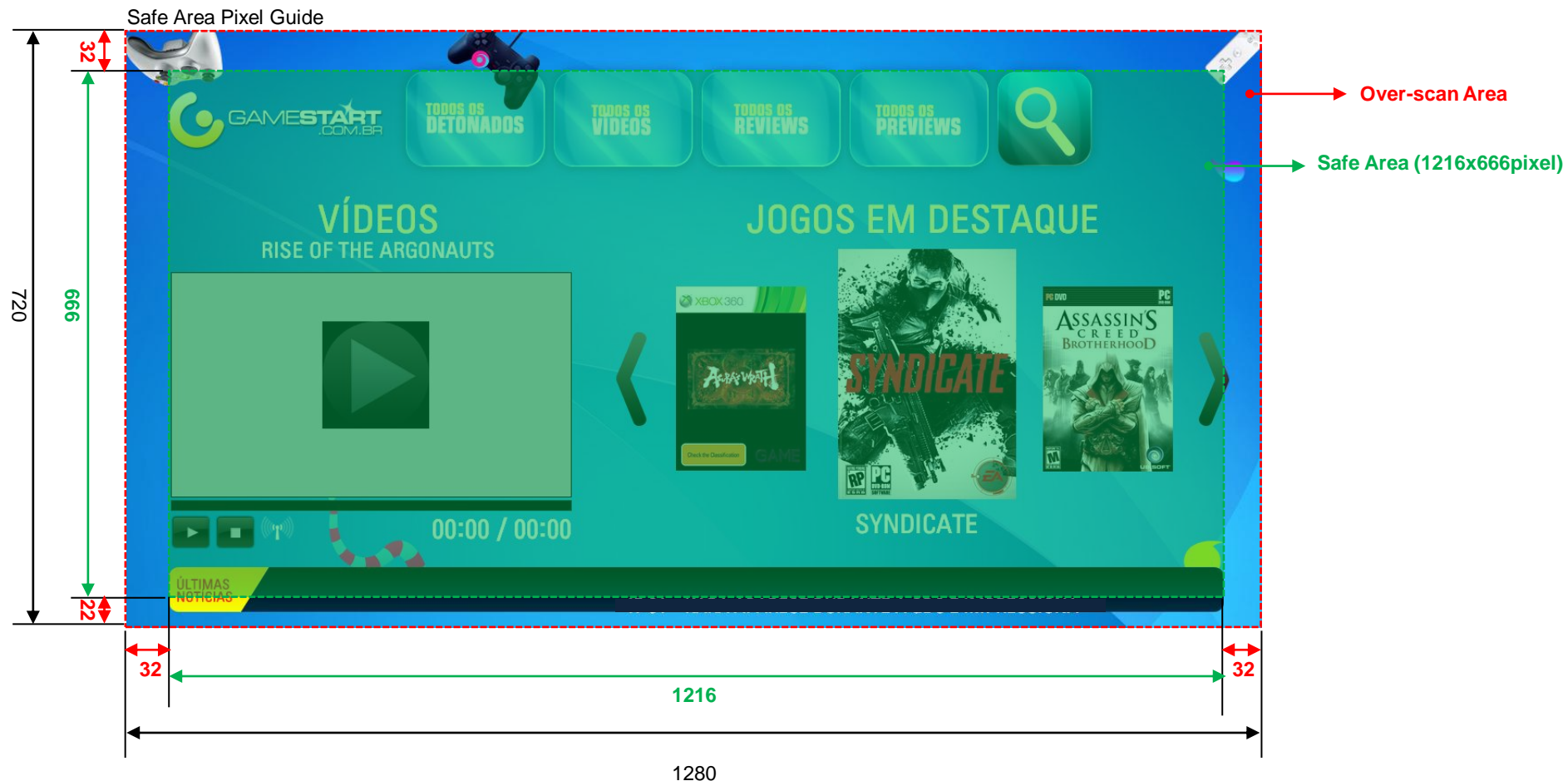
Mandatory/Recommended UI Guidelines

**M01**  UI screen must adopt LG screen resolution size (1280x720pixel)

**R01**  **Over-scan Area Rule: All selectable objects, text, and company branding logo must be placed within the Safe Area**

- Because the Over-scan area may not be visible on all devices

- Part of clickable elements may be placed in the over-scan area as long as a large part (54 pixels) is also in the safe area so it can be safely activated



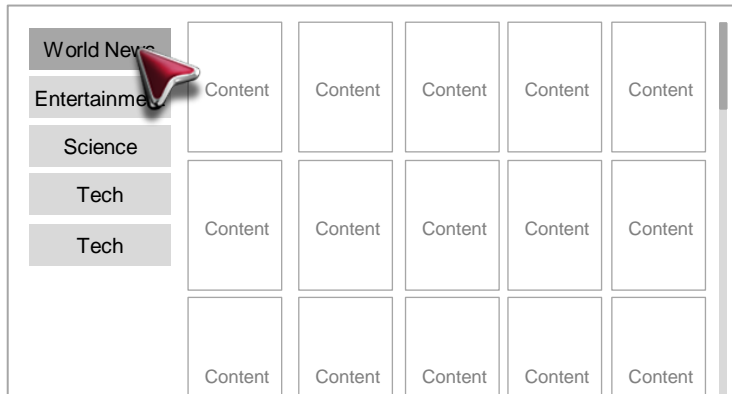
# 3. Navigation Schemes

Mandatory/Recommended UI Guidelines

- M02**  **App must be fully navigable using the following Remote Keys: Up, Down, Left, Right, OK, Back**
  - All selectable objects(button, menu, tab, ...) has to be reachable with Remote Keys(4way, ok, back)
  - All pages(page, list, content, ...) has to be reachable with Remote Keys(4way, ok, back)



- M03**  **App must be fully navigable using Screen-cursor and following Remote Keys: OK, Back**
  - \* All Apps must support LG Magic Remote Controller**
  - All selectable objects(button, menu, tab, ...) has to be clickable with 'Screen-cursor + OK'

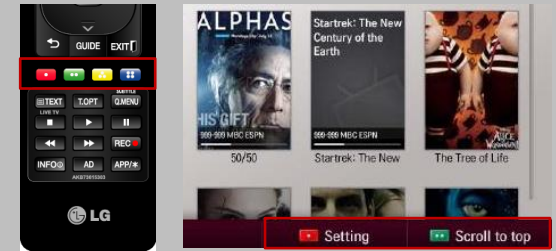


- R02**  **App should be scrolled up/down using wheel keys**
  - LG Magic Remote has the wheel key, so it is available to scroll up and down in content list page.



**Exception:**

If App has OSD buttons working with colored keys, it is not mandatory to be reachable with arrow(4way) key. That buttons just should be clickable with Magic Remote or colored keys on Normal Remote.



Colored keys on Normal Remote

OSD buttons working with colored keys NetCast4.0 On Now



**Reference:**

LG TV Navigation Scheme (NetCast 4.0)

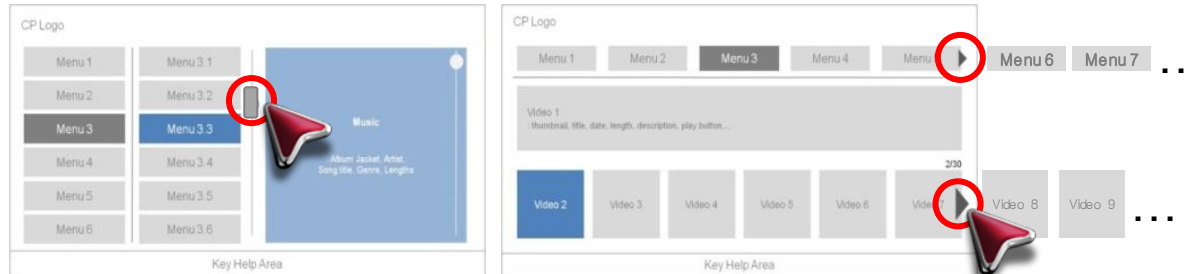


# 4. On-screen Button

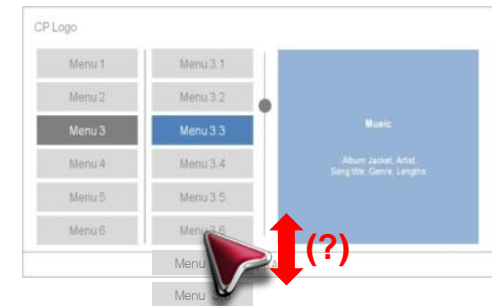
Mandatory/Recommended UI Guidelines

- M04**  **App UI must include 'List Scrolling' button (carousel within a page)**  
- Without it, it is unable to scroll the list with LG Magic Remote's on-screen cursor

**(Correct)**



**(Incorrect)**



- R03**  **Display on-screen 'Back/Exit' button**  
- App could display 'Back' or 'Exit' button on any pages.  
- User don't have to look at their remote controller to find the 'Back' or 'Exit' key → 'eyes on screen'



NetCast4.0 Game Application

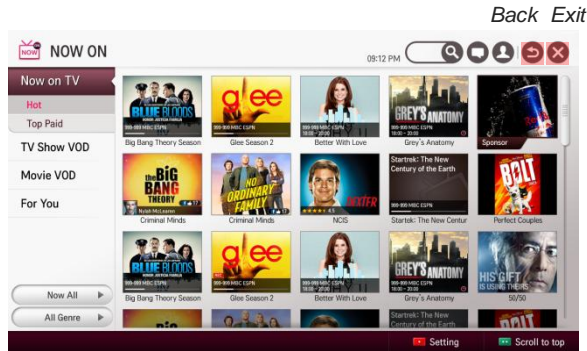




# 4. On-screen Button

Mandatory/Recommended UI Guidelines

- R04** **Recommend using LG buttons and Progress bar**
  - LG's buttons and progress bar are provided by Library



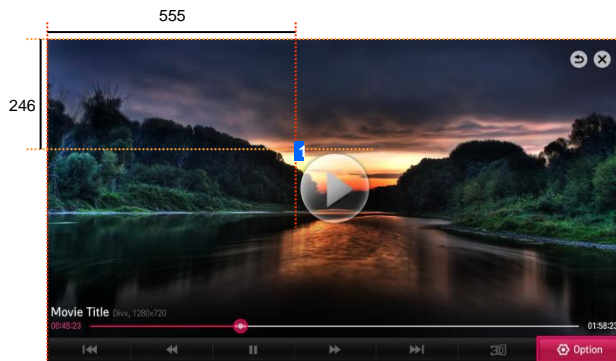
- Location of Back, Exit button: the top right of the screen.
- Size: 52x52px(Full HD), 78x78(Ultra HD)



Back / Exit button Target

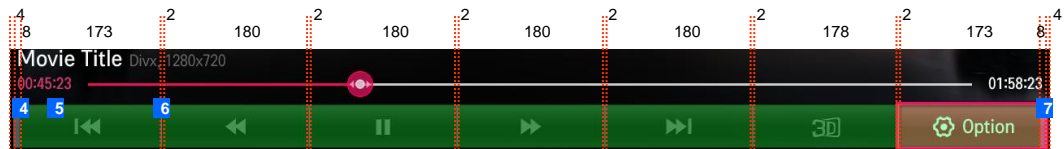


Back / Exit button Focus  
 \*\*When the button focused, the focus animation is like upper.



- Location of Progress bar: the bottom edge of the screen.
- Size of Progress bar: 1280x320 px, shadow included between PG bar and content.

- Location of the Trickplay Play/Pause button: the center of the screen.
- Size of the Trickplay Play/Pause button 171x171px



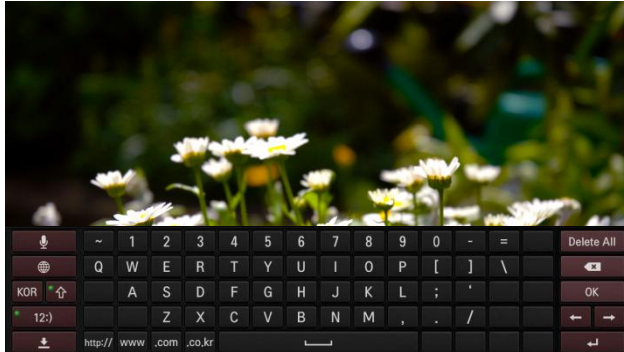
Progress bar Target

## 4. On-screen Button

Mandatory/Recommended UI Guidelines

- M05**  **If App has text/number input, App must support via on-screen keyboard**  
- NetCast4.0 or above provides System Keyboard, open for 3rd party developers.

(Use)



NetCast4.0 System Keyboard

(Don't use)



Triple Button KeyPad

- R05**  **Maintain keyboard language state, even when application is closed**  
- If keyboard supports multiple languages, make sure it saves the last language state. (maintain language setting)  
- Users do not want to change keyboard to their language every time app restarts.

