



Run3TV Implementation Guidelines: Q-Bar Application

Version: 2.0

Date: May 29th 2024

Doc: R3TV-IG-0221

Framework version: 2.3

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Revision history

| Version | Date | Framework Version | Update |
|--------------------|-----------------------|-------------------|---|
| 1.0 (Beta Release) | June 1st, 2023 | | Release candidate |
| 2.0 (Final) | May 29th, 2024 | 2.3 | Migrated to standard layout Light rework Adding references to Sub-Applications Addition of Restart configuration Addition of further Alert information / new example screenshots Updated animation example image |

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Contents

| | |
|--|----|
| Revision history | 2 |
| Copyright notice | 2 |
| Contents | 3 |
| 1. Glossary | 5 |
| 2. References | 5 |
| 3. Introduction | 5 |
| 4. Feature Support | 6 |
| 5. Application | 7 |
| 5.1. Call To Action Trigger (Standard and Restart) | 7 |
| 5.1.1. Legacy Receiver Support - Default RUN3TV BAAppear Label | 10 |
| 5.1.2. Receiver supports BAAppear Label & Image | 11 |
| 5.1.3. Receiver only supports BAAppear Label | 12 |
| 5.1.4. Receiver does not support or is missing the scheduled program | 13 |
| 5.2. On-Screen Notification | 13 |
| 5.3. Different Content Items | 14 |
| 5.3.1. Live TV Service | 15 |
| 5.3.2. Live Radio Service | 17 |
| 5.3.3. Current Live TV Program Content Item | 19 |
| 5.3.4. Current Live Radio Program Content Item | 21 |
| 5.3.5. Later Live TV Program Content Item | 23 |
| 5.3.6. Later Live Radio Program Content Item | 25 |
| 5.3.7. Live TV Streaming Services Content Item | 27 |
| 5.3.8. Live Radio Streaming Services Content Item | 29 |
| 5.3.9. Video on Demand Content Item | 31 |
| 5.3.10. Audio on Demand Content Item | 33 |
| 5.3.11. Imagery Content Item | 35 |
| 5.3.12. Sub-Application content items | 37 |
| 5.3.13. Application Content Items | 39 |
| 5.3.14. Animated Content Items | 41 |
| 5.3.15. Advertising, Promotional and Sponsorship Content item | 43 |
| 5.3.16. Alert Content item | 46 |
| 5.4. Formatting Rules | 49 |
| 5.4.1. Displaying DATE | 49 |
| 5.4.2. Displaying Time | 49 |
| 5.4.2.1. Live TV, Live Radio (Broadcast) | 49 |
| 5.4.2.2. VOD Content - Video and / or Audio | 50 |
| 5.4.2.3. ESG Data | 51 |

| | |
|--|----|
| 5.4.2.4. Live Stream delivered via IP Channel | 51 |
| 5.4.2.5. Imagery (Static Images or animated GIFs) | 52 |
| 5.4.2.6. HTML Application (Internal and / or external) | 52 |
| 5.4.2.7. Animated Advertising and Promotional Content | 52 |
| 5.5. Information Crawler | 53 |
| 5.6. Alert Crawler | 55 |
| 5.7. Alert Content Rail | 56 |
| 5.8. Standard Run3TV Player Application | 59 |
| 5.9. Player Controls Screens | 60 |
| 5.9.1. For VOD Content | 60 |
| 5.9.2. For LIVE Content | 60 |
| 5.9.3. For Advertisements and Promotional Content | 61 |
| 5.10. VOD Content | 62 |
| 5.11. Live Stream Content | 63 |
| 5.12. Advertising Content | 65 |
| 5.13. Broadcaster Customisation | 67 |
| 5.13.1. Broadcaster Logo | 67 |
| 5.13.2. Broadcaster ID and NAME | 67 |
| 5.13.3. Font Family and Font size | 67 |
| 5.13.4. Default and Focus Font Color | 68 |
| 5.13.5. Bar and Focus Background Colors | 68 |
| 5.13.6. Bar Gradient | 68 |
| 6. Application Configuration | 69 |
| 6.1. Application Configuration File | 69 |
| 6.1.1. Root | 69 |
| 6.1.2. Feed Object | 71 |
| 6.1.3. Multi language string object | 71 |
| 6.2. Example Configuration File | 72 |

1. Glossary

Glossary of unfamiliar words and acronyms.

| Term | Definition |
|------|------------|
| | |

2. References

| ID | Publisher | Document |
|--------------|-----------|---|
| A/344 | ATSC | ATSC 3.0 Interactive Content, A344/1 |
| R3TV-IG-0231 | Run3TV | Run3TV Implementation Guidelines: RSS Feed Specification |
| R3TV-IG-0212 | Run3TV | Run3TV Implementation Guidelines: I-Frame Sub-Application integration |
| R3TV-IG-0232 | Run3TV | Run3TV Implementation Guidelines: AEAT Feed Specification |

3. Introduction

This document describes how a broadcaster can configure and customize the Q-Bar application. The document provides the details of styling the application, and providing metadata feeds in driving the application.

Detailed description of how various content types are correctly declared in the feed is contained in a separate RSS Feed Specification document (R3TV-IG-0231).

This document should be read in conjunction with the RSS feed specification document in order to understand full and correct implementation.

4. Feature Support

The following table details the functionality supported in the Q-Bar application.

| Feature | Supported |
|---|---------------------------------|
| Custom Broadcaster Styling | Yes |
| BAAppear Key Handling | Yes |
| Current on air program information | Yes |
| Current on air program audio track selection | Yes |
| Emergency Alerts | Yes |
| On Screen Notifications | Yes |
| mRSS Feed Support | Yes |
| TV Guide of current channel via OTA Data | Yes |
| TV Guide of current channel via IP Data | Roadmap |
| VOD Playback | Yes, DASH, HLS, MP4 |
| Fast Channels Streaming (SSAI w/o client reporting) | Yes, DASH, HLS |
| FAST Channels Streaming (SSAI with client reporting) | Roadmap - PoC under development |
| VastTag | Yes, preroll support only |
| Display Advertising | Yes |
| Display a full screen image - used for weather reporting. | Yes |

| Feature | Supported |
|------------------------|---------------------------------|
| Dynamic Ad Replacement | Roadmap - PoC under development |

5. Application

This document describes how a broadcaster can configure and customize the Q-Bar application. The document provides the details of styling the application, and providing metadata feeds in driving the application.

5.1. Call To Action Trigger (Standard and Restart)

When the application starts, the Q-Bar application can present a Call to Action (CTA).

The design of the CTA is based on the configuration in **config.json** and can vary depending on whether the current broadcast program has Restart rights. If Restart rights are available, the CTA directs viewers to Restart. Otherwise, the CTA directs viewers into the Q-Bar application.

The Q-Bar determines whether the current broadcast program has Restart rights by parsing the Restart RSS esg feed, as configured in **config.json**. For more information on **config.json**, see [Application Configuration](#).

The example snippet of **config.json** shows this CTA configuration:

```
config.json
...

"cta": {
  "standard": {
    "label": {
      "en": "PRESS <strong><baAppearLabel></strong> FOR MORE",
      "es": "PRESIONE <strong><baAppearLabel></strong> PARA MÁS"
    },
    "info": {
      "en": "OPEN THE APPLICATION AND NAVIGATE TO YOUR \"SETTINGS\" IN THE LEFT PANEL TO REVIEW ...",
      "es": "ABRA LA APLICACIÓN Y NAVEGUE A SU \"CONFIGURACIÓN\" EN EL PANEL IZQUIERDO PARA..."
    }
  },
  "restart": {
    "label": {
      "en": "PRESS <strong><baAppearLabel></strong> TO RE-START",
      "es": "PRESIONE <strong><baAppearLabel></strong> PARA RE-INICIAR"
    },
    "info": {
      "en": "OPEN THE APPLICATION AND NAVIGATE TO YOUR \"SETTINGS\" IN THE LEFT PANEL TO REVIEW...",
      "es": "ABRA LA APLICACIÓN Y NAVEGUE A SU \"CONFIGURACIÓN\" EN EL PANEL IZQUIERDO PARA..."
    }
  },
  "feed": "/london/Station-3/q-bar/dynamic/esg.atom"
}
...
```

In the example above, the cta/restart/feed field directs the Q-Bar to an RSS feed containing at the very least now and next information. An example of this is shown below:

```
esg.xml
...
<?xml version="1.0" encoding="UTF-8"?>
<rss xmlns:atom="http://www.w3.org/2005/Atom"
    xmlns:media="http://search.yahoo.com/mrss/" version="2.0">
  <channel>
    <title>Programs List</title>
    <ttl>40</ttl>
    <item>
      <media:group>
        <media:content medium="video" type="application/dash+xml" expression="ota"
            url="https://doi.org/10.1111/1111-1111" duration="3600" language="en" />
        <media:thumbnail url="https://example.com/news.png" height="1920" width="1080" attr="Local News" />
        <media:content medium="video" type="application/dash+xml" expression="restart"
            url="https://example.com/avc-full.mpd" language="en" />
      </media:group>
      <title>Local News</title>
      <description>Local News and Weather</description>
      <category>News</category>
      <guid>12345</guid>
      <pubDate>Mon, 25 Apr 2024 13:00:00</pubDate>
    </item>
    <item>
      <media:group>
        <media:content medium="video" type="application/dash+xml" expression="ota"
            url="https://doi.org/10.1111/2222-2222" duration="1800" language="en" />
        <media:thumbnail url="https://example.com/sportExtra.png" height="800" width="450" attr="SportExtra" />
        <media:content medium="video" type="application/dash+xml" expression="live"
            duration="1800" language="en" />
      </media:group>
      <title>Sport Extra</title>
      <description>Local, regional and national sport-related entertainment program</description>
      <category>Sport</category>
      <guid>45678</guid>
      <pubDate>Mon, 25 Apr 2024 14:00:00</pubDate>
    </item>
  </channel>
</rss>
...
```

The Q-Bar application determines which (if any) event in the **esg.xml** file is currently live by using the <pubDate> element as the program start time and <media:content> duration attribute as the program's duration.

Once the Q-Bar determines the program that is currently live, it locates that program's <media:content medium="video"> elements. If one of those elements includes an expression attribute set to "restart", the Q-Bar will present the Restart CTA. Otherwise the Standard CTA is presented.

In the **esg.xml** example above, the Q-Bar would present the Restart CTA during the "Local News" program and present the Standard CTA during the "Sport Extra" program.

For more information on **esg.xml**, please refer to [R3TV-IG-0231].

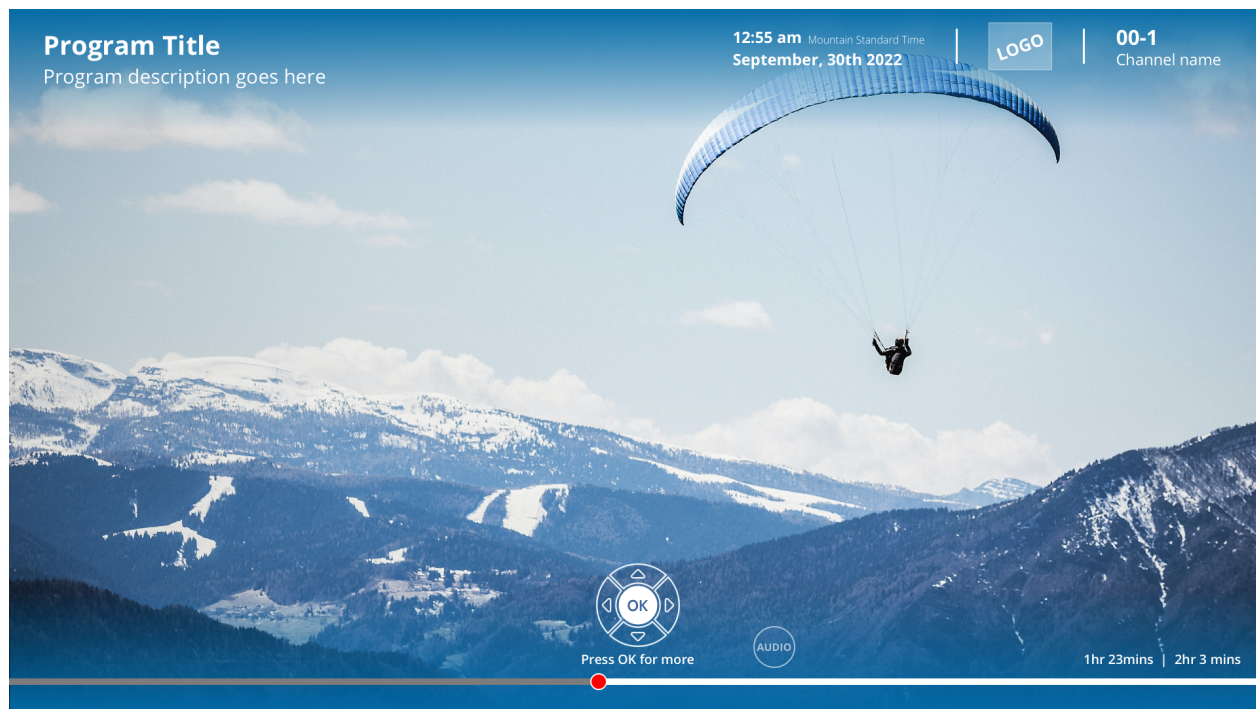
The following table lists the supported features of the Standard Call To Action.

| FeatureID | Description |
|-----------|---|
| cta-001 | Display the receivers BAAppear Label and image (if provided) otherwise show the default RUN3TV BAAppear |
| cta-002 | <p>The label can be customized via the configuration parameter ctaLabel (as shown below). The BAAppear word shall be replaced by the application using the <baAppearLabel> replacement tag. For example:</p> <pre>"ctaLabel": "PRESS <baAppearLabel>"</pre> |
| cta-003 | <p>Display the broadcaster's station's call sign, logical channel number and logo via the application configurations via the header attribute.</p> <pre>"header": { "id": "32.1", "name": "R3TV", "logo": "/london/run3tv/img/logo.png" }</pre> |
| cta-004 | <p>Display the current program title being viewed, the associated description, the start, end and duration of the program.</p> <p>The application will not display the information when no schedule data is available from the receiver</p> |
| cta-005 | Display the current viewing position of the live stream using the schedule data, otherwise display the viewing position in the center of the timeline |
| cta-006 | Display the audio button for track selection if multiple tracks are supported behind the service otherwise it is gray out and not selectable |
| cta -007 | If the service is a Live_Radio or Live_App service, display the item/media:group/media:thumbnail (as defined in the RSS feed) if present otherwise display the Run3TV default service type images behind the CTA |

5.1.1. Legacy Receiver Support - Default RUN3TV BAAppear Label

The Q-Bar application shall display the default RUN3TV OK button image and the words "Press OK for

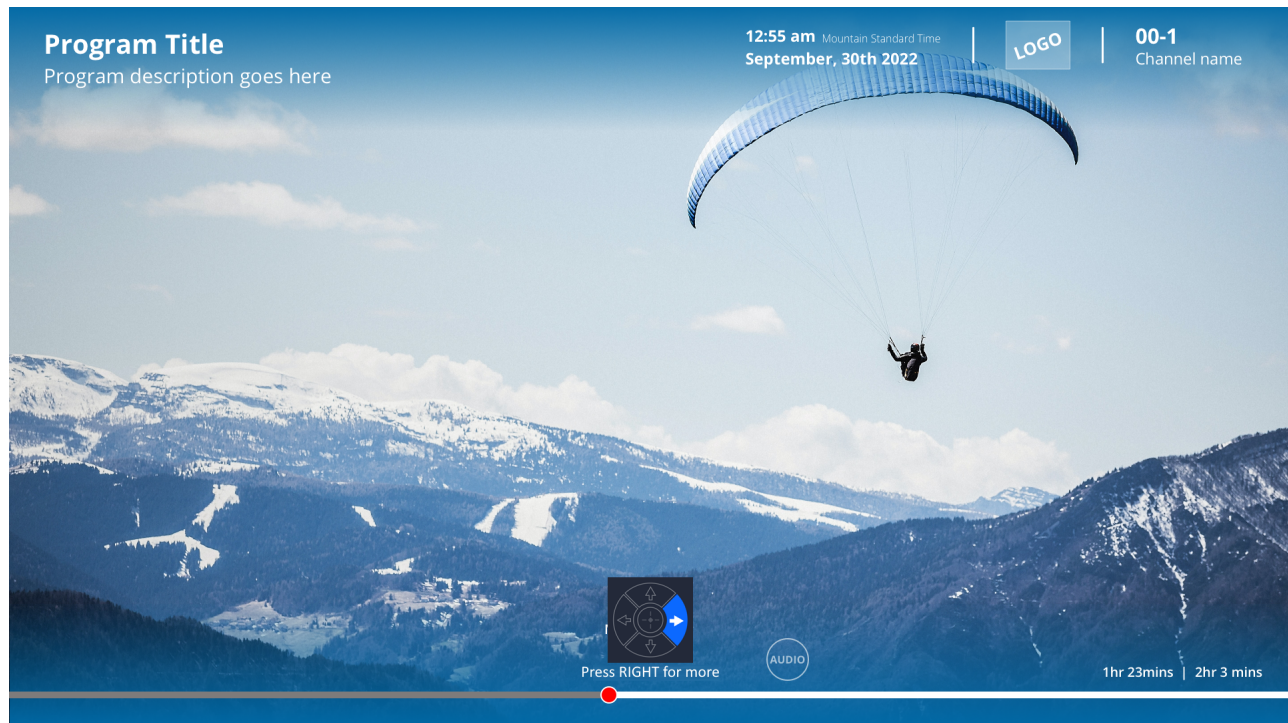
more” as shown below.



5.1.2. Receiver supports BAAppear Label & Image

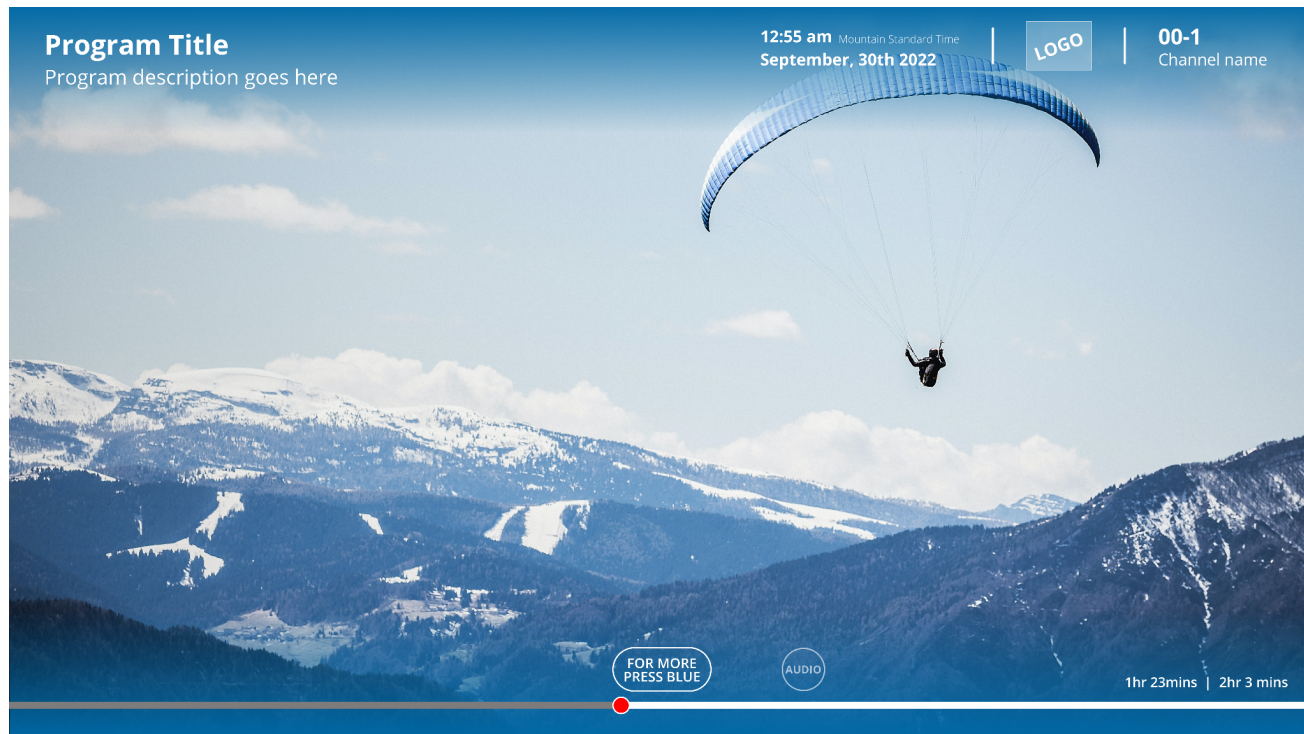
The Q-Bar application shall display the receiver's BAAppear Image along with its associated BAAppear label. The example below shows the BAAppear image and label, as provided by a Sony

receiver.



5.1.3. Receiver only supports BAAppear Label

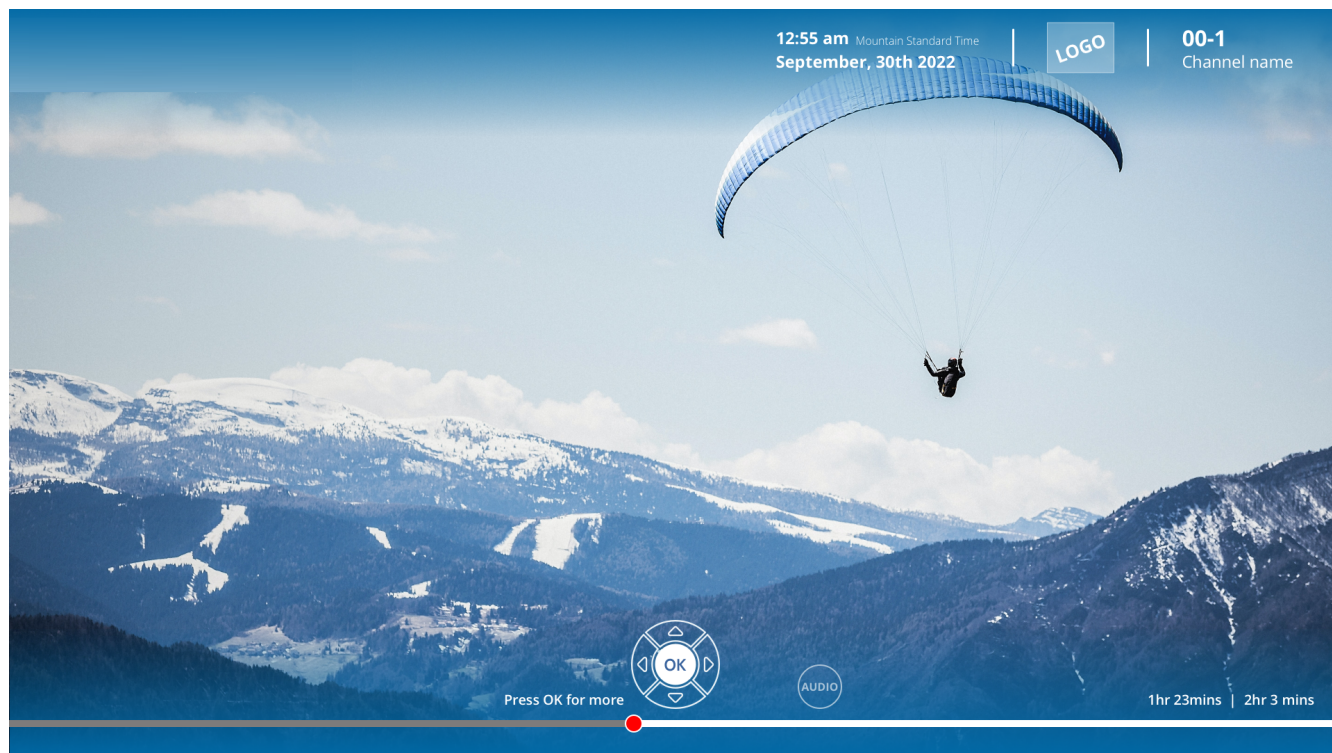
If the receiver does not support the BAAppear image, then the Q-Bar application shall display the BAAppear text (label only).