- R06**  **Recommend using LG keyboard**  
- LG's QWERTY keyboard is provided by Library



LG QWERTY keyboard



**Reference:**

LG TV System Keyboard(NetCast 4.0)

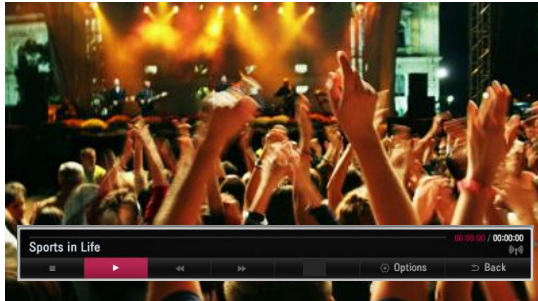


# 4. On-screen Button

Mandatory/Recommended UI Guidelines

## M06 If App has playback control, App must support via on-screen menu

- If an App contains a video that should be controlled by a user, it shall support playback controls via video control keys on remote controller and playback controls via an on-screen menu.
- All of playback control buttons has to be clickable with screen-cursor and selectable with up, down, left, right, OK keys.

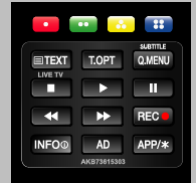


NetCast4.0 Video Control Bar



### Video control keys on Remote Controller:

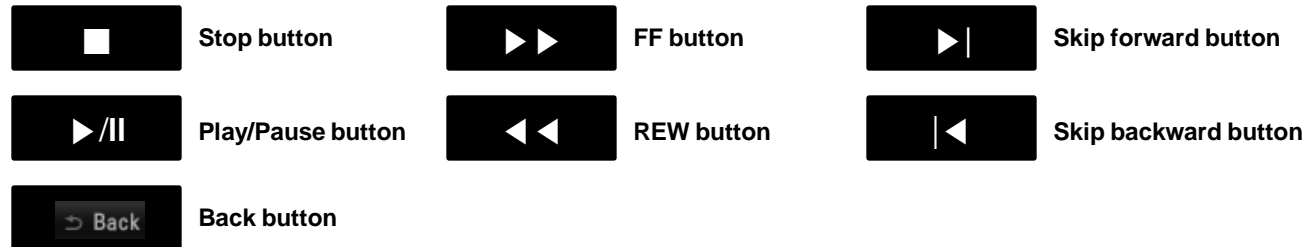
video playback shall also support via video play/pause/forward/rewind/stop keys on remote controller.  
\* Video control may not work with these keys in the case of MHP(Multimedia Home Platform).



Video Control keys Remote Controller

## R07 The playback control bar should be composed of following buttons: Play/Pause button, Stop button, Skip button, FF/REW button, Back button

- Developer can add buttons of additional feature calls at the developer's customizable area.



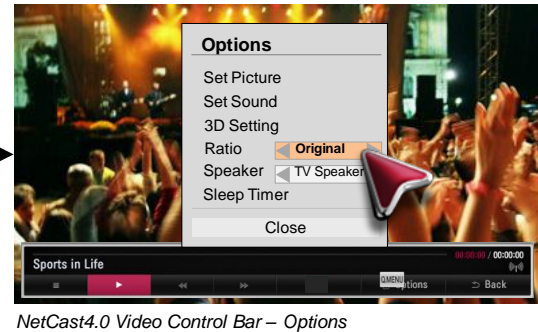
i.e. Video Control Bar

## 4. On-screen Button

Mandatory/Recommended UI Guidelines


### R08 Display on-screen 'Q.Menu' button on video play screen (only for TV, it should not be displayed on LG Media Products & Bluray)

- Quick Menu(Q.Menu) is a special natively built-in function for LG TVs. It essentially allows user to set Video/Audio options, picture size and speaker modes and applies to media applications. Since it is a built-in function, manual implementation is not necessary. LG requires this function be implemented for TVs and provides the Q.Menu with a simple function called 'NetCastLaunchQMENU'.



**!**

**Detail Guide:**

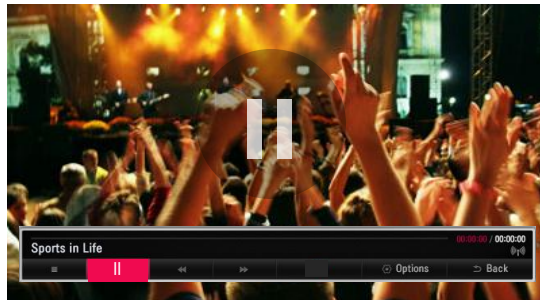
- Icon:** Use LG Quick Menu icon 
- Placement:** Anywhere on video full-screen
- Behavior:** LG native menu pop-up
- Navigation:** Clickable with cursor, and navigable with 4 ways (up/down/left/right/OK)

### R09 The playback controls on-screen menu should be made visible when the OK key is pressed, and hidden after a specific timeout (e.g. 5 seconds)

- If no key input for 5 seconds, playback control pad disappears with pointing cursor as well.
- User can wake cursor and playback control bar by shaking the magic remote or pressing OK key from time-out mode.
- User can hide playback control bar by clicking the video screen with pointing cursor when it is appeared.

### R10 Pause indicator should be shown when the playback has been paused

- If there is no indicator, user can't recognize easily the status of playback.

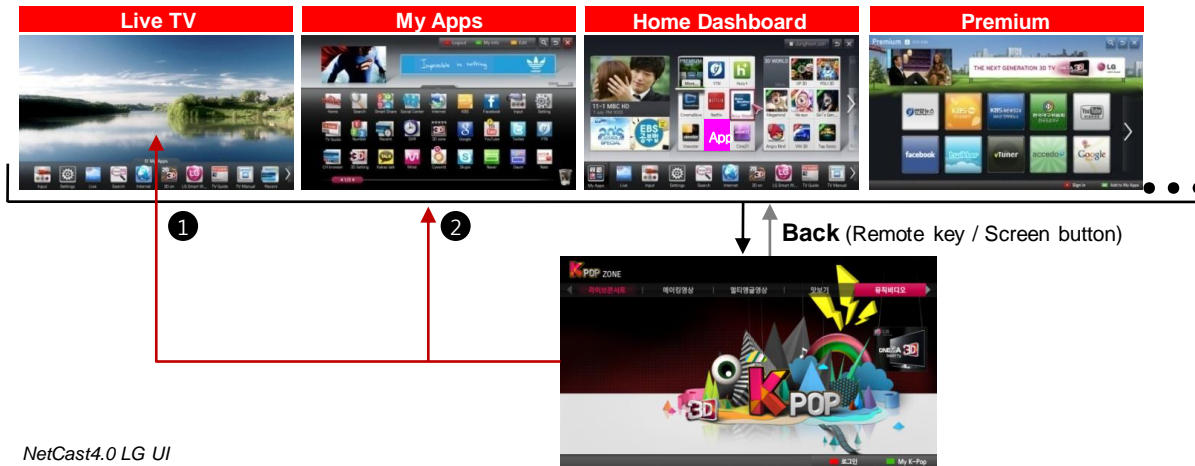


# 5. Back/Exit Behavior

Mandatory/Recommended UI Guidelines

**M07**  Pressing Remote's 'Back' physical key or 'Back' on-screen button from App's landing(entry) page sends user to previous LG menus

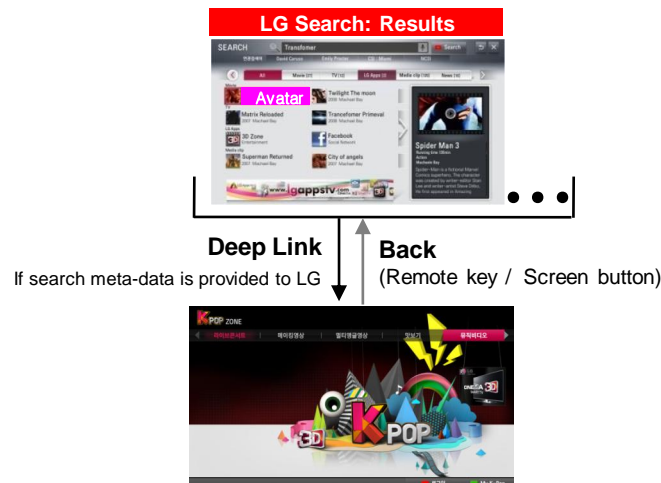
**M08**  Pressing Remote's 'Exit' physical key or 'Exit' on-screen button from App sends user to LG Live TV or previous LG menus



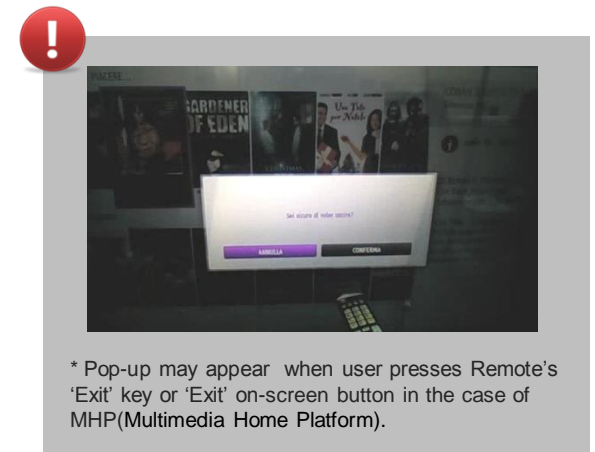
NetCast4.0 LG UI

- ① **Exit** (Remote key)
  - Exit to Live TV
- ② **Exit** (Screen button)
  - Goes back to Live TV or the previously running page

**M09**  When an App is entered on a deep link page(e.g. coming from device content search page), 'Back' shall take the user back to the device page and not move 'Back' within the App's page



NetCast4.0 LG UI



# 5. Back/Exit Behavior

Mandatory/Recommended UI Guidelines

**M10**  Sequence of 'Back' action should lead consumer back to original entry point

LG Device Page

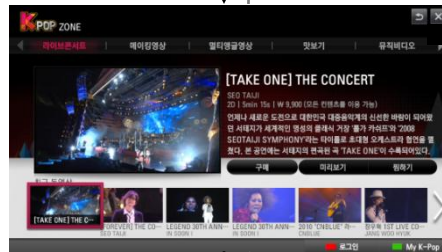


Back (Remote key / Screen button)

3rd Party Page



Back (Remote key / Screen button)



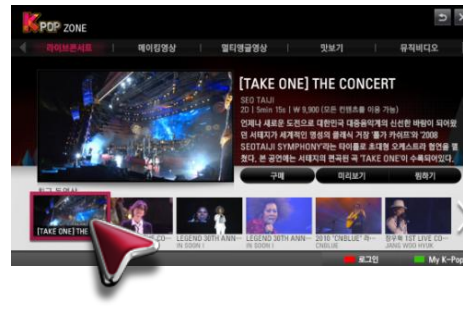
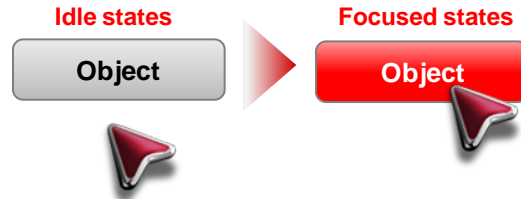
Back (Remote key / Screen button)



# 6. Visual Treatment

Mandatory/Recommended UI Guidelines

- M11**  **Visual states idle, focused required for all selectable objects(button, menu, tab, ...)**  
- Both 'pointer focus' and '4way navigation focus' has to be implemented.



- R11**  **App should always have focus when in 4way navigation mode**

- Menu 1
- Menu 2
- Menu 3

Where is the focus??

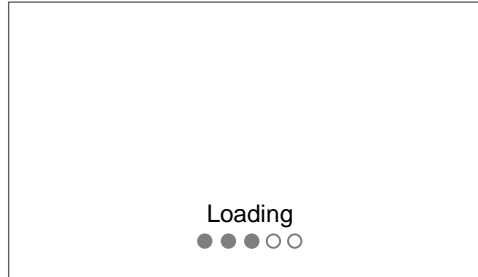
# 6. Visual Treatment

Mandatory/Recommended UI Guidelines

## M12 App should never leave the screen black

- User doesn't know what is going on
- Streaming UI page has visual cue to indicate that content is loading



(Use)



*i.e. Loading State Indication*

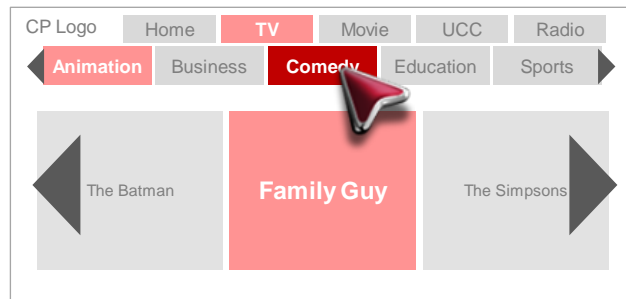
(Don't Use)



 **Reference:**  Loading State Indication (NetCast 4.0)

## R12 Current focus should be clearly distinct to users

- Make sure users can see where the current focus is
- Especially when there are multiple focus (see below image)



*User must be able to know where the current focus is!*



# 6. Visual Treatment

Mandatory/Recommended UI Guidelines

## M13 Minimum target area size for selectable object is 54x54 pixel

- TV is a lean back device, we do not want users to have to concentrate to click an object.