5.1.4. Receiver does not support or is missing the scheduled program

The Q-Bar application shall display the Run3TV OK button image and the words “Press OK for more” with the live point in the center of the screen.

No Program title or description is shown.



5.2. On-Screen Notification

Note This is a future roadmap item.

The on-screen notification is displayed to the viewer when the application is loaded but no call to action is displayed. This provides a means for the viewer to enter into the application and link to the notification message.

5.3. Different Content Items

This section describes the different types of items that can be shown by the Q-Bar application in the content rails.

In summary, the following content types are supported:

- Live TV Service
- Live Radio Service
- Current Live TV Program
- Later Live TV Program
- Current Live Radio Program
- Later Live Radio Program
- Live Streaming Service
- Live Radio Streaming Service
- Video on Demand
- Audio on Demand
- Imagery Display
- Sub-Applications
- Applications
- Animated Display
- Advertising
- Promotional
- Alerts
- Settings

5.3.1. Live TV Service

A content item that will allow the user to switch to a different Live TV Channel (broadcast only) that is available on the receiver.



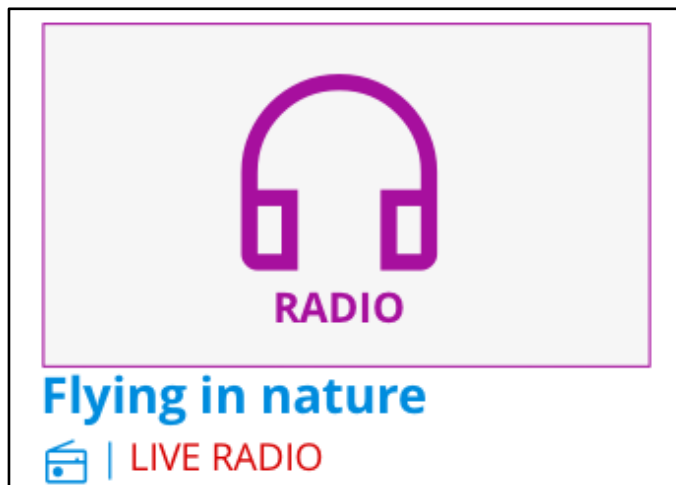
| FeatureID | Description |
|-------------|--|
| live_tv_001 | Use the title from the item xml to display a title |
| live_tv_002 | <p>Detect that the item is LIVE_TV using the following rules:</p> <pre> item/media:content/@medium = "video" AND item/media:content/@type = "application/dash+xml" AND item/media:content/@url = "<globalserviceid_value>" AND item/media:content/@expression = "ota" AND item/pubDate = null OR item/media:content/@duration = null </pre> |
| live_tv_003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV LIVE_TV image |

| FeatureID | Description |
|-------------|--|
| live_tv_004 | <p>Display the second line with the following with the words in red:</p> <p><live_tv_icon> LIVE TV</p> <p>Note that the text color changes to RED upon selection</p> |
| live_tv_005 | A selection from the user shall inform the receiver to switch to the corresponding service |
| live_tv_006 | The live tv shall be presented in the rescaled video window |
| live_tv_007 | If the current service is the same as the requested service, then no service change is carried out, however if the live TV is not actively playing then the application shall start playing the live TV in the rescaled video window |
| live_tv-008 | <p>When highlighted the following is shown in the top section of the Q-bar:</p> <p><Title of the item></p> <p><synopsis></p> |
| live_tv-009 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| live_tv-010 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.2. Live Radio Service

A content item that will allow the user to switch to a different Live Radio Channel (Broadcast only) that is available on the receiver.



| FeatureID | Description |
|----------------|---|
| live_radio-001 | Use the title from the item xml to display a title |
| live_radio-002 | <p>Detect that the item is LIVE_RADIO using the following rules:</p> <pre> item/media:content/@medium = "audio" AND item/media:content/@type = "application/dash+xml" AND item/media:content/@url = "<globalserviceid_value>" AND item/media:content/@expression = "ota" AND item/pubDate = null OR item/media:content/@duration = null </pre> |
| live_radio-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV Live_Radio image |

| FeatureID | Description |
|----------------|---|
| live_radio-004 | <p>Display the second line with the following with the words in red.</p> <p><live_radio_icon> LIVE RADIO</p> <p>Note that the text color changes to RED upon selection</p> |
| live_radio-005 | A selection from the user shall inform the receiver to switch to the corresponding service. |
| live_radio-006 | <p>The live radio image shall be presented in the rescaled view of the window using the <media:content> contained in the <media:group> otherwise the default Run3TV shall be used.</p> <p>item/media:content/@medium = "image" AND item/media:content/@type = "<supported_image>" AND item/media:content/@url = "<url>"</p> |
| live_radio-007 | If the current service is the same as the requested service, then no service change is carried out, however if the live radio is not actively playing then the application shall start playing the live radio |
| live_radio-008 | <p>When highlighted the following is shown in the top section of the Q-bar.</p> <p><Title of the item> <synopsis></p> |
| live_radio-009 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| live_radio-010 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.3. Current Live TV Program Content Item

A content item and/or a whole content rail display's Live TV content in the TV schedule for a specific broadcast service. The content time will show the program information and provide image support.



| FeatureID | Description |
|----------------|--|
| livetv_now-001 | Use the title from the item xml to display a title |
| livetv_now-002 | <p>Detect that the item is LIVE_TV_ESG_NOW using the following rules:</p> <pre> item/media:content/@medium = "video" AND item/media:content/@type = "application/dash+xml" AND item/media:content/@expression = "ota" AND item/media:content/@url = "<globalserviceid_value>" AND Time now is between (item/pubDate AND item/pubDate + item/media:content/@duration) AND item/media:content/@duration > 0 </pre> |
| livetv_now-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV Live_TV_ESG image |

| FeatureID | Description |
|----------------|---|
| livetv_now-004 | <p>Display the second line with the following: Where the <starttime> is the relative to the timezone and the time from the item/pubDate using 12 hour clock appending am pm, e.g. 12.30pm</p> <p><live_tv_icon> ON NOW <starttime></p> <p>Note that the text color changes to RED upon selection</p> |
| livetv_now-005 | A selection from the user shall inform the receiver to switch to the corresponding service |
| livetv_now-006 | The current live program shall be presented in the rescaled video window |
| livetv_now-007 | If the current service is the same as the requested service, then no service change is carried out, however if the live tv is not actively playing then the application shall start playing the live tv |
| livetv_now-008 | <p>The top section of the Q-bar displays the following.</p> <p><Title of the item></p> |
| livetv_now-009 | <p>Below the <Title>, the following information is displayed:</p> <p><startTime> - <EndTime> <Description></p> <p>Times shall be displayed according to the Formatting rules described later in this document. See Formatting Rules section</p> |
| livetv_now-010 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| livetv_now-011 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.4. Current Live Radio Program Content Item

A content item and/or a whole content rail display's Live TV content in the TV schedule for a specific broadcast service. The content time will show the program information and provide image support.



| FeatureID | Description |
|-------------------|---|
| liveradio_now-001 | Use the title from the item xml to display a title |
| liveradio_now-002 | <p>Detect that the item is LIVE_RADIO_ESG_NOW using the following rules:</p> <pre> item/media:content/@medium = "audio" AND item/media:content/@type = "application/dash+xml" AND item/media:content/@expression = "ota" AND item/media:content/@url = "<globalserviceid_value>" AND Time now is between (item/pubDate AND item/pubDate + item/media:content/@duration) AND item/media:content/@duration > 0 </pre> |
| liveradio_now-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV Live_TV_ESG image |

| FeatureID | Description |
|-------------------|---|
| liveradio_now-004 | <p>Display the second line with the following: Where the <starttime> is the relative to the timezone and the time from the item/pubDate using 12 hour clock appending am pm, e.g. 12.30pm</p> <p><live_tv_icon> ON NOW <starttime></p> <p>Note that the text color changes to RED upon selection</p> |
| liveradio_now-005 | A selection from the user shall inform the receiver to switch to the corresponding service |
| liveradio_now-006 | If the current service is the same as the requested service, then no service change is carried out, however if the live tv is not actively playing then the application shall start playing the live tv |
| liveradio_now-007 | The top section of the Q-bar displays the following. <Title of the item> |
| liveradio_now-008 | <p>Below the <Title>, the following information is displayed:</p> <p><startTime> - <EndTime> <Description></p> <p>Times shall be displayed according to the Formatting rules described later in this document. See Formatting Rules section</p> |
| liveradio_now-009 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| liveradio_now-010 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.5. Later Live TV Program Content Item

A content item and/or a whole content rail display's Live TV content in the TV schedule for a specific broadcast service. The content time will show the program information and provide image support.



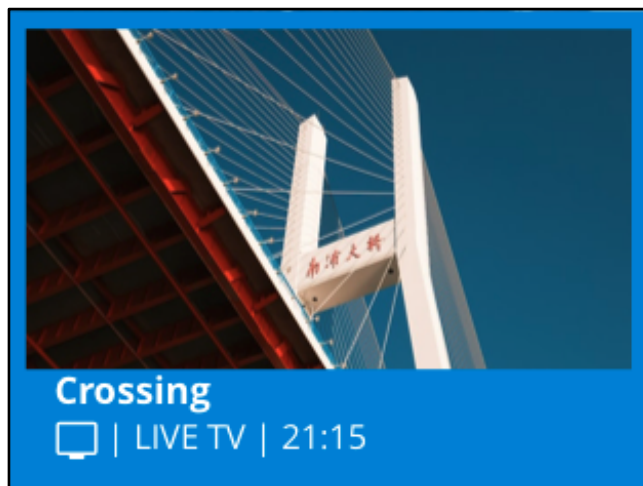
| FeatureID | Description |
|------------------|---|
| livetv_later-001 | Use the title from the item xml to display a title of the content |
| livetv_later-002 | <p>Detect that the item is LIVE_TV_ESG_LATER using the following rules:</p> <pre> item/media:content/@medium = "video" AND item/media:content/@type = "application/dash+xml" AND item/media:content/@expression = "ota" AND item/media:content/@url = "<globalserviceid_value>" AND Time now is < item/pubDate AND item/media:content/@duration > 0 </pre> |
| livetv_later-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV Live_TV_ESG_later image |

| FeatureID | Description |
|------------------|---|
| livetv_later-004 | <p>Display the second line with the following: Where the <starttime> is the relative to the timezone and the time from the item/pubDate using 12 hour clock appending am pm, e.g. 12.30pm</p> <p><live_tv_icon> ON LATER <starttime></p> |
| livetv_later-005 | A selection from the user shall display the item/media:group/media:thumbnail in the resized window and display the title and description of the program. |
| livetv_later-006 | <p>Top title should show the following using 12 hour clock appending am pm, e.g. 12.30pm:</p> <p><Title of the item> <Description> [only past the current day ddd] <starttime> - [[only past the current day ddd], <endtime></p> <p>Times shall be displayed according to the Formatting rules described later in this document. See Formatting Rules section</p> |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.6. Later Live Radio Program Content Item

A content item and/or a whole content rail display's Live TV content in the TV schedule for a specific broadcast service. The content time will show the program information and provide image support.