Type	Recommended Minimum Size	
Clickable Object (Screen-button)	75 x 75 pixel (for 1280p)	50 x 50 pixel (for 720p)
Image Recognition i.e. Movie covers, music albums	75 x 75 pixel (for 1280p)	50 x 50 pixel (for 720p)

## M14 Text has to be readable from 3.5meter(10 foot) distance from TV

- Minimum font size: **18 points** for the Tiresias(-equivalent) font.
- None Tiresias(-equivalent) fonts must have a minimal capital height similar as **18 points** Tiresias(-equivalent) capital height.
- For comfortable reading we advice to use a 20 point font size or higher.

## R13 Font size varies in 4 types from Title Large, Large, Medium to Small.

- Major Contents are mostly displayed by Large font and Medium font is used for sub information.
- Small font is used in progress bars or dimmed areas.
- Title Large font is used in title or headlines when necessary.
- All guidelines about font are based on baselines.

		1280p	720p
Title	Title Large Font	48px	33px
Body & button	Large Font	41px	27px
	Medium Font	32px	23px
Key help & info	Small Font	28px	20px
Minimum font size	-	<b>20px</b>	<b>14px</b>

# 6. Visual Treatment

Mandatory/Recommended UI Guidelines

## R14 Recommended fonts are 'LG Display' and 'Tiresias font'

- These are the only 2 fonts that are installed in the TV (other fonts cannot be installed within the device)
- LG Display Font can cover Latin Basic, Latin 1, Latin 2, Latin Extended A-B, Greek, Coptic, Cyrillic, Arabic, Hebrew, Thai, Chinese, Korean and some of Japanese. But we have regulations by local application due to font characters issue, we recommend to use the proper font for some regions(Taiwan, Hong kong, Japan).
- LG has the license of LG Display font and LG Display font can be only displayed on LG devices.
- Tiresias font can be also displayed in LG devices.

Font Preview : LG Display Font

LG Display-*Regular* ABCDEFGHIJKLMNOPQRSTUVWXYZ  
 abcdefghijklmnopqrstuvwxyz  
 0123456789 ,.!#\$%^&\*()  
 가나다라마바사 èàùâêîôûïöü Ελληνια

LG Display-*Light* ABCDEFGHIJKLMNOPQRSTUVWXYZ  
 abcdefghijklmnopqrstuvwxyz  
 0123456789 ,.!#\$%^&\*()  
 가나다라마바사 èàùâêîôûïöü Ελληνια

Regulations by local

Local TTF files

Full version : LG\_Display.ttf  
 LG\_Display\_Light.ttf

Taiwan/Hong Kong : LG\_Display\_HK.ttf  
 LG\_Display\_HK\_Light.ttf

\*Japan : LG\_Display\_JP.ttf

All font should be used as 100% width

Font Preview : Tiresias

abcdefghijklmnopqrstuvwxy  
 ABCDEFGHIJKLMNOPQRSTUVWXYZ  
 èàùâêîôûïëü ΒζρΑαħ  
 1234567890 (!@#\$)

Local TTF files

tt7268m\_804.ttf

Should be used as 100% width

## 6. Visual Treatment

Mandatory/Recommended UI Guidelines

- R15**  **Minimize the size of overlapped App on the Live TV**
- An app's opacity should be 80%, when it is overlapped on the Live TV. (recommendation from LG GUI)
  - Overlapped app must be occupied minimized area on Live TV.




*i.e. Horizontal Overlapped App*



*i.e. Vertical Overlapped App*

## 7. Others

Mandatory/Recommended UI Guidelines

- R16**  **Apply LG In-App Advertising in your application and receive revenue share**  
(\*Currently In-App Advertising is available for North America, EU, Korea, Russia and Australia markets only)



NetCast4.0 LG UI

- R17**  **When users press share/like button (i.e. Facebook) in your application from LG TV, it should display 'via LG Smart TV' on Facebook web page**



Facebook Display

LG Smart TV and Media product UI Guideline

# LG UI Templates

# 1. LG Global QWERTY Screen Keyboard

LG UI Templates

## LG Global QWERTY Screen Keyboard



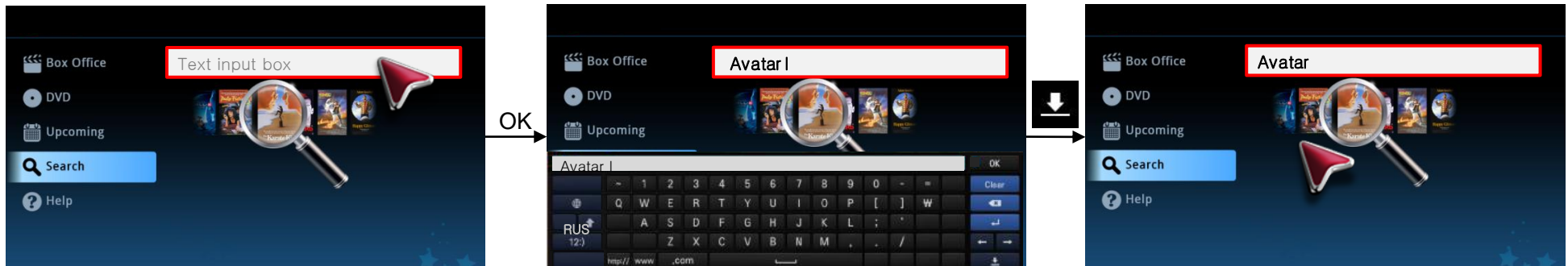
**Reference:**

LG Screen Keyboard(NetCast 4.0)



	Global language selection button	<b>Clear</b>	Clear all written letters in text input field
<b>RUS</b>	Selected language toggle button (it stands for next language)		Delete Button (pressing once, deleting a letter)
	Lower / Upper Case toggle button (refer "Language layout set" page)		Change a line button (as required – Social network services / Chatting, etc.)
<b>12:)</b>	Symbol button		Cursor control button (let cursor in text input box move to left and right)
	Space Bar		Hide virtual keyboard button

**Example of screen keyboard Pop-up:** Once user places s focus and click 'ok' the text input field, the keyboard shall pop-up



# 1. LG Global QWERTY Screen Keyboard

LG UI Templates

User can select up to 3 languages



i.e. When an alphabet has a multiple characters



### Reference:

LG Screen Keyboard language selection (NetCast 4.0)  
\* Total of 5 Language keyboard selections can be selected according to newly updated system keyboard function



# 2. Magic Remote: Wheel Guideline

LG UI Templates

LG Global 'Wheel Interaction' Framework for 3rd Party



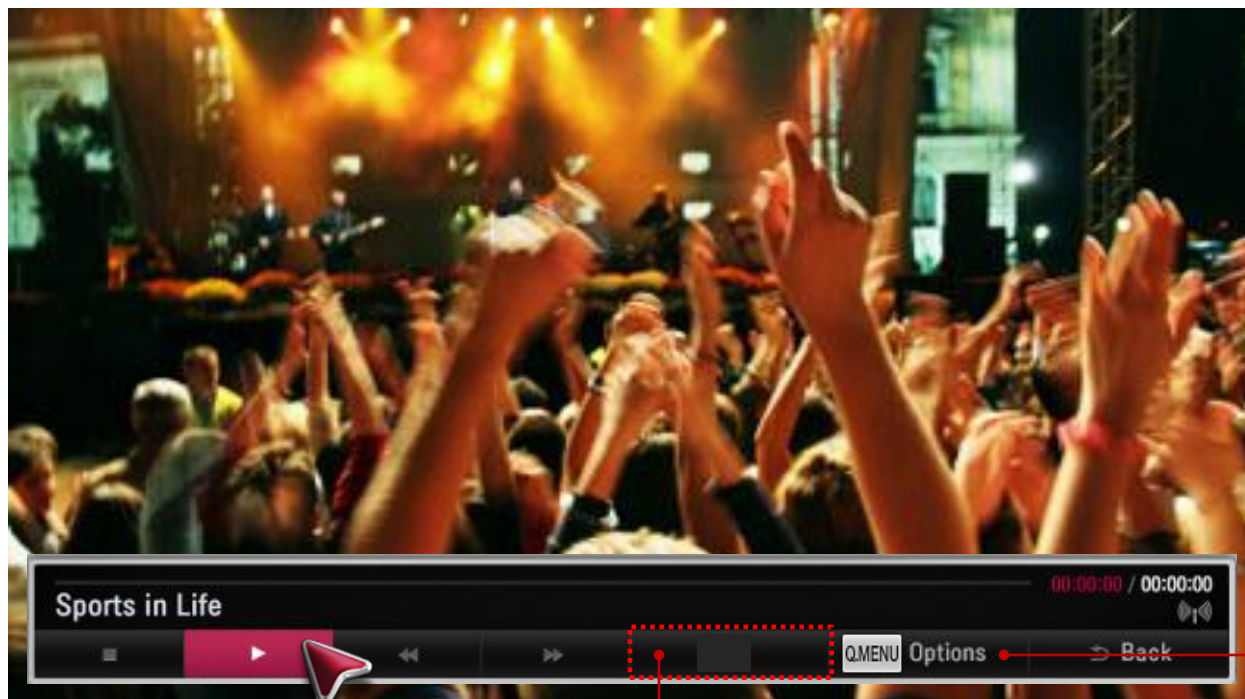
Wheel Scroll	List Scrolling		Zoom in/out
	Horizontal List	Vertical List	Map
<b>Forward</b> 	<b>Left ← Right</b> 	<b>Top ← bottom</b> 	<b>Zoom In 50%</b> 
<b>Backward</b> 	<b>Left → Right</b> 	<b>Top → Bottom</b> 	<b>Zoom Out 100%</b> 



### 3. LG Playback control behavior

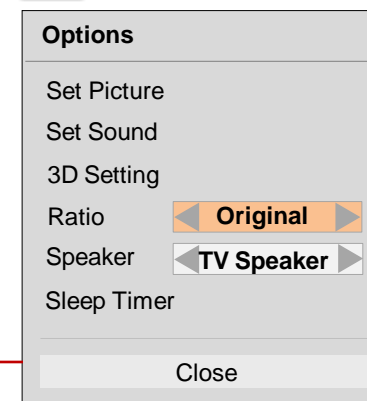
LG UI Templates

All buttons shall be navigable with 4 way arrow buttons, and mapped to key events of physical hot keys



**Developer's customizable Area**  
- Add buttons of additional feature calls

**Q.MENU** When selecting Quick Menu



■	Stop	Stops play and returns to the previous screen
▶	Play	Starts play
	Pause	Stops momentarily while playing
▶▶	FF	Speeds up the media content while playing (the interval time should be defined by content provider considering its type of content)
◀◀	REW	Slow down the media content while playing (the interval time should be defined by content provider considering its type of content)
⏪ Back	Back	Stops playing and moves to previous list
Q.MENU	Quick Menu	Call up LG Native Pop-up (Ratio change, sound mode, etc)

# 3. LG Playback control behavior

LG UI Templates

## LG Video Playback Behavior with LG Magic Remote



**TV show: Family Guy Episode 2**

26min by FOX, United States of America [2009]

**Cast**  
Seth MacFarlane, Alex Borstein, Mila Kunis, Seth MacFarlane

"Family Guy" stars the all-American Griffin family, Lois, Meg, Chris, Stewie and Brian. Taking

Buttons: Rating, Related series, Purchase, Back, Episode (x7)

Press OK

Screen cursor and Playback UI appears

5 sec. Time-out

Screen cursor and Playback UI disappears

- If no key input for 5 seconds, playback control pad disappears with pointing cursor as well.
- Cursor turns into deep sleep mode, when screen-cursor doesn't move for 30 minutes.

Press OK or Shake Magic Remote

Cursor awakes from time-out or deep sleep mode

User can wake cursor by shaking the magic remote or pressing OK key from time-out or deep sleep mode.

Press OK

Call Playback UI

Playback UI appears when the OK key is pressed.

Press OK

Pause Screen

User can control the video by pressing control button.

# 4. In-App Advertising

LG UI Templates

Currently, LG Smart TV & Media Product only supports browser(HTML)-based Banner with;

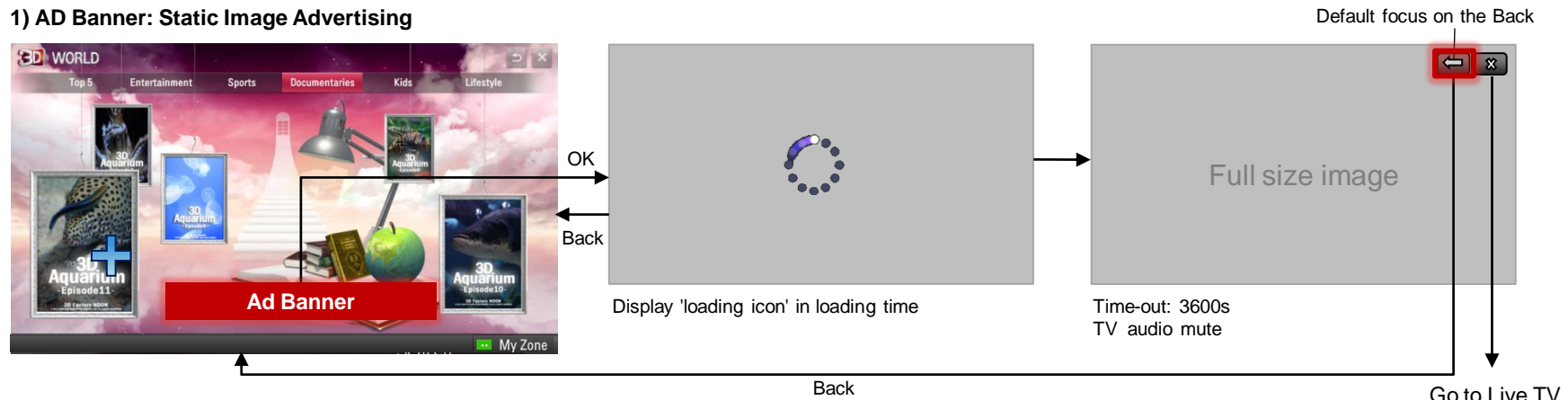
- a. Size: 728x90px, 300x250px, and 180x150px; International standards (CASIE & IAB)
- b. Free location: App may place banner anywhere as long as the banner and the focus rectangle is on the screen [Table 1]

[Table 1] Three Different Types of Banners and their Minimum and Maximum Values in Pixel

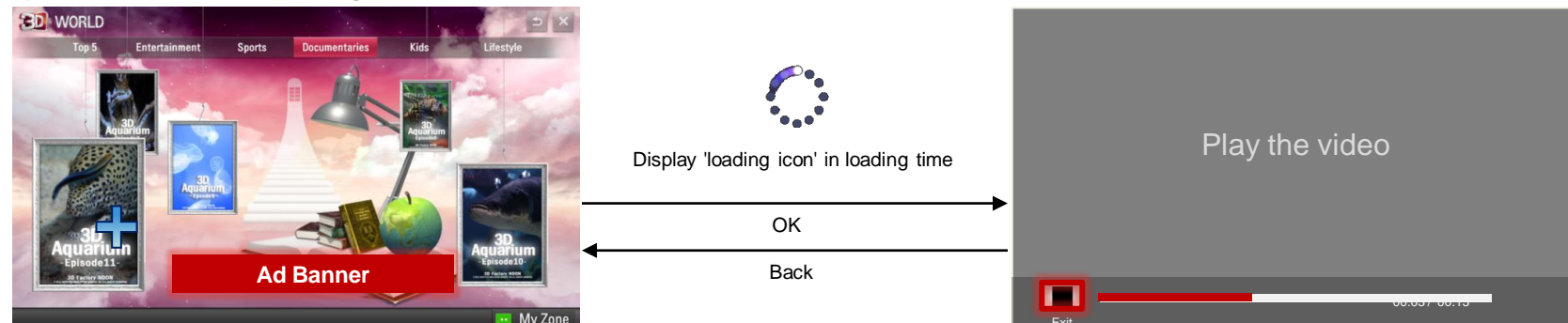
Banner Size	Banner Name	Min(XPOS)	max(XPOS)	Min(YPOS)	max(YPOS)
728x90	leaderboard	6	546	6	624
300x250	medrect	6	974	6	464
180x150	rect	6	1094	6	564

Here's UI flow for In-App Advertising for 2 different types of advertising: 1) Static Image Advertising, 2) Video Advertising

## 1) AD Banner: Static Image Advertising



## 2) AD Banner: Video Advertising

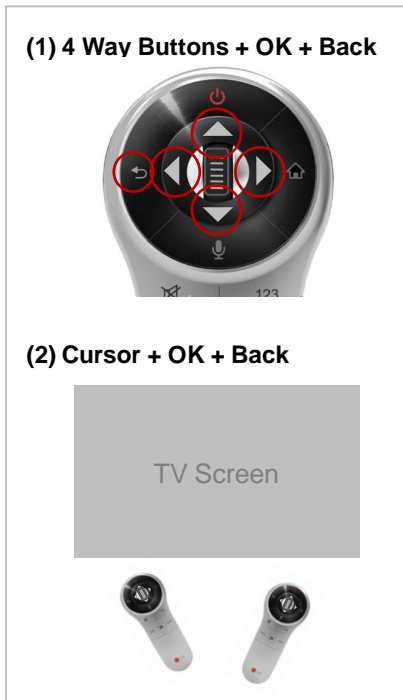


# 5. Game: Input Device

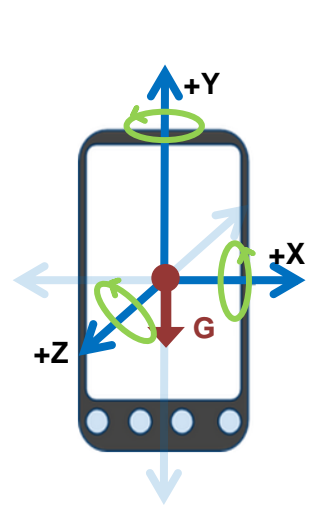
LG UI Templates

## 1) LG Magic Remote

LG Motion Remote Control has a gyroscope sensor in it that moves screen cursor by hand-gesture like air-mouse. It has 2 separate Modes. **Designing game application with LG motion remote, your UI must be navigable with 2 navigation schemes**

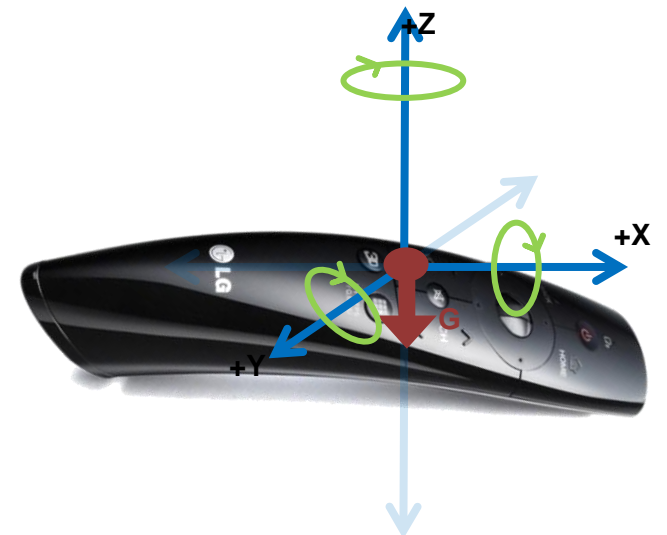


## Coordinate System



### Android/iOS

Phone screen turn +Z  
(counterclockwise)



### LG Magic Remote

Turns clockwise

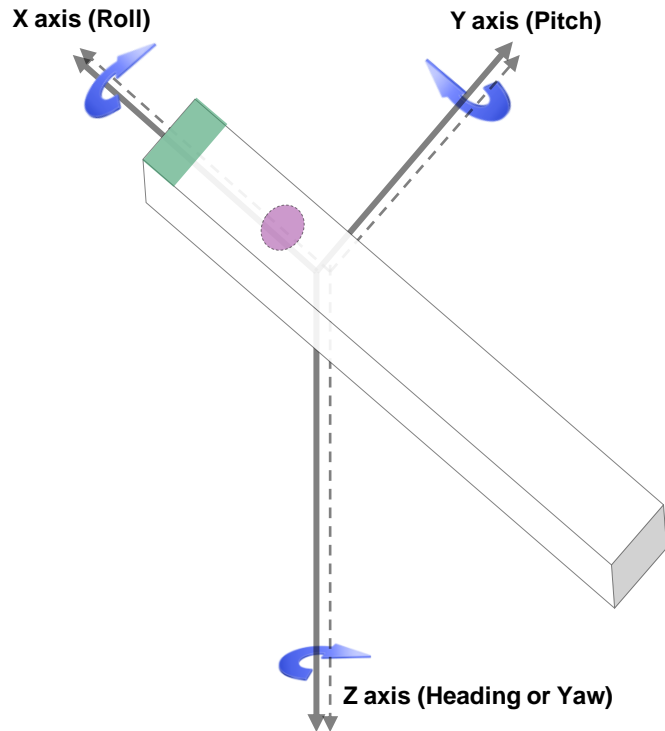
- Acceleration :  $\pm 9.8 \times 2$  (m/sec<sup>2</sup>)
- Gyro:  $\pm 34.8$  (rad/sec) =  $\pm 2000$  (deg/sec)




# 5. Game: Input Device

LG UI Templates

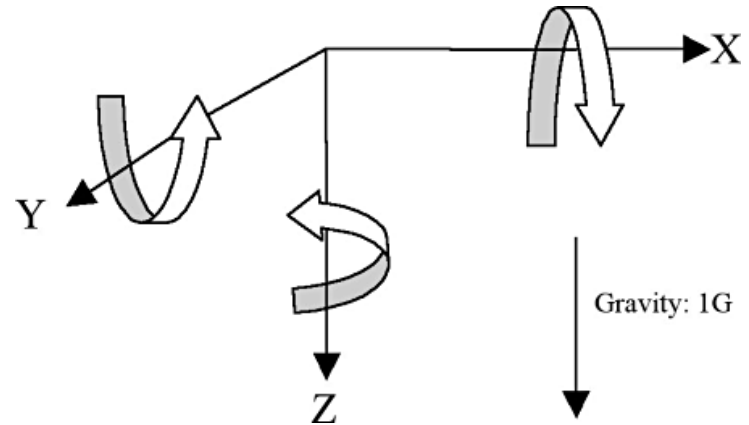
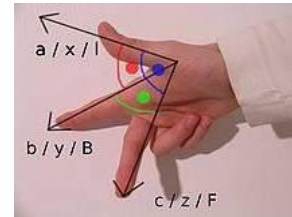
## 1) LG Magic Remote

LG Motion Remote Control has a gyroscope sensor in it that moves screen cursor by hand-gesture like air-mouse.



-  Gyro rotational direction
-  Accel vector
-  Mag vector

Right-handed rule



For rotational output, sensor output is positive on clockwise rotation when you looking at the each direction.



**Reference:**

LG Magic Remote(NetCast 4.0)



# 5. Game: Input Device

LG UI Templates

## 2) Game-Pad

LG Smart TV supports (\*most of them):

- (1) HID Game pads
- (2) Xinput Game Pads

### LG Smart TV official game-pads



Logitech f310, f510, f710

# 5. Game: Sample Interaction

LG UI Templates

## 1) Using 4 Way Navigations + OK button



(1) Up/Down +OK



e.g.) Hit the target



Press Up/Down button to move arrow toward up/down, and 'OK' to shoot to hit the target

(2) Focus Move



e.g.) Mahjang



Click 'Ok' on object, then press 'Up/Down/Left/Right' to move selected object

(3) Cursor Move



e.g.) Spot the Not



Press 'Up/Down/Left/Right' to move cursor to hit 'spot the not'.

# 5. Game: Sample Interaction

LG UI Templates

## 2) Using Motion Gesture + OK button

### (1) Turn the wrist



e.g.) Frisbee Forever



Control the Frisbee by using interaction of turning the wrist to left & right



### (2) Slice



e.g.) Cut the Rope



Cut the rope with slicing action



### (3) Swing

e.g.) Let's Golf 3



Play golf with full wing. Also, user might control the angle with magic remote wheel.