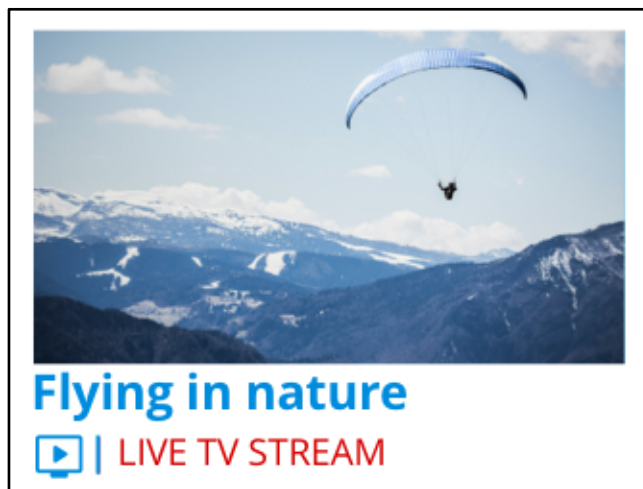
| FeatureID | Description |
|---------------------|--|
| liveradio_later-001 | Use the title from the item xml to display a title of the content |
| liveradio_later-002 | <p>Detect that the item is LIVE_RADIO_ESG_LATER using the following rules:</p> <pre> item/media:content/@medium = "audio" AND item/media:content/@type = "application/dash+xml" AND item/media:content/@expression = "ota" AND item/media:content/@url = "<globalserviceid_value>" AND Time now is < item/pubDate AND item/media:content/@duration > 0 </pre> |
| liveradio_later-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV Live_TV_ESG_later image |

| FeatureID | Description |
|---------------------|---|
| liveradio_later-004 | <p>Display the second line with the following: Where the <starttime> is the relative to the timezone and the time from the item/pubDate using 12 hour clock appending am pm, For example: 12.30pm</p> <p><live_tv_icon> ON LATER <starttime></p> |
| liveradio_later-005 | A selection from the user shall display the item/media:group/media:thumbnail in the resized window and display the title and description of the program. |
| liveradio_later-006 | <p>Top title should show the following using 12 hour clock appending am pm, e.g. 12.30pm:</p> <p><Title of the item> <Description> [only past the current day ddd] <starttime> - [[only past the current day ddd], <endtime></p> <p>Times shall be displayed according to the Formatting rules described later in this document. See Formatting Rules section</p> |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.7. Live TV Streaming Services Content Item

A content item can present a live streaming channel (IP stream).



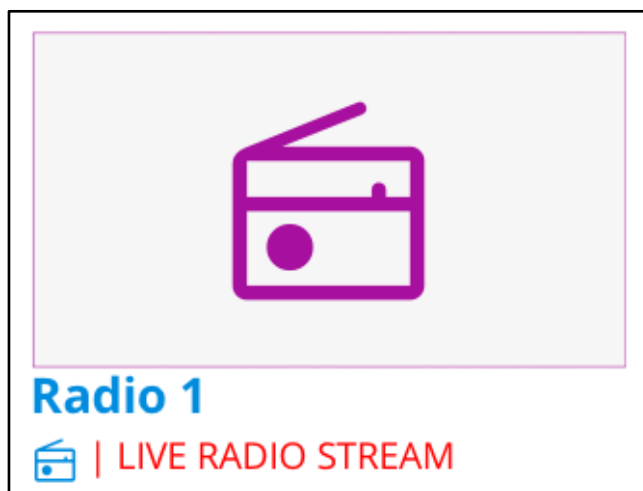
| FeatureID | Description |
|-------------------|---|
| livetv_stream-001 | Use the title from the item xml to display a title |
| livetv_stream-002 | <p>Detect that the item is LIVE_TV_STREAM using the following rules:</p> <pre> item/media:content/@medium = "video" AND item/media:content/@type = "<hls_mime> OR <dash_mime>" AND item/media:content/@url = "<url>" AND item/media:content/@expression = "nonstop" OR item/media:content/@duration = 0 </pre> |
| livetv_stream-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV Live_Stream image |
| livetv_stream-004 | <p>Display the second line with the following with the words in red:</p> <pre><live_TV_Stream_icon> IP TV STREAM</pre> <p>Note that the text color changes to RED upon selection</p> |

| FeatureID | Description |
|-------------------|---|
| livetv_stream-005 | A selection from the user shall inform the receiver to stop playing the live tv, switch to the streamed channel |
| livetv_stream-006 | The live streaming service shall be presented in the rescaled view of the window |
| livetv_stream-007 | When highlighted the following is shown in the top section of the Q-bar. <Title of the item> <synopsis> |
| livetv_stream-008 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| livetv_stream-009 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.8. Live Radio Streaming Services Content Item

A content item can present a live radio streaming channel (IP Stream).



| FeatureID | Description |
|----------------------|--|
| liveradio_stream-001 | Use the title from the item xml to display a title |
| liveradio_stream-002 | <p>Detect that the item is LIVE_RADIO_STREAM using the following rules:</p> <pre> item/media:content/@medium = "audio" AND item/media:content/@type = "<hls_mime> OR <dash_mime>" AND item/media:content/@url = "<url>" AND item/media:content/@expression = "nonstop" OR item/media:content/@duration = 0 </pre> |
| liveradio_stream-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV Live_Radio_Stream image |
| liveradio_stream-004 | <p>Display the second line with the following with the words in red:</p> <pre><live_Radio_Stream_icon> IP RADIO STREAM</pre> <p>Note that the text color changes to RED upon selection</p> |

| FeatureID | Description |
|----------------------|--|
| liveradio_stream-005 | A selection from the user shall inform the receiver to stop playing the live tv, switch to the streamed radio channel |
| liveradio_stream-006 | The live radio image shall be presented in the rescaled view of the window using the <media:thumbnail> contained in the <media:group> otherwise the default Run3TV shall be used |
| liveradio_stream-007 | When highlighted the following is shown in the top section of the Q-bar: :<Title of the item> <synopsis> |
| liveradio_stream-008 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| liveradio_stream-009 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.9. Video on Demand Content Item

A content item can present a video on demand content item.



| FeatureID | Description |
|-----------|--|
| vod-001 | Use the title from the item xml to display a title |
| vod-002 | <p>Detect that the item is VOD using the following rules:</p> <pre> item/media:content/@medium = "video" AND item/media:content/@type = "<hls_mime> OR <dash_mime> OR <mp4_mime>" AND item/media:content/@url = "<url>" AND item/media:content/@expression = "full" OR item/media:content/@duration > 0 </pre> |
| vod-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV VOD image |
| vod-004 | <p>Display the second line with the following:</p> <pre> <play_icon> ON DEMAND <duration> </pre> |
| vod-005 | A selection from the user shall inform the receiver to stop playing the live tv, switch to the on demand (video or audio) content. |


| FeatureID | Description |
|-----------|---|
| vod-006 | The vod content shall be presented in the rescaled view of the window. |
| vod-007 | When highlighted the following is shown in the top section of the Q-bar: <Title of the item> |
| vod-008 | When highlighted the following is shown in the top section of the Q-bar: <Title of the item> <synopsis> |
| vod-009 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| vod-010 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.10. Audio on Demand Content Item

A content item can present audio on demand content items, e.g. Podcasts, music content etc.



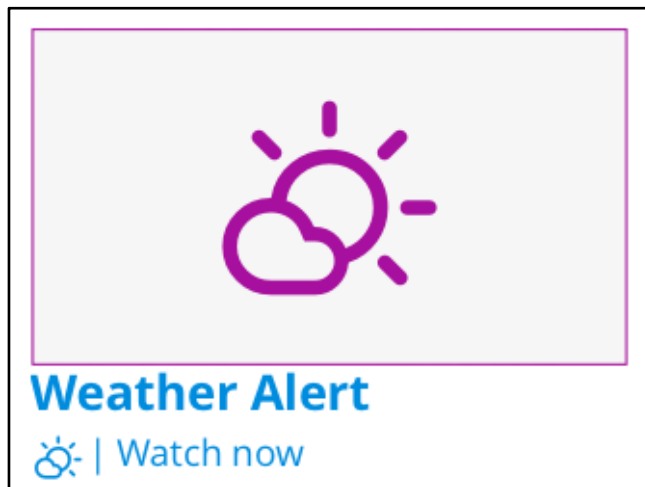
| FeatureID | Description |
|-----------|--|
| aod-001 | Use the title from the item xml to display a title |
| aod-002 | Detect that the item is AUDIO_ONDEMAND using the following rules: <pre> item/media:content/@medium = "audio" AND item/media:content/@type = "<hls_mime> OR <dash_mime> OR <mp4_mime> OR <mpeg_mime>" AND item/media:content/@url = "<url>" AND item/media:content/@expression = "full" OR item/media:content/@duration > 0 </pre> |
| aod-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV VOD image |
| aod-004 | Display the second line with the following: <div style="text-align: center;">  ON DEMAND <duration> </div> |
| aod-005 | A selection from the user shall inform the receiver to stop playing the live tv, switch to the VOD content |

| FeatureID | Description |
|-----------|--|
| aod-006 | The audio on demand content shall be presented in the rescaled view of the window |
| aod-007 | The image shall be presented in the rescaled view of the window using the <media:thumbnail> contained in the <media:group> otherwise the default Run3TV shall be used. |
| aod-008 | When highlighted the following is shown in the top section of the Q-bar. <Title of the item> <synopsis> |
| aod-009 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| aod-010 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.11. Imagery Content Item

A content item can be presented as an image to display any specific content category. An example of this is creating a weather feed with multiple stills to show the weather ahead and using GIFs to create a radar like loop.



| FeatureID | Description |
|-----------|---|
| img-001 | Use the title from the item xml to display a title |
| img-002 | <p>Detect that the item is IMAGE using the following rules:</p> <pre> item/media:content/@medium = "image" AND item/media:content/@url = "<url>" AND item/media:content/@type = "<supported_image>" </pre> <p>See [R3TV-IG-0231] for supported image types</p> |
| img-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV GALLERY image |
| img-004 | <p>Display the second line with the following:</p> <pre><image_icon> IMAGERY</pre> |

| FeatureID | Description |
|-----------|---|
| img-005 | A selection from the user shall inform the receiver to stop playing the live tv, switch display the image content |
| img-006 | The imagery content shall be presented in the rescaled view of the window |
| img-007 | When highlighted the following is shown in the top section of the Q-bar. <Title of the item> |
| img-008 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| img-009 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.12. Sub-Application content items

Sub-Application content items are displayed in the preview window and can be opened by the viewer into full screen . For more information, see [R3TV-IG-0212].