# 5. Game: Sample Interaction

LG UI Templates

## 2) Using Motion Gesture + OK button

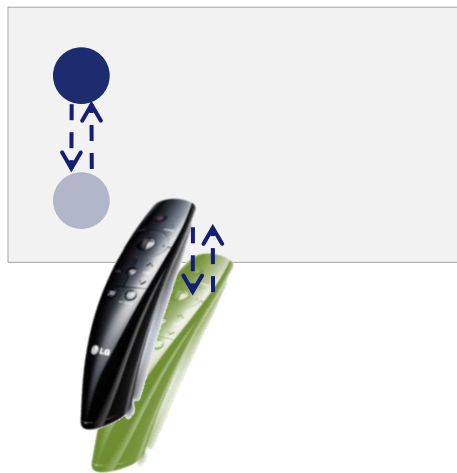
### (4) Wrist Up/Down



e.g.) Hit the Target



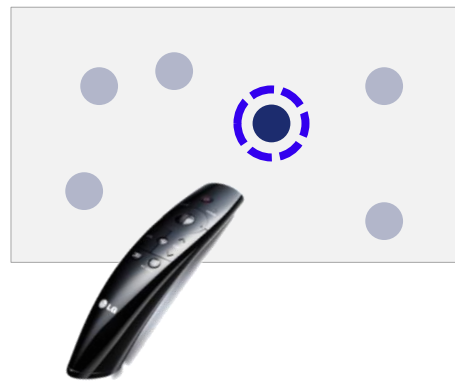
Drag the rope and drop it to the next wheel in order to rescue the bird.



### (5) Point & OK



e.g.) Spot the Not



### (6) Fill the gauge

e.g.) Fortress 2 Red



Press OK long enough to fill the gauge in order to fire.



# 5. Game: Sample Interaction

LG UI Templates

## 2) Using Motion Gesture + OK button

### (7) Zigzag

e.g.) Angry Duckling



Keep zigzagging (very quickly) around the character in order to keep it up and not to bump into the obstacles.

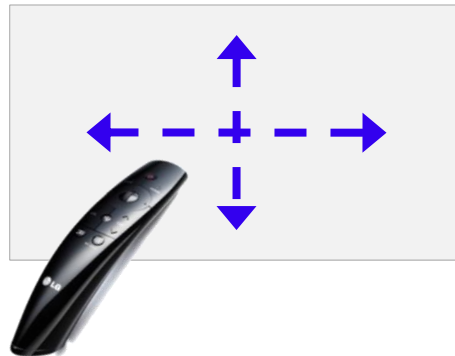


### (8) Speed up & down

e.g.) Katamari Amore

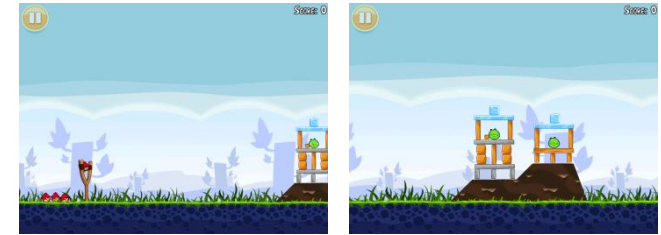


Control the speed and direction of a moving character in order to get as many items as it can.

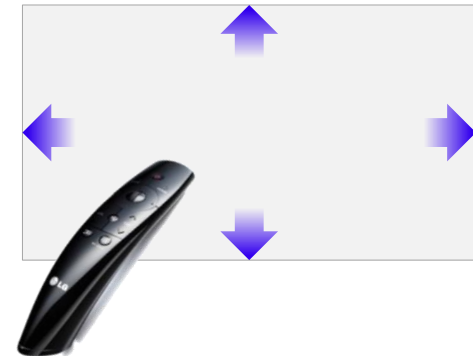


### (9) Move the background

e.g.) Angry Bird



Move the cursor to the edge of 4 sides and find out more objects by moving the background.

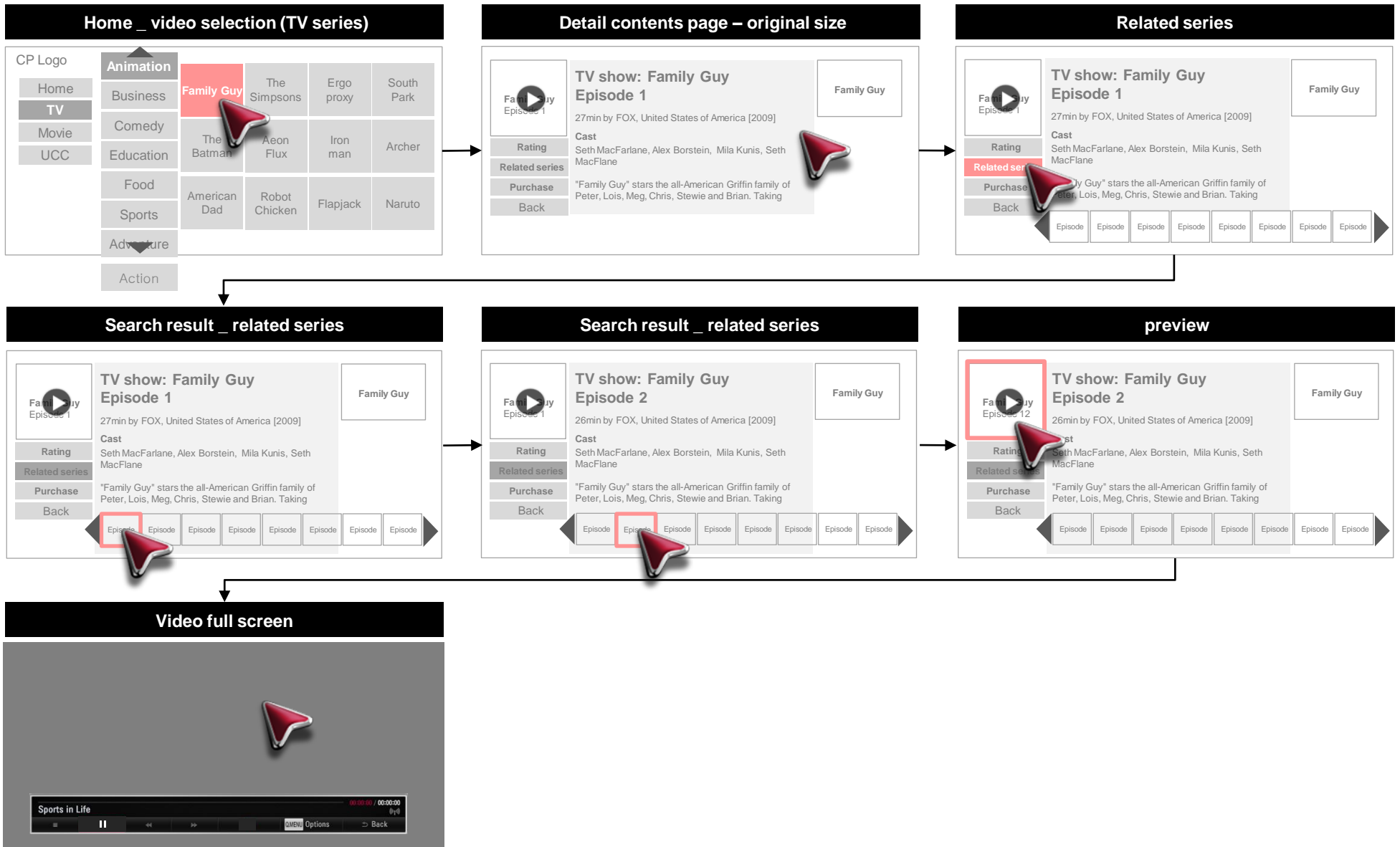


LG Smart TV and Media product UI Guideline

# Sample UI Flows

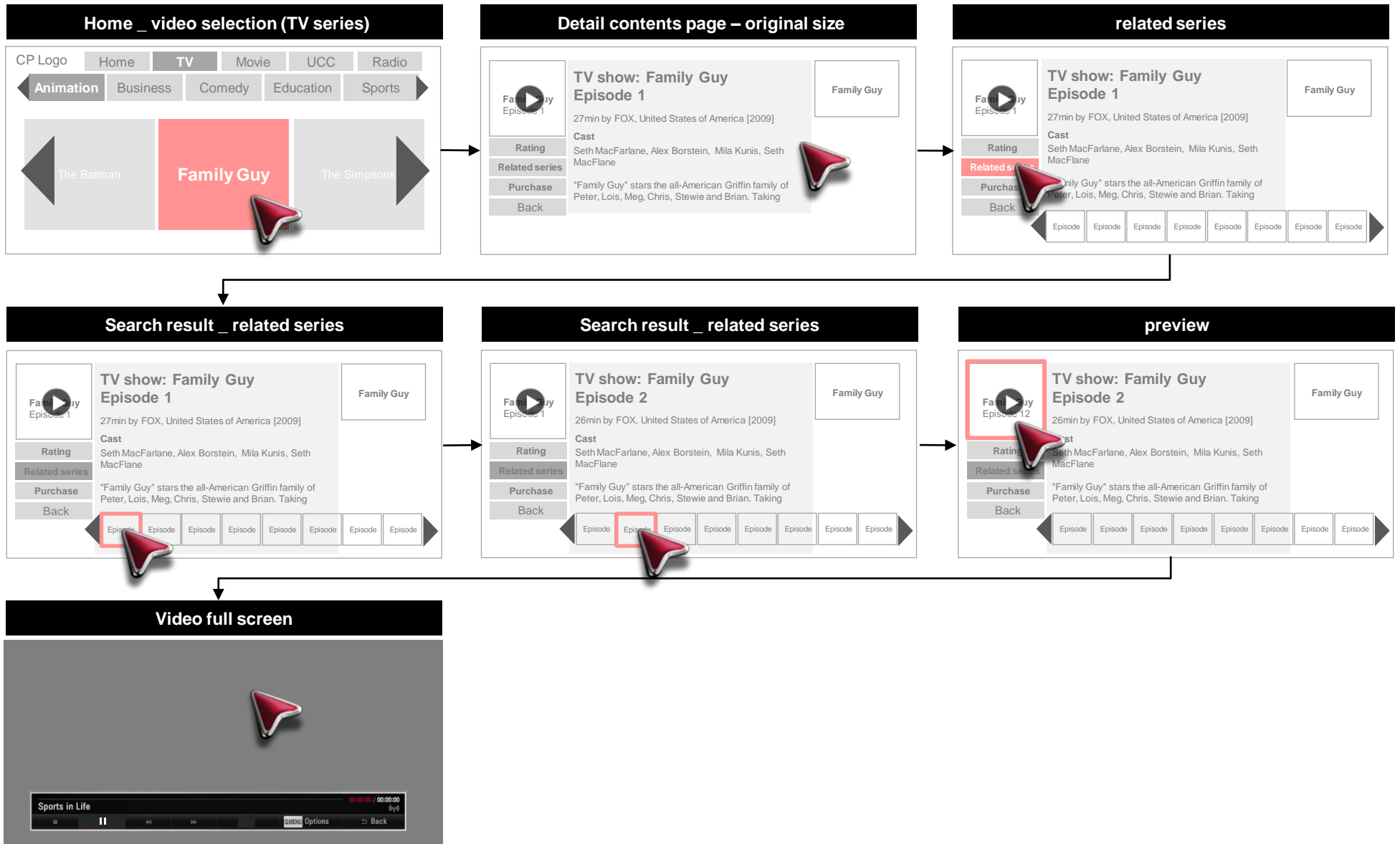
# 1. Catch-up TV: Layout 1

Sample UI Flows



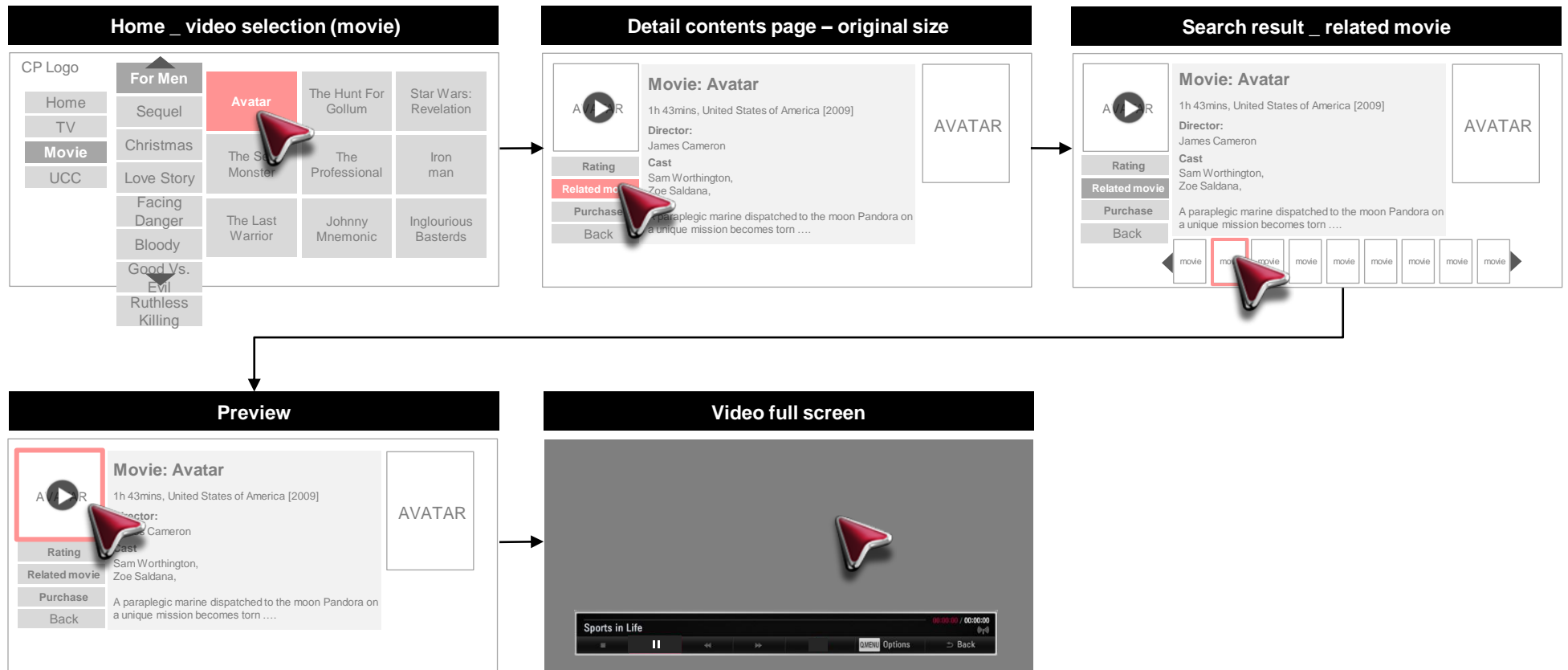
# 1. Catch-up TV: Layout 2

Sample UI Flows



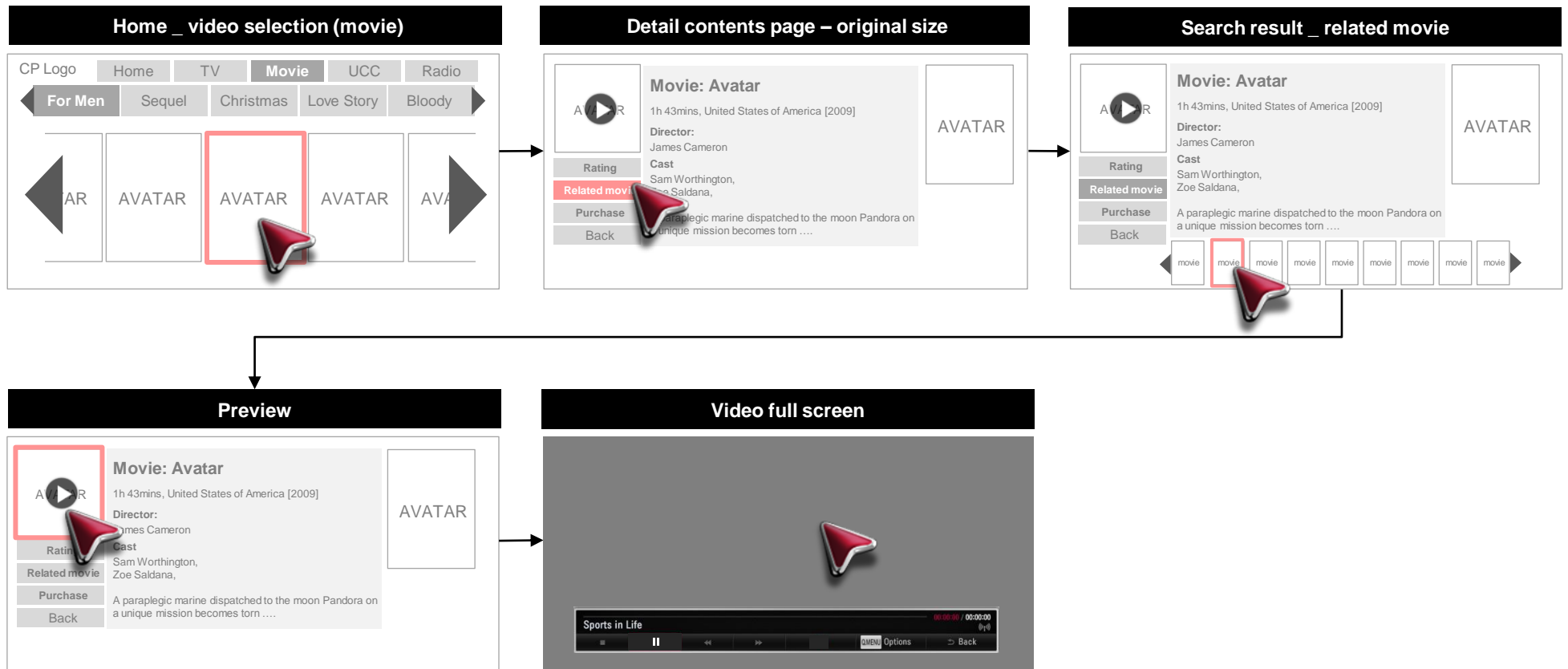
# 2. VOD: Layout 1

Sample UI Flows



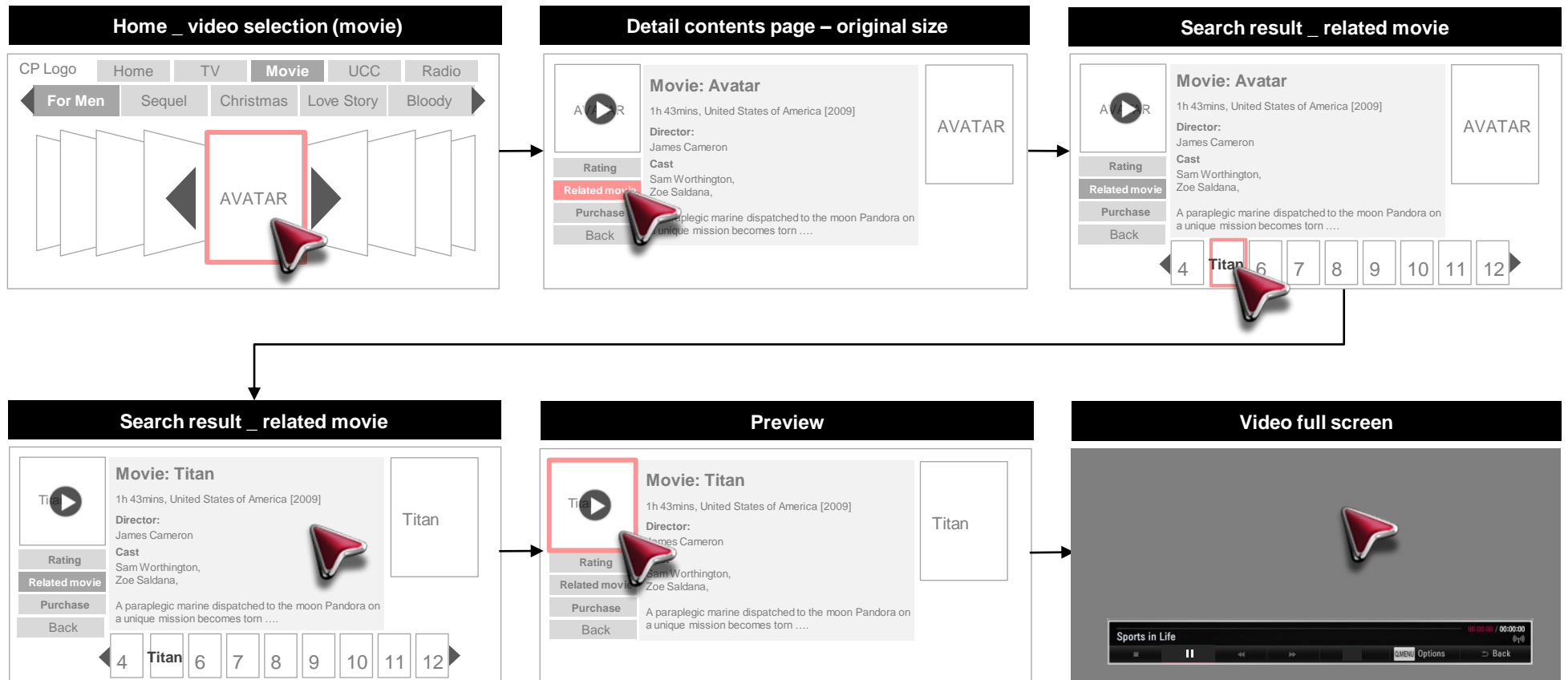
# 2. VOD: Layout 2

Sample UI Flows



# 2. VOD: Layout 3

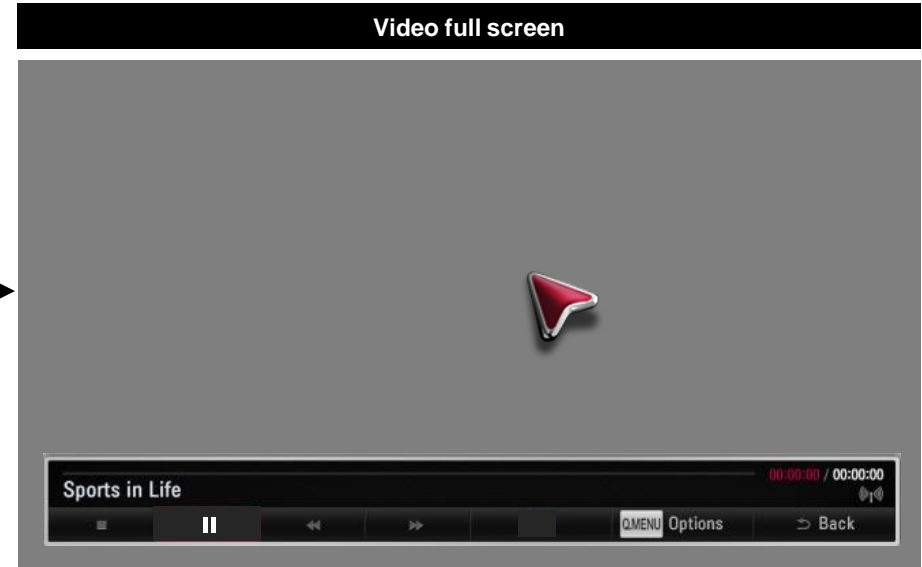
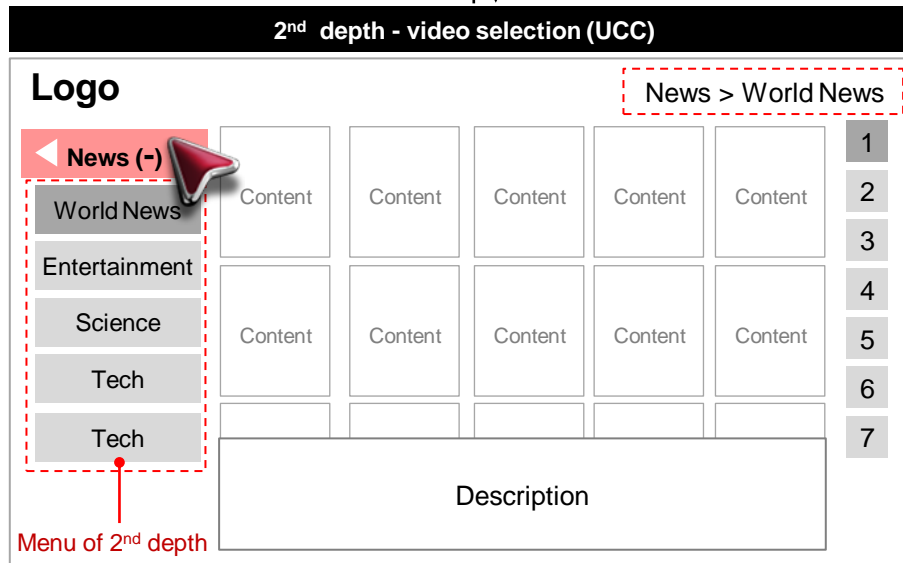
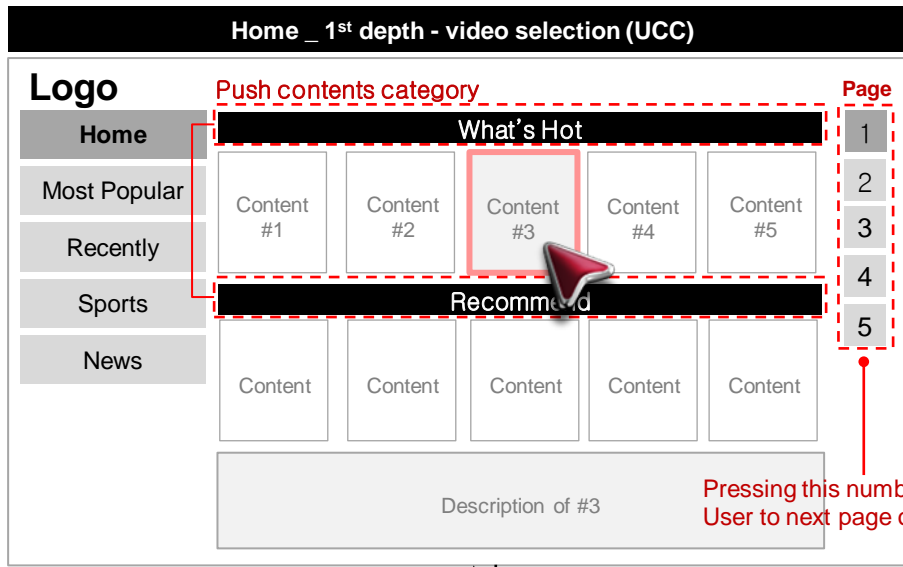
Sample UI Flows