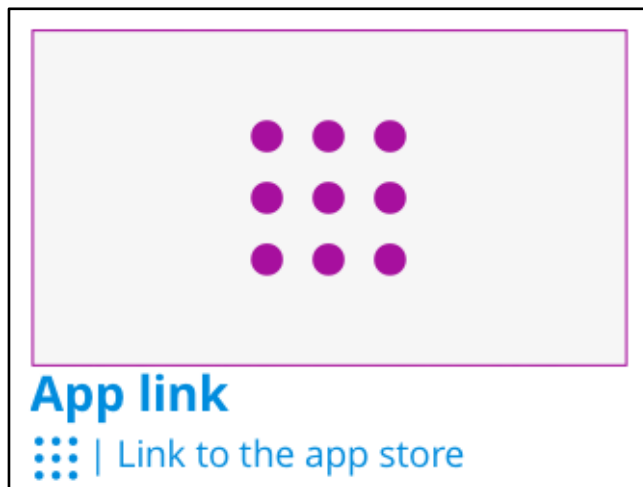
| FeatureID | Description |
|-----------|--|
| web-001 | Use the title from the item xml to display a title |
| web-002 | Detect that the item is WEB_DISPLAY using the following rules: <pre> item/media:content/@medium = "document" AND item/media:content/@url = "<url>" AND item/media:content/@type = "text/html" </pre> |
| web-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV Web Display image |
| web-004 | Display the second line with the following: <pre><webpage_icon> DISPLAY</pre> |
| web-005 | A selection from the user shall inform the receiver to stop playing the live tv, switch display the web page content |
| web-006 | The web display content shall be presented in the rescaled view of the window |

| FeatureID | Description |
|-----------|---|
| web-007 | When highlighted the following is shown in the top section of the Q-bar: <Title of the item> <synopsis> |
| web-008 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| web-009 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.13. Application Content Items

Other Run3TV Applications, 3rd Party Run3TV Framework applications or smart TV applications can be launched by defining an Application content item.



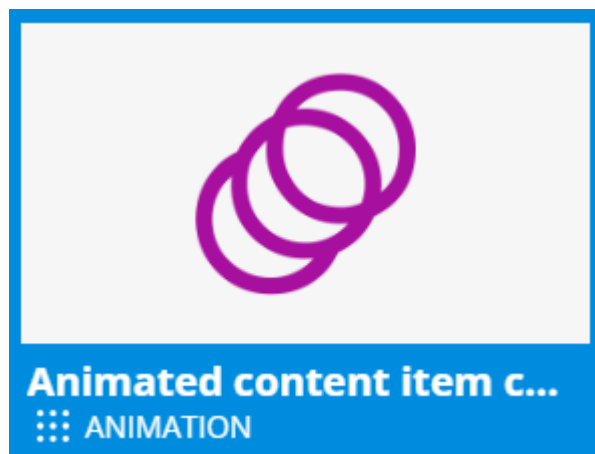
| FeatureID | Description |
|-----------|--|
| app-001 | Use the title from the item xml to display a title |
| app-002 | Detect that the item is LOCAL_RUN3TV_APPLICATION using the following rules: <pre> item/media:content/@medium = "document" AND item/media:content/@type = "run3tv/local" AND item/media:content/@url = "<url>" </pre> |
| app-003 | Detect that the item is REMOTE_A344_APPLICATION using the following rules: <pre> item/media:content/@medium = "document" AND item/media:content/@type = "run3tv/remote" AND item/media:content/@url = "<url>" </pre> |

| FeatureID | Description |
|-----------|--|
| app-004 | <p>Detect that the item is NATIVE_APPLICATION_<manufacturer> using the following rules:</p> <pre> item/media:content/@medium = "executable" AND item/media:content/@type = "run3tv/<manufacturer>" AND item/media:content/@url = "<url>" </pre> |
| app-005 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV App Display image |
| app-006 | <p>Display the second line with the following:</p> <pre> <app_icon> LAUNCH APP </pre> |
| app-007 | A selection from the user shall inform the receiver to stop playing the live tv, launch the application |
| app-008 | The framework shall process in the order signaled in the feed |
| app-009 | A LOCAL_RUN3TV_APPLICATION shall be launched and the current application shall be unloaded |
| app-010 | A REMOTE_A344_APPLICATION shall cause the framework to launch the application using the A344 APIs [A/344] |
| app-011 | Any matching NATIVE_APPLICATIONS shall use the bespoke method defined by that receiver manufacturer |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.14. Animated Content Items

Animated content can be presented using the Lottie¹ format.



| FeatureID | Description |
|-----------|---|
| ani-001 | Use the title from the item xml to display a title |
| ani-002 | Detect that the item is LOTTIE_APPLICATION using the following rules: <code>item/media:content/@medium = "document"</code> AND <code>item/media:content/@type = "application/json+lottie"</code> AND <code>item/media:content/@url = "<url>"</code> |
| ani-003 | Display the thumbnail from the <code><media:thumbnail></code> if provided otherwise show the default Run3TV Animated Display image |
| ani-004 | Display the second line with the following: <code><Animation_icon> ANIMATION</code> |
| ani-005 | A selection from the user shall inform the receiver to stop playing the live tv, launch the animation |
| ani-006 | The web display content shall be presented in the rescaled view of the window |

¹ For more information on the Lottie format, see <https://github.com/airbnb/lottie>

| FeatureID | Description |
|-----------|---|
| ani-007 | When highlighted the following is shown in the top section of the Q-bar: <Title of the item> <synopsis> |
| ani-008 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| ani-009 | User is able to return from Full screen mode to a scaled video window mode |

To see an example of how this is implemented in XML or JSON, please refer to [R3TV-IG-0231].

5.3.15. Advertising, Promotional and Sponsorship Content item

A content item can be presented as a display advertising item, or a promotional content item or a sponsorship content item.

| FeatureID | Description |
|-----------|---|
| ads-001 | Use the title from the item xml to display a title |
| ads-002 | <p>Detect that the item is ADVERTISEMENT or PROMOTION or a SPONSORSHIP based if a <media:category> exists with the RUn3TV schema.</p> <pre> item/media:category != null AND item/media:category/@scheme = "https://run3tv.org/mrss/category_schema" </pre> |
| ads-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV default display image |
| ads-004 | <p>Display the second line with the following:</p> <pre> <Ad PROMO SPONSOR_icon> <media:category>/@label [<based on the type of content] </pre> |
| ads-005 | Top right hand badge is inserted depending on the type of category |
| ads-006 | A selection from the user shall inform the receiver to stop playing the live tv, launch the content item |
| ads-007 | The web display content shall be presented in the rescaled view of the window |
| ads-008 | <p>When highlighted the following is shown in the top section of the Q-bar.</p> <pre> <Title of the item> <synopsis> </pre> |
| ads-009 | While watching in a scaled video window, a further selection from the user shall invoke full screen mode |
| ads-010 | User is able to return from Full screen mode to a scaled video window mode |



Advertisement

💰 | ADVERTISEMENT | 4 min

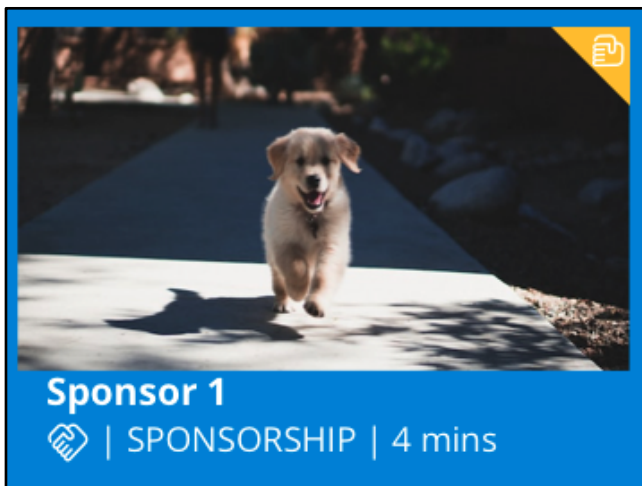
```
<media:group>
  <media:content medium="video" type="video/mp4" url="https://server.com/ad.mp4" />
  <media:category scheme="https://run3tv.org/mrss/category_schema" label="Advertisement" />
</media:group>
```



Promo 1

🔊 | PROMOTION | 4mins

















































```
<media:group>
  <media:content medium="video" type="video/mp4" url="https://server.com/ad.mp4" />
  <media:category scheme="https://run3tv.org/mrss/category_schema" label="Promotion" />
</media:group>
```



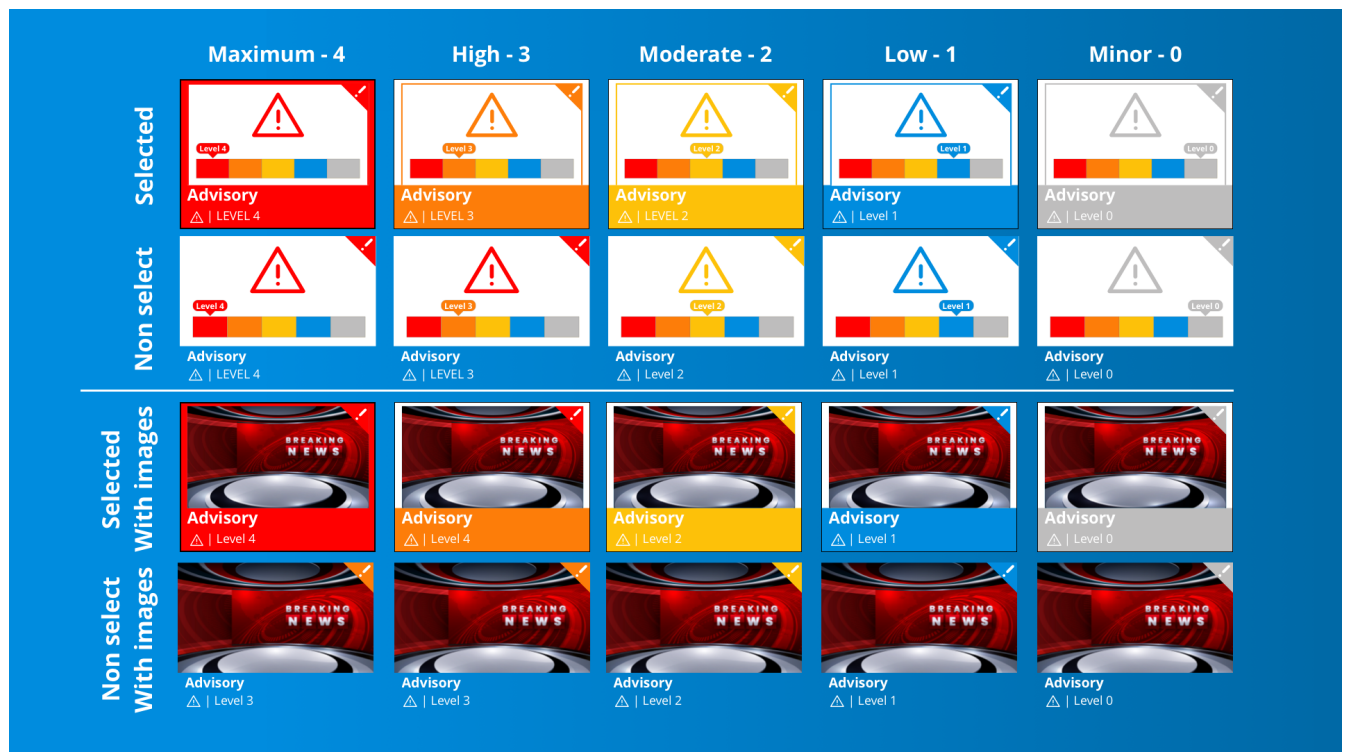
```
<media:group>  
  <media:content medium="video" type="video/mp4" url="https://server.com/ad.mp4" />  
  <media:category scheme="https://run3tv.org/mrss/category_schema" label="Sponsorship" />  
</media:group>
```