# 3. UCC: Layout 1

Sample UI Flows

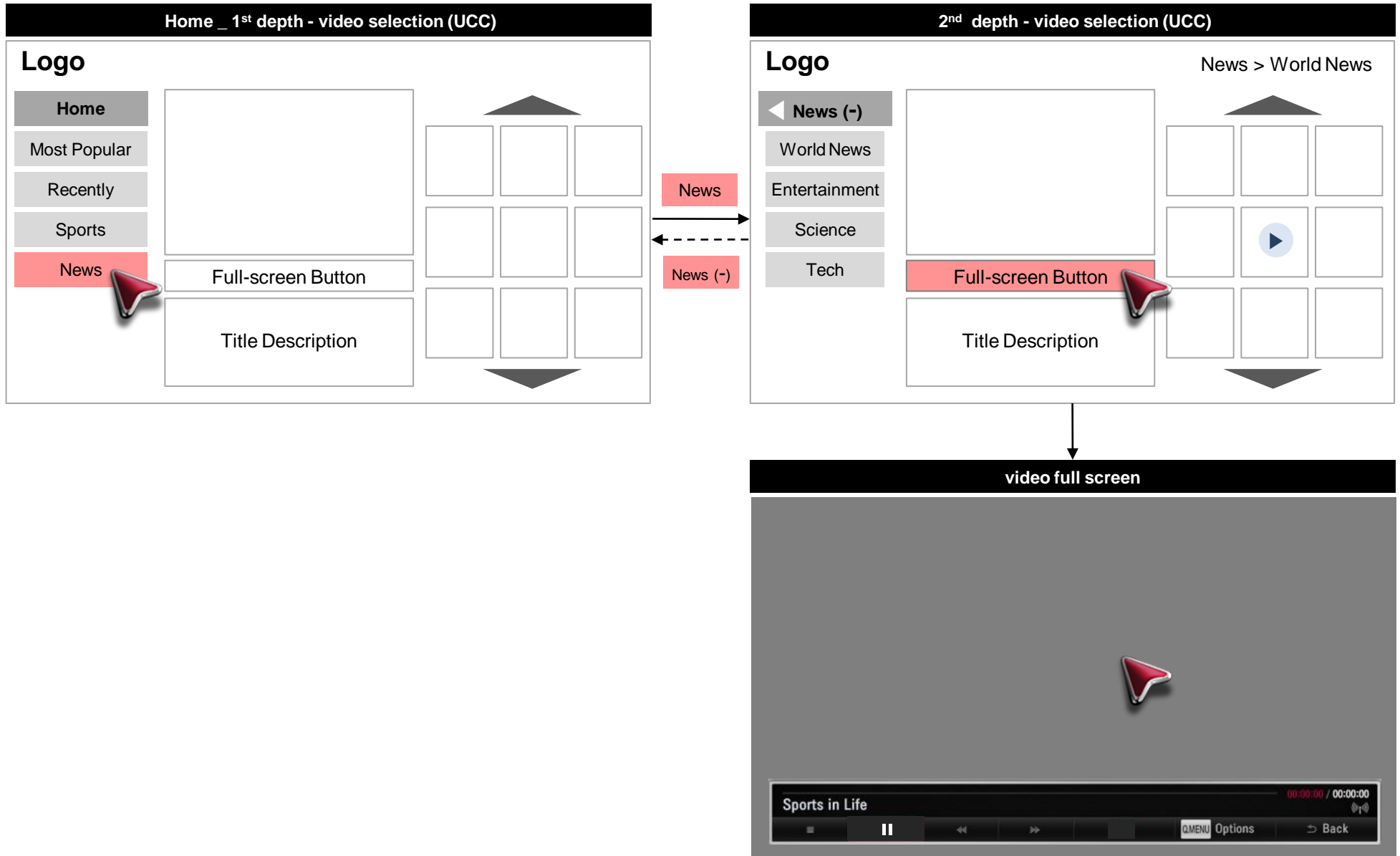


OK

Select Content

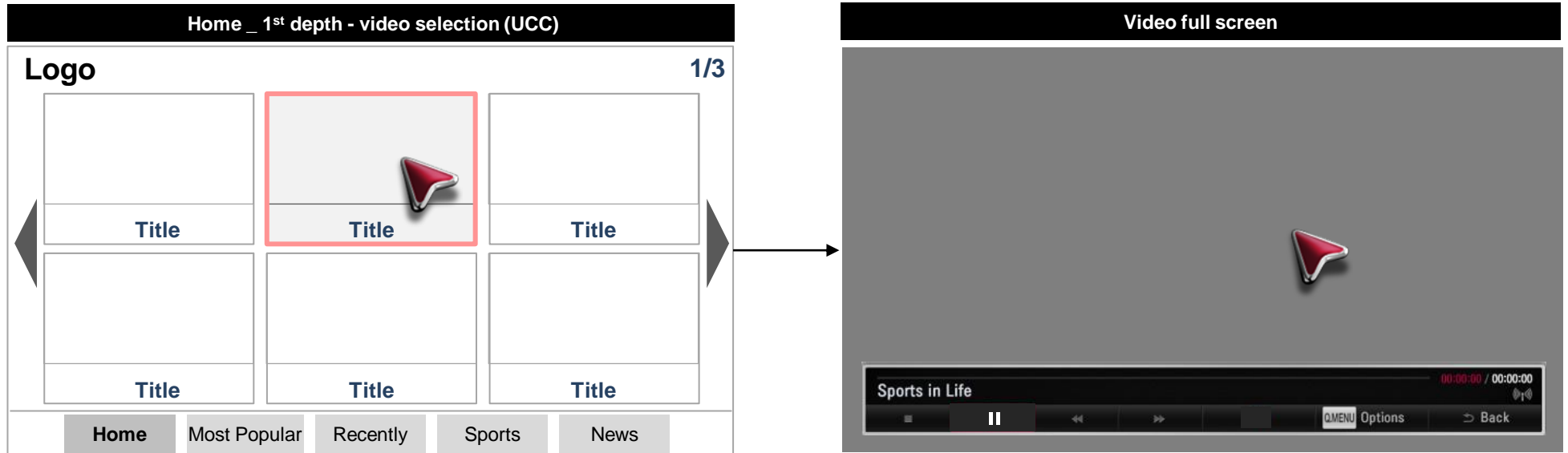
# 3. UCC: Layout 2

Sample UI Flows



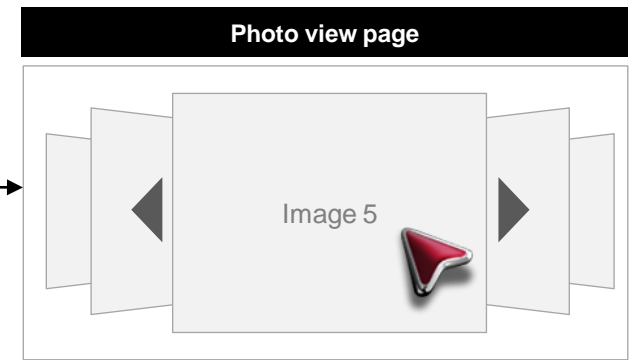
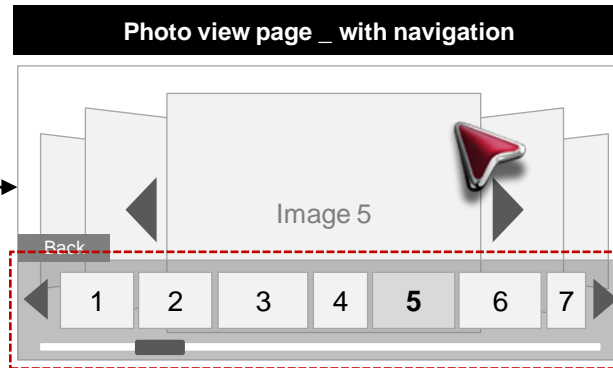
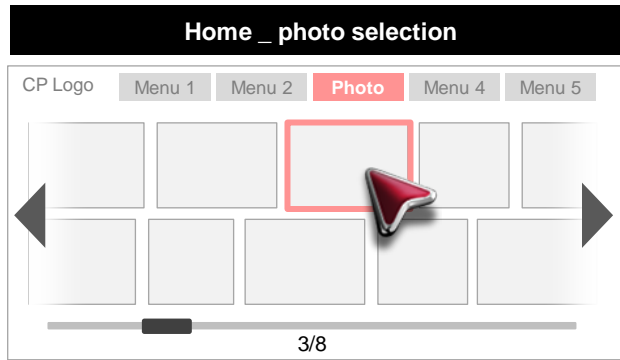
### 3. UCC: Layout 3

Sample UI Flows



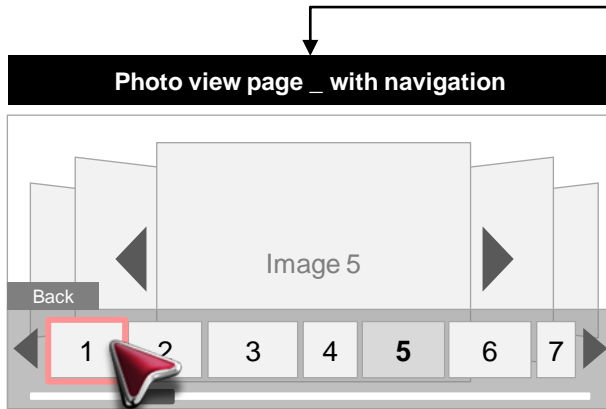
# 4. Photo: Layout 1

Sample UI Flows



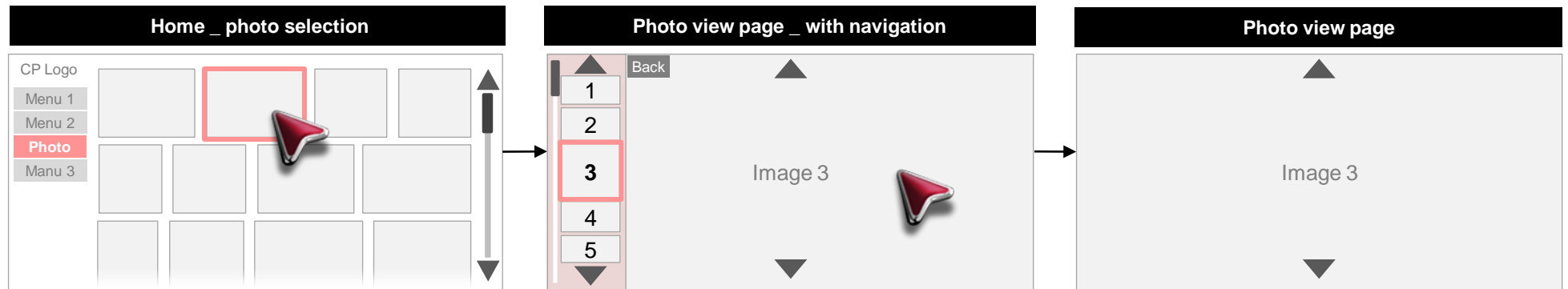
To close(hide) navigation : timeout 3 seconds, click 'OK' outside navigation