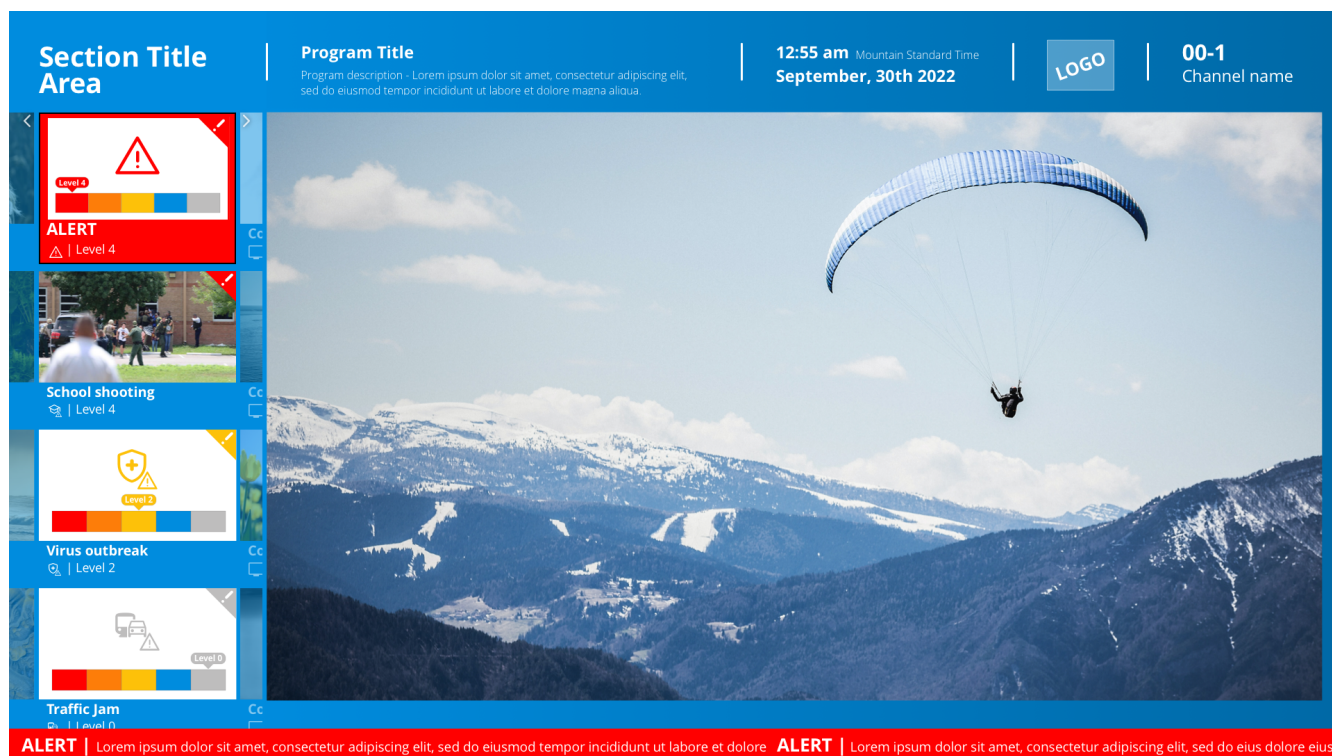
5.3.16. Alert Content item

The alert content uses values based on A331 and repeated below. The icons used are based on the type of alert and the priority listed.

| ALERT CATEGORY | Symbol | ALERT PRIORITIES | | | | |
|--|---|---|--|---|---|---|
| | | MAXIMUM 4 | HIGH 3 | MODERATE 2 | LOW 1 | MINOR 0 |
| ADVISORY Urgent Advisory (e.g. from a newsroom) that does not fit into the categories below |  |  |  |  |  |  |
| HEALTH Health related (including environmental), including infectious disease information (e.g COVID instructions), pollen and other environmental health hazards |  |  |  |  |  |  |
| WEATHER Urgent meteorological information and updates |  |  |  |  |  |  |
| EMERGENCY General emergency and public safety information, including fire, geological and other situations |  |  |  |  |  |  |
| SCHOOL Urgent information related to schools/educational institutions, including school closures, reopenings, in-school emergencies, and other important information |  |  |  |  |  |  |
| COMMUNITY Urgent information of local relevance, including utility/infrastructure issues, sanitation, government closures, etc. |  |  |  |  |  |  |
| TRANSIT Urgent Transit/Transport/Traffic information, such as road closures, major traffic incidents, public transit delays, etc. |  |  |  |  |  |  |
| OTHER Messages not categorizable above, such as test or "heartbeat" messages |  |  |  |  |  |  |

| FeatureID | Description |
|------------|---|
| alerts-001 | Use the title from the item xml to display a title |
| alerts-002 | <code>item/media:category != null</code> AND <code>item/media:category/@scheme = "https://run3tv.org/mrss/category_schema"</code> |
| alerts-003 | Display the thumbnail from the <media:thumbnail> if provided otherwise show the default Run3TV default alert display image |
| alerts-004 | Display the second line with the following: <Alert_Category_Icon> <media:category/@label> |
| alerts-005 | Top right hand badge is inserted depending on the type of category |
| alerts-006 | A selection from the user shall inform the receiver to stop playing the live tv, launch the content item |
| alerts-007 | The web display content shall be presented in the rescaled view of the window |





```
<media:group>
  <media:content medium="video" type="video/mp4" url="https://server.com/ad.mp4" />
  <media:category scheme="https://run3tv.org/mrss/category_schema"
label="Alert">WEATHER/4</media:content>
</media:group>
```


5.4. Formatting Rules

5.4.1. Displaying DATE

The current date shown in the top display section of Q-Bar shall be presented as follows:

Assuming today is Monday the 13th March 2023:

Mon, March 13, 2023

5.4.2. Displaying Time

The time shown in the Q-Bar application depends on the type of content being displayed and where it is being displayed.

5.4.2.1. Live TV, Live Radio (Broadcast)

In vertical rail: only the relevant badge and label is displayed. Start time, end time or duration is NOT displayed.

Format: `<icon><label>`

In the top section of Q-Bar, Only the start time and end time are displayed along with relevant day as follows:

Format: `<starttime> - <endtime>`

If today is Monday for example, then the following rules apply:

11:45am - 12:15pm

4:20pm - 5:15pm

11:30pm - Tue, 1.30am

Tue, 1.30am - 1.30pm

Tue, 11.30pm - Wed, 1.30am

Note: Seconds are not shown in the top section of Q-bar

5.4.2.2. VOD Content - Video and / or Audio

In vertical rail: the relevant badge, label and duration is displayed.

In the top section of Q-Bar: the relevant badge, label and duration is displayed.

Format: `<icon><label> | <duration>`

The rules for duration in both cases (vertical rail and top section) are as follows:

If total duration is under 10 minutes, then use the format:

`m:ss`

Examples:

0:30

1:30

9:48 (meaning the VOD content is 9 minutes and 48 seconds long)

If total duration is more than 10 mins but less than 1 hour, then use the format:

`mm:ss`

Examples:

10:03

45:23

59:55 (meaning the VOD content is 59 minutes and 55 seconds long)

If total duration is more than 1 hour, then use the format:

`h:mm:ss`

1:00:30

1:23:45 (meaning the VOD content is 1 hour, 23 minutes and 45 seconds long)

The same rules apply when displaying the duration of a VOD content on the player bar (right hand side corner)

5.4.2.3. ESG Data

In vertical rail: only the relevant badge and label is displayed. Start time, end time or duration is NOT displayed.

Format: `<icon><label>`

In the top section of Q-bar, Only the start time and end time are displayed along with relevant day as follows:

If today is Monday for example, then the following rules apply:

11:45am - 12:15pm
4:20pm - 5:15pm
11.30pm - Tue, 1.30am
Tue, 1.30am - 1.30pm
Tue, 11.30pm - Wed, 1.30am

Note: Seconds are not shown in the top section of Q-bar

5.4.2.4. Live Stream delivered via IP Channel

In vertical rail: only the relevant badge and label is displayed. Start time, end time or duration is NOT displayed.

Format: `<icon><label>`

In the top section of Q-bar, Only the start time is displayed along with relevant day as follows:

Format: `<ddd - starttime>`

If today is Monday for example, then the following rules apply:

Mon - 11:45am
Sun - 03:30 am

Note

Seconds are not shown in the top section of Q-bar

5.4.2.5. Imagery (Static Images or animated GIFs)

In vertical rail: only the relevant badge and label is displayed.

Format: `<icon><label>`

In the top section of Q-bar, No start time, end time or duration are displayed

Format: *Nothing to display here*

5.4.2.6. HTML Application (Internal and / or external)

In vertical rail: only the relevant badge and label is displayed.

Format: `<icon><label>`

In the top section of Q-bar, No start time, end time or duration are displayed

Format: *Nothing to display here*

5.4.2.7. Animated Advertising and Promotional Content

In vertical rail: only the relevant badge and label is displayed.

Format: *<icon><label>*

In the top section of Q-bar, No start time, end time or duration are displayed

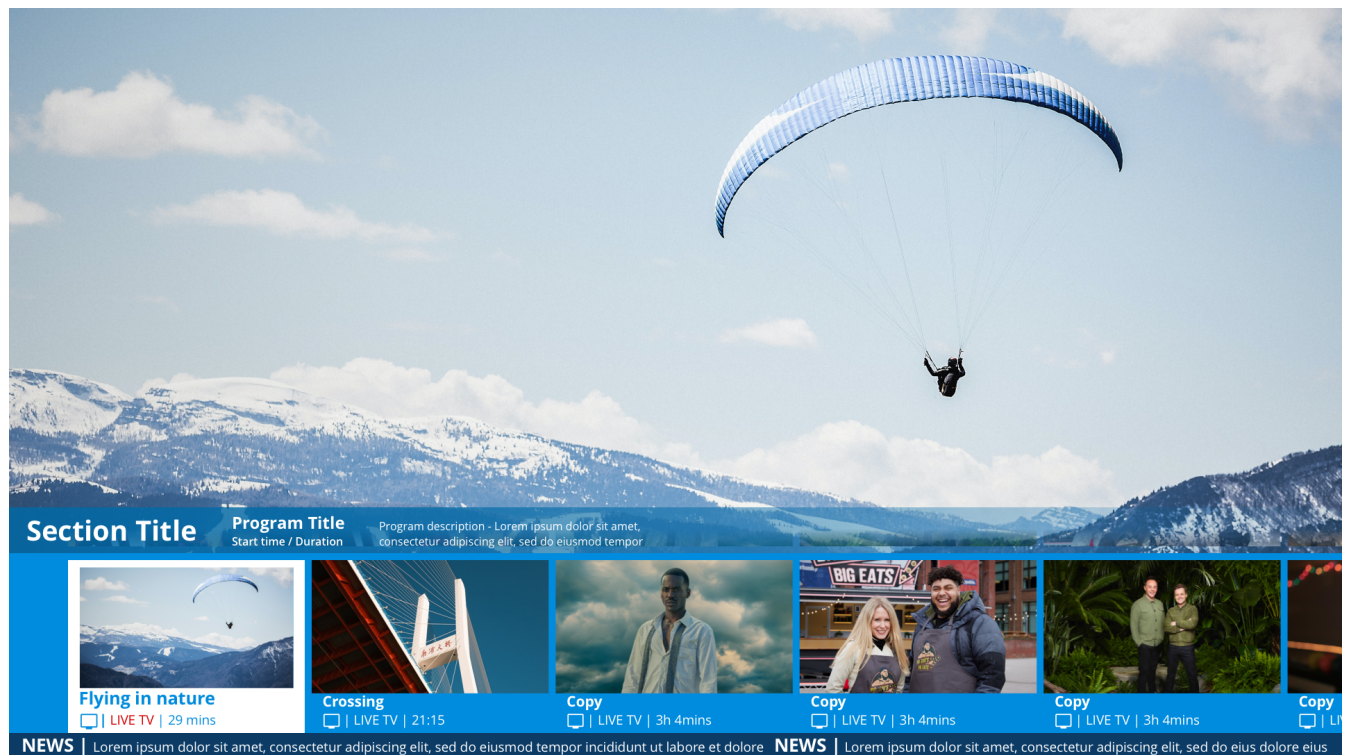
Format: *Nothing to display here*

5.5. Information Crawler

An information crawler can be displayed within the application by defining an entry in the application configuration file. Information like News, Weather, Sports and financial data can be displayed. The crawler is not clickable and is only presentational.

| FeatureID | Description |
|-----------|---|
| info-001 | Broadcaster can define a path for the information crawler in the application configuration under the attribute ticker |
| info-002 | The header of the ticker is taken from the feeds /channel/title element otherwise it is overridden by the parameter ticker.title |
| info-003 | The /channel/item[]/title shall be used to display the ticker text |
| info-004 | The speed of the ticker can be configured within the application configuration file under the attribute ticker.speed in seconds |
| info-005 | Inline HTML formatting tags can be used in the title to provide additional custom formatting |
| info-006 | Once all the items have been displayed, on the next loop a refreshed feed is requested at the end of the /channel/ttl or at the end of the polling interval as defined in the application configuration |
| info-007 | When the application exits to full screen TV, polling is reset. The next request to display the information ticker a new feed request is made to get the latest information |

In the example below, it is shown as a thin BLUE strip at the bottom of the screen.



5.6. Alert Crawler

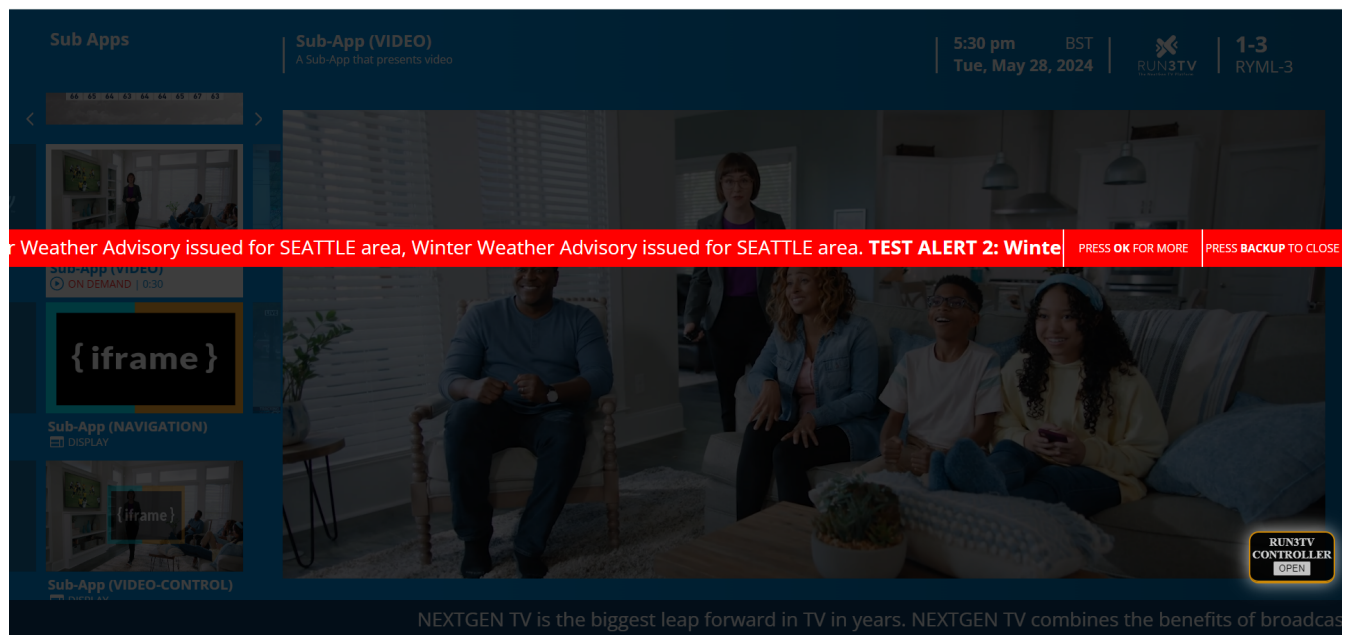
An alert crawler is displayed when the Framework detects an active Alert (as supplied over broadcast). This alert is presented above all other assets, including the Q-Bar Application, Sub-Apps, SIMID apps and VOD content.

For more information and for the profiling of alert signaling, see [R3TV-IG-0232].

The styling configuration for the Alert Crawler is defined in the Framework configuration (**fmw.conf**), as detailed in [R3TV-IG-205]

| FeatureID | Description |
|-----------|---|
| alert-001 | When an AEAT is sent, then the alert crawler is displayed. |
| alert-002 | When the alert is presented, the viewer can press OK to access more information about the alert (where provided) or press BACKUP to hide the alert. |

An example of an alert popup within the Q-Bar Application is shown below.



5.7. Alert Content Rail

An alert content rail is displayed when an Alert is received over IP via the RSS feed.

| FeatureID | Description |
|-----------|---|
| alert-001 | Broadcaster can define a path for the information crawler in the application configuration under the attribute alert |
| alert-002 | The header of the ticker is taken from the feeds /channel/title element otherwise it is overridden by the parameter ticker.title |
| alert-003 | The /channel/item[]/title shall be used to display the ticker text |
| alert-004 | The speed of the alert can be configured within the application configuration file under the attribute alert.speed in seconds |
| alert-005 | Inline HTML formatting tags can be used in the title to provide additional custom formatting |
| alert-006 | A new content rail is displayed at the top level when there is one or more items in the ALERT RSS feed |
| alert-007 | The Q-Bar will poll the feed based on the /channel/ttl if present otherwise use the polling value in the configuration |
| alert-008 | When there are no items in the alerts RSS then the alert content rail is not shown. Polling should continue for RSS defined feeds and if items are present then its' display again. |

5.8. Standard Run3TV Player Application

A standardized video player application is included in the starter kit. The core functionality of the player application is similar to the one offered in the previous releases. However, certain enhancements have been introduced in an attempt to standardize the player behavior when dealing with different types of contents (for example, Live Stream, VOD, Advertisement or Promotional video)

5.9. Player Controls Screens

The behavior of the player bar and its associated control keys may change depending on the content being displayed.

5.9.1. For VOD Content

When playing in full screen mode with the player time-bar in hidden state:

- Pressing the SELECT key displays the player time-bar with the Play / Pause icon selected by default.
- Pressing the RIGHT ARROW key skips the video forward by 10 seconds. A little icon is momentarily displayed on the right hand side of the screen to indicate that the user has skipped forwards.
- Pressing the LEFT ARROW key skips the video backwards by 10 seconds. A little icon is momentarily displayed on the left hand side of the screen to indicate that the user has skipped backwards.
- Pressing the ARROW UP key displays the player bar with the current video position highlighted.
- Pressing the ARROW UP key again highlights the Play / Pause icon. In this position, pressing the ARROW RIGHT key allows user to select other attributes like CAPTIONS, SUBTITLES (if available and supported)

The time-bar for VOD content is usually displayed using BLUE color

5.9.2. For LIVE Content

When playing in full screen mode with the player time-bar in hidden state:

- Pressing the SELECT key displays the player time-bar with the Play / Pause icon selected by default.
- Pressing the ARROW UP key displays the player bar with the current video position highlighted.
- Pressing the ARROW UP key again highlights the Play / Pause icon. In this position, pressing the ARROW RIGHT key allows user to select other attributes like CAPTIONS, SUBTITLES (if available and supported)
- Pressing the RIGHT ARROW key may not skip the video forwards immediately. If the live stream has been paused for some time, then this function may work. In such a case, a little icon is momentarily displayed on the right hand side of the screen to indicate that the user has skipped forwards.
- Pressing the LEFT ARROW key may not skip the video backwards. If the live stream has been paused for some time, then this function may work. In such a case, a little icon is momentarily displayed on the left hand side of the screen to indicate that the user has skipped backwards.

The time-bar for LIVE content is usually displayed using RED color

5.9.3. For Advertisements and Promotional Content

When playing in full screen mode with the player time-bar in hidden state:

- Pressing the SELECT key displays the player time-bar with the Play / Pause icon selected by default.
- Pressing the ARROW UP key displays the player bar with the current video position highlighted.
- Pressing the ARROW UP key again highlights the Play / Pause icon. In this position, pressing the ARROW RIGHT key allows user to select other attributes like CAPTIONS, SUBTITLES (if available and supported)
- Pressing the RIGHT ARROW shall not skip the video forwards.
- Pressing the LEFT ARROW key may not skip the video backwards. If the video has been paused for some time, then this function may work. In such a case, a little icon is momentarily displayed on the left hand side of the screen to indicate that the user has skipped backwards?

The time-bar for an advertisement or promotional video is usually displayed using YELLOW color

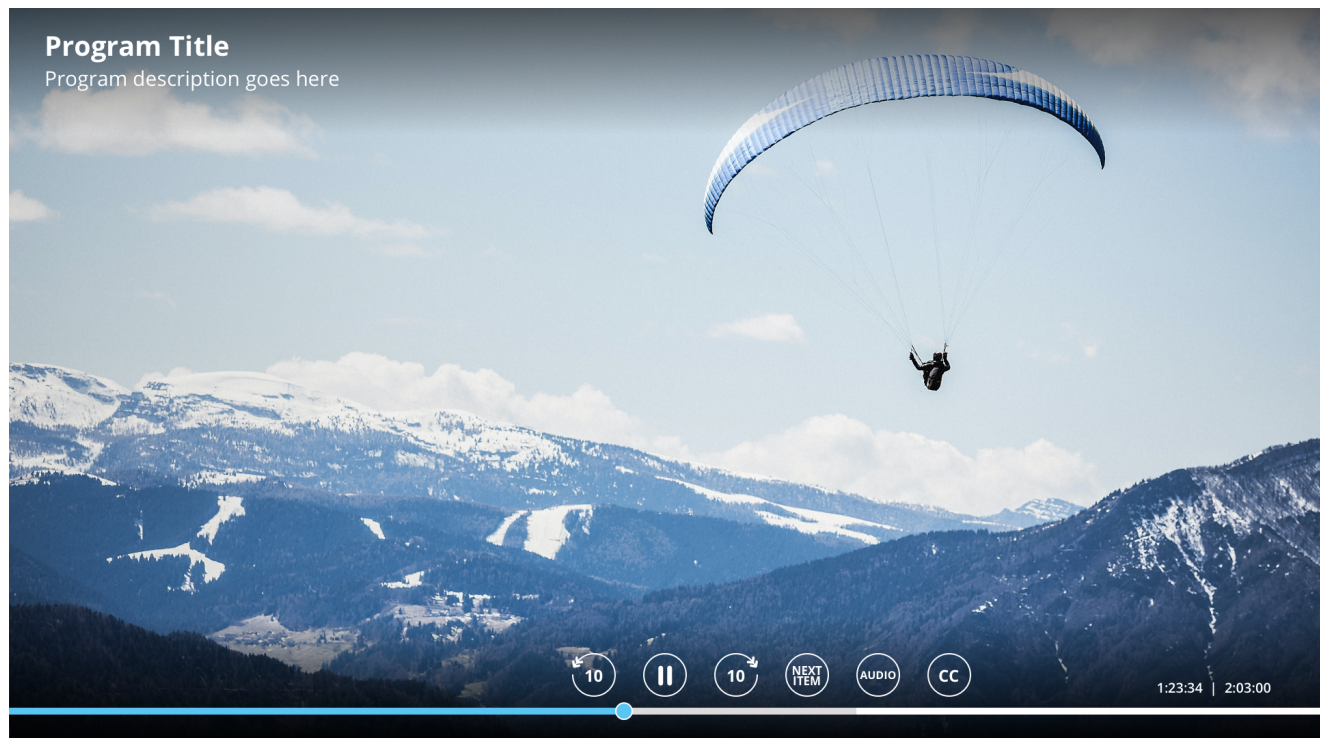
The follow section describes the different assets required:

| FeatureID | Description |
|------------|--|
| player-001 | Present the title of the content item |
| player-002 | Presents the description of the content item. |
| player-003 | Provides the current position and total duration of VOD content |
| player-004 | Provides Pause / Play icons |
| player-005 | Provides icons for Subtitles / Captions if available and supported |
| player-006 | A visual indication of when user skips forwards / backwards |