Click 'OK' on screen to open(unhide) Navigation menu



## 4. Photo: Layout 2

Sample UI Flows

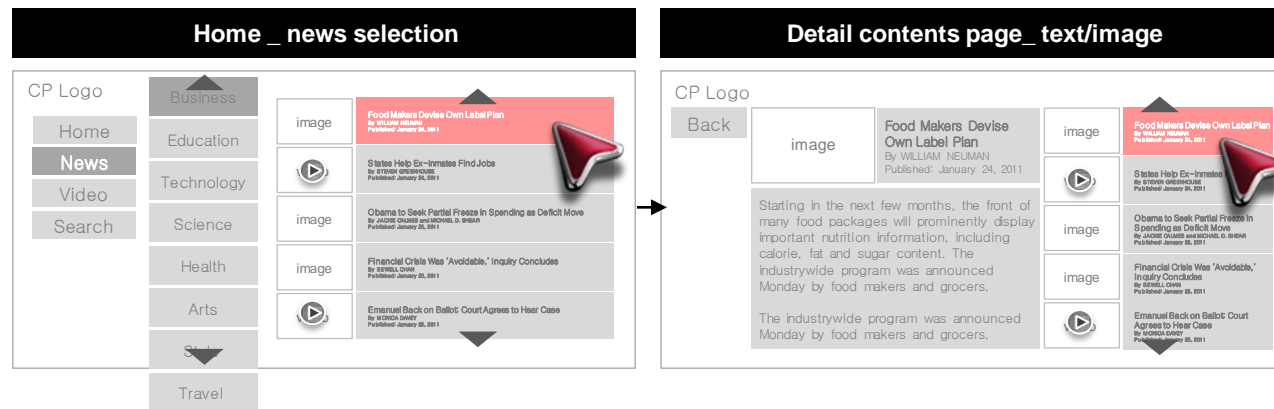


To close(hide) navigation :  
timeout 3 seconds, click 'OK' outside navigation

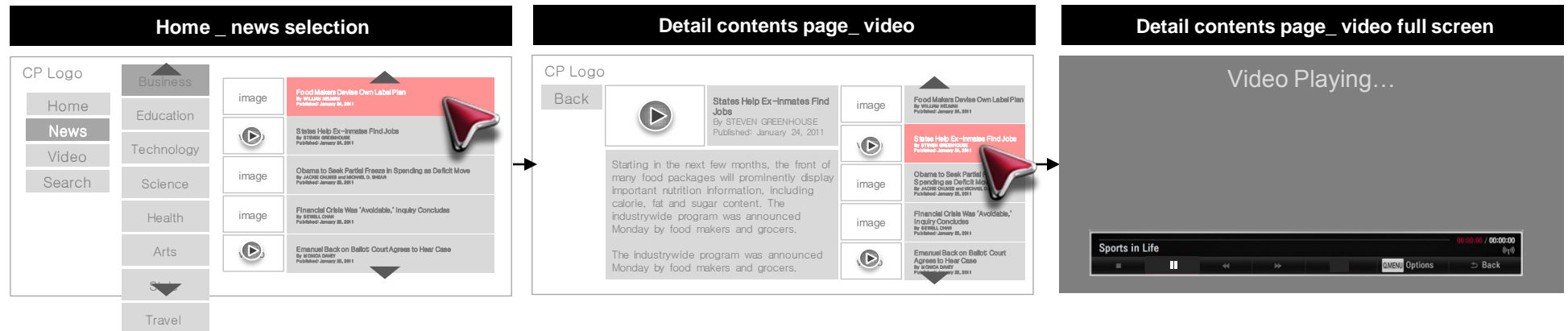
# 5. News Portal

Sample UI Flows

## 1) Text/image based news



## 2) Video/text based news



LG Smart TV and Media product UI Guideline

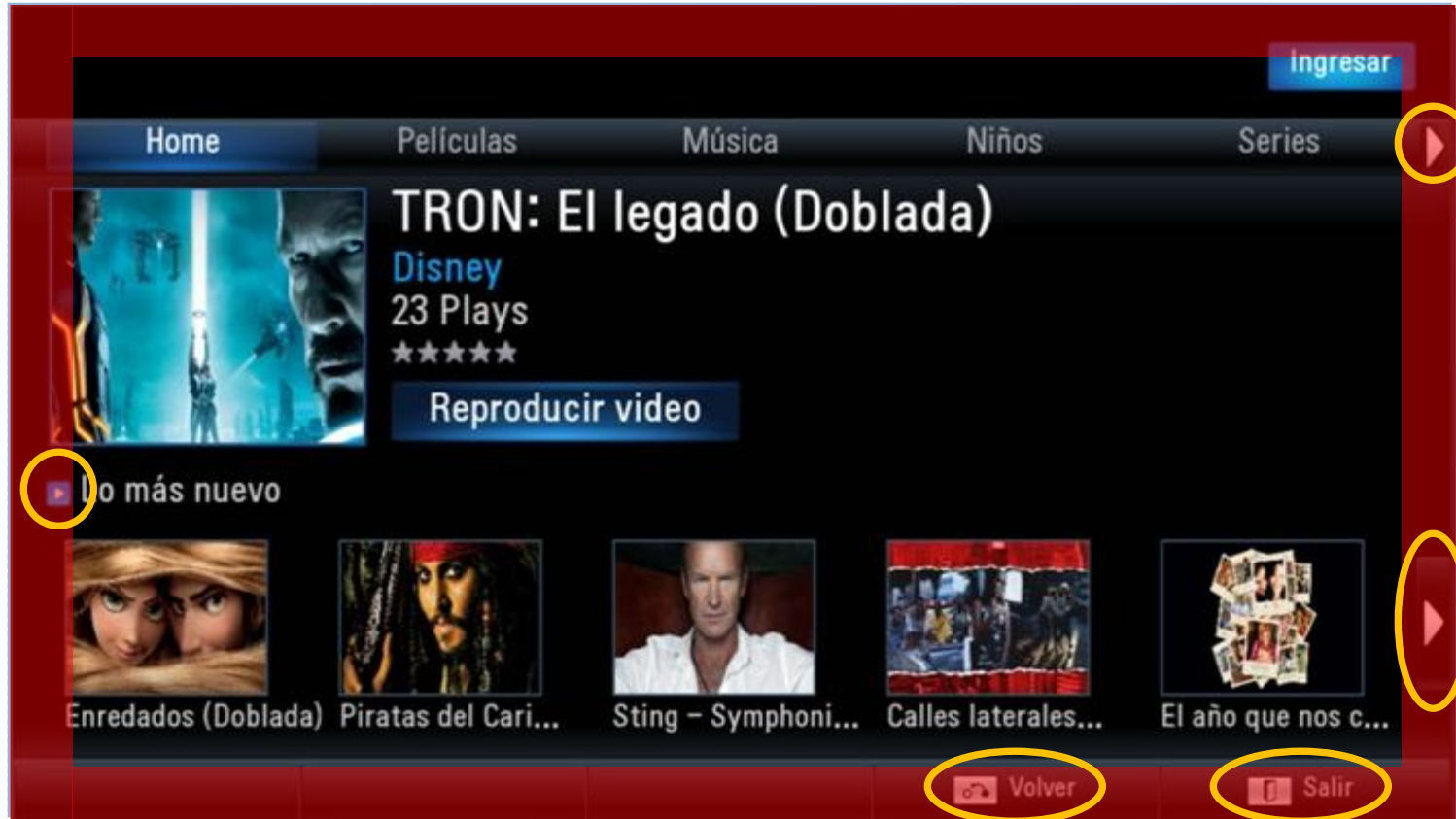
# Most Common Mistakes

# 1. Safety zone

Most Common Mistakes

App without over scan (safety zone)

○ will not be displayed in some devices





## 2. Scroll

Most Common Mistakes

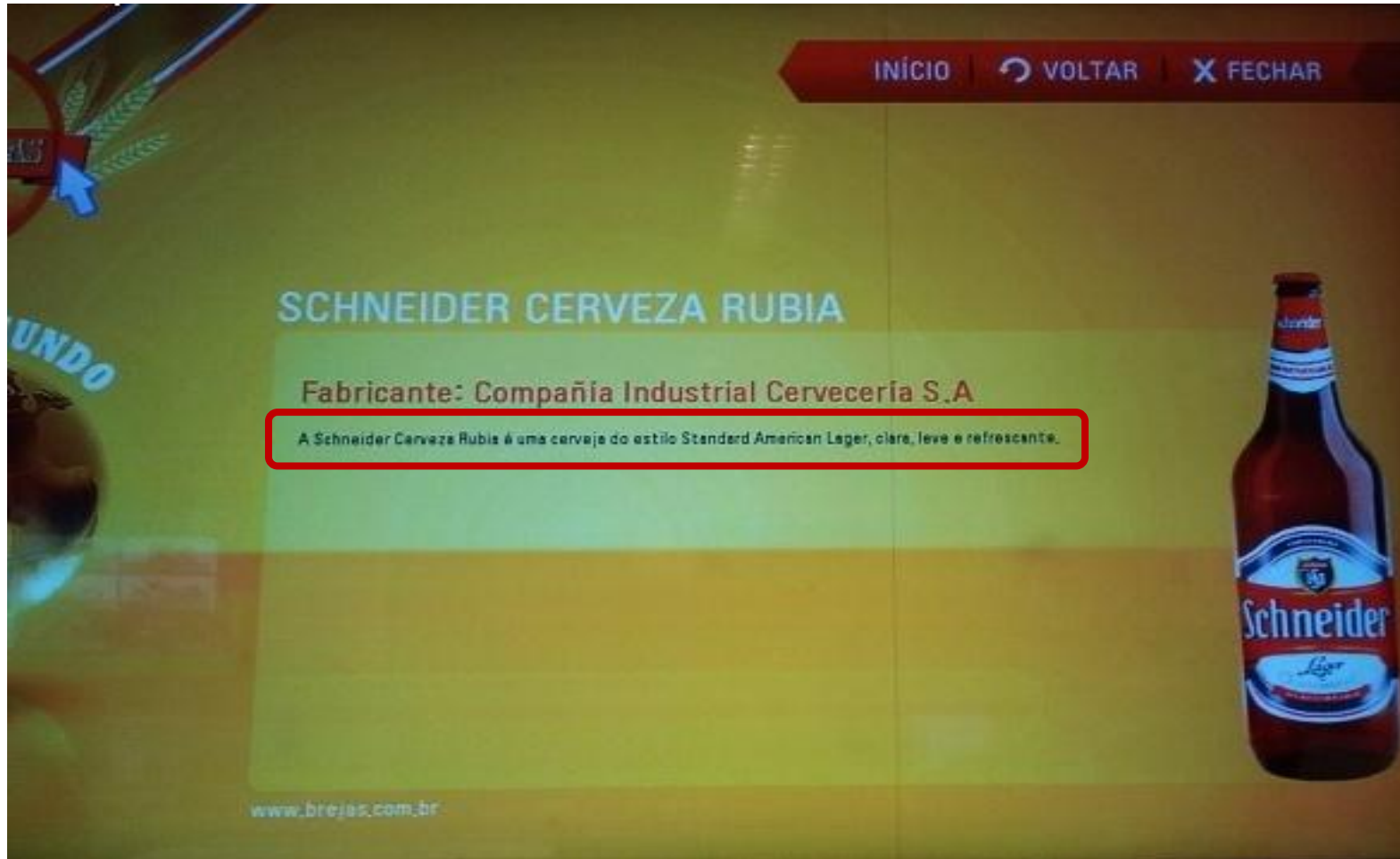
There is no scroll button to scroll the list



### 3. Text Size

Most Common Mistakes

Small Font Size, illegible to user in 3.5 meter (10 foot) distance to TV



### 3. Focus States

Most Common Mistakes

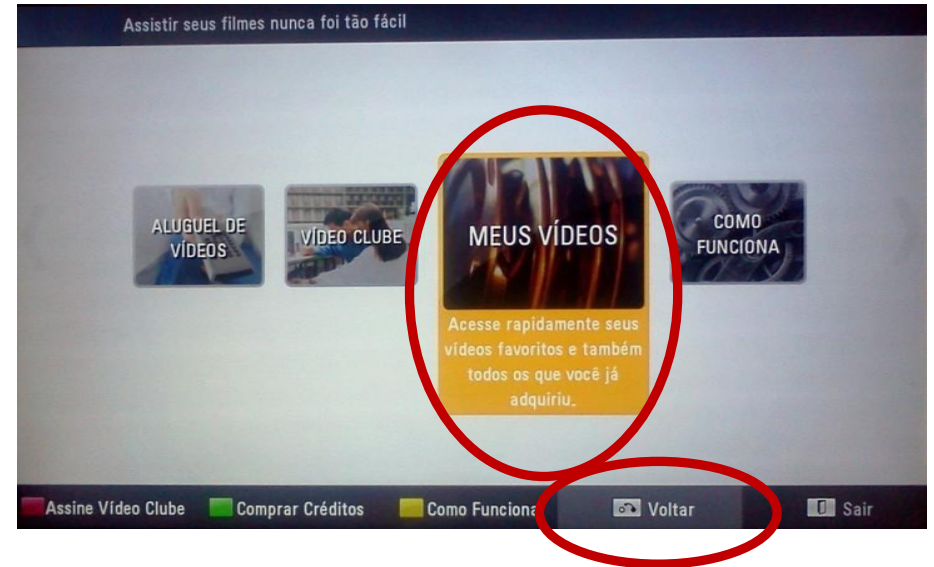
Focus states are not distinct



## 4. Focus States

Most Common Mistakes

### Double Focus



## 4. Focus States

Most Common Mistakes

No initial focus, when entered to App with 4 way navigations



**Fin. | Thank you**