5.10. VOD Content

| FeatureID | Description |
|-----------|---|
| vod-001 | Broadcaster can define a path for the information crawler in the application configuration under the attribute ticker |

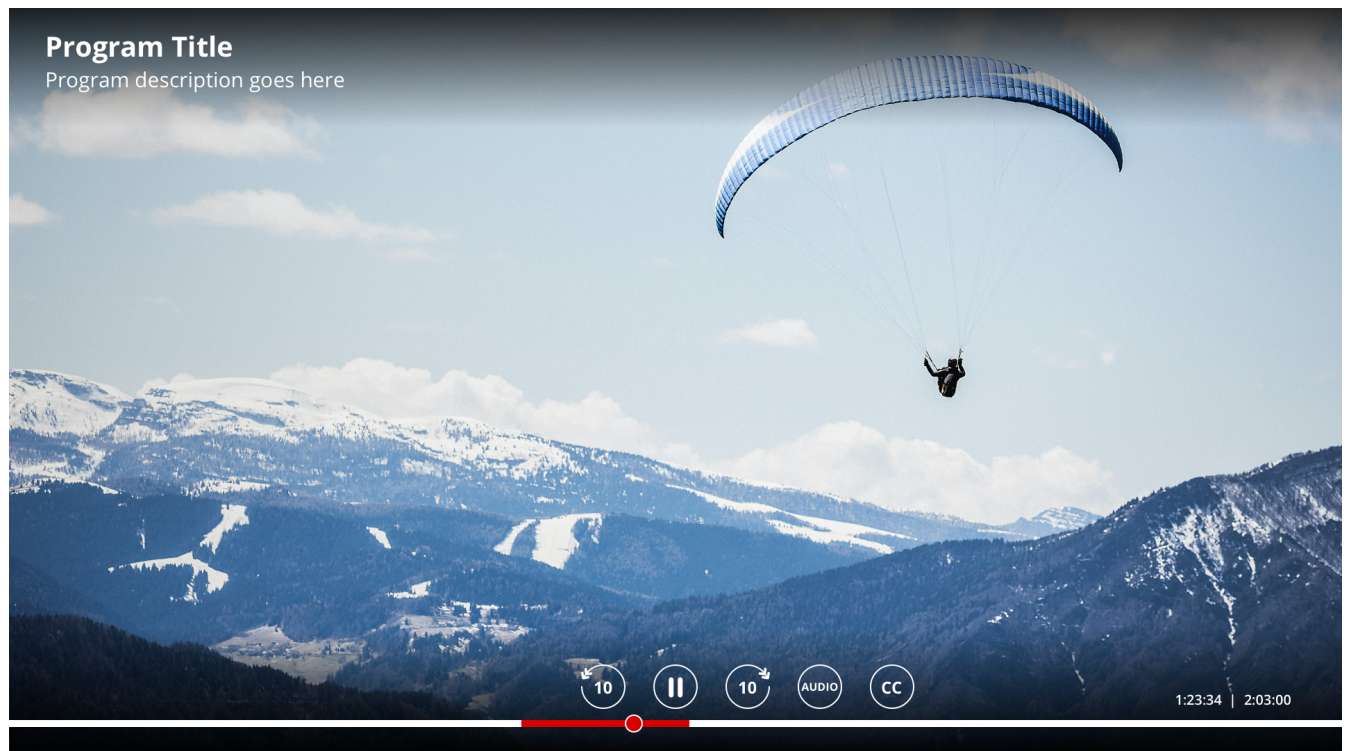
The time-bar for VOD content is usually displayed using BLUE color



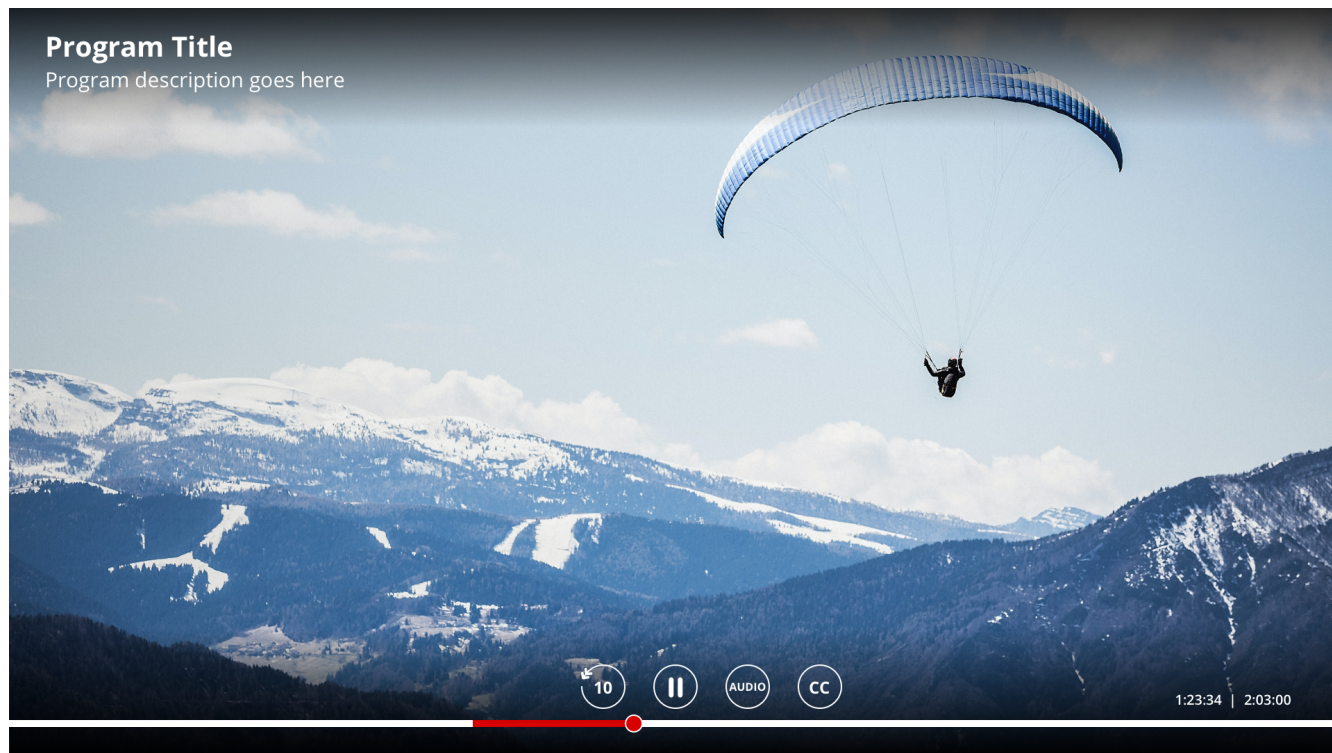
5.11. Live Stream Content

| FeatureID | Description |
|------------|---|
| player-001 | Broadcaster can define a path for the information crawler in the application configuration under the attribute ticker |

The time-bar for LIVE content is usually displayed using RED color



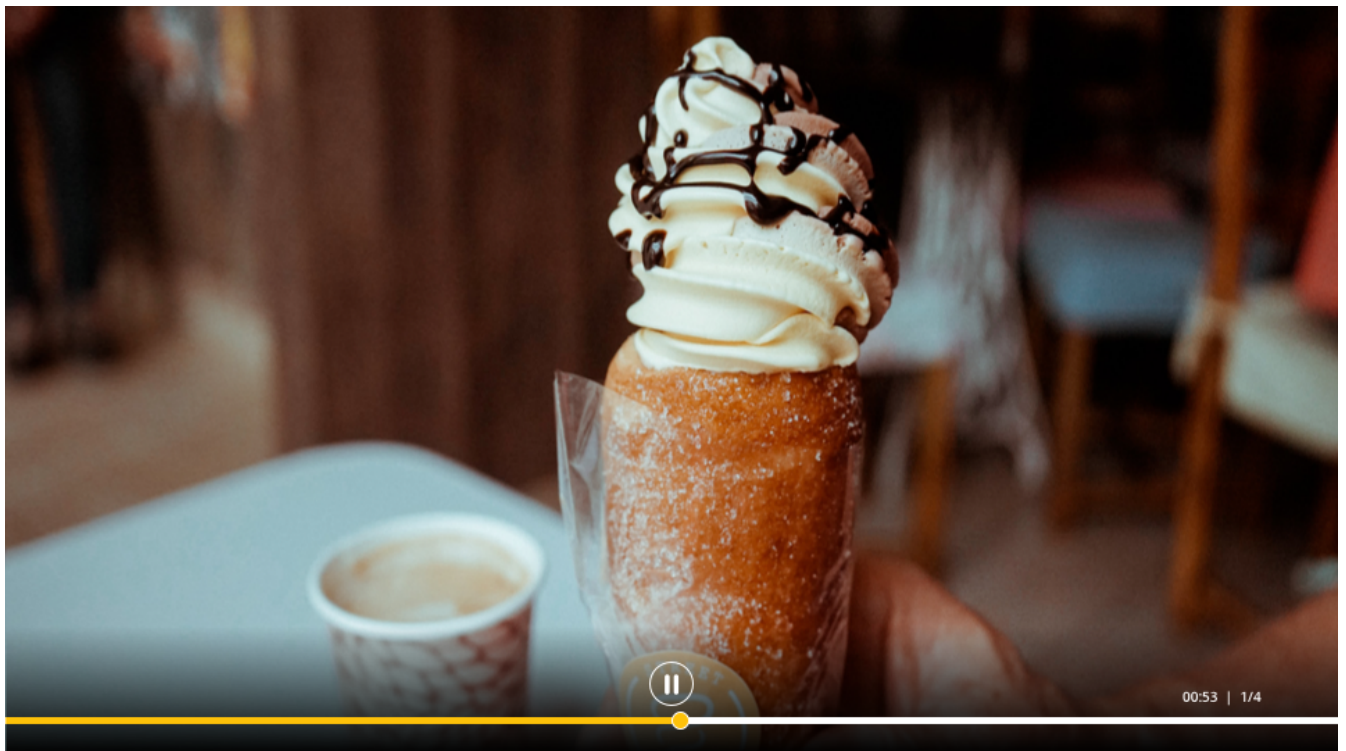
Example of a live stream.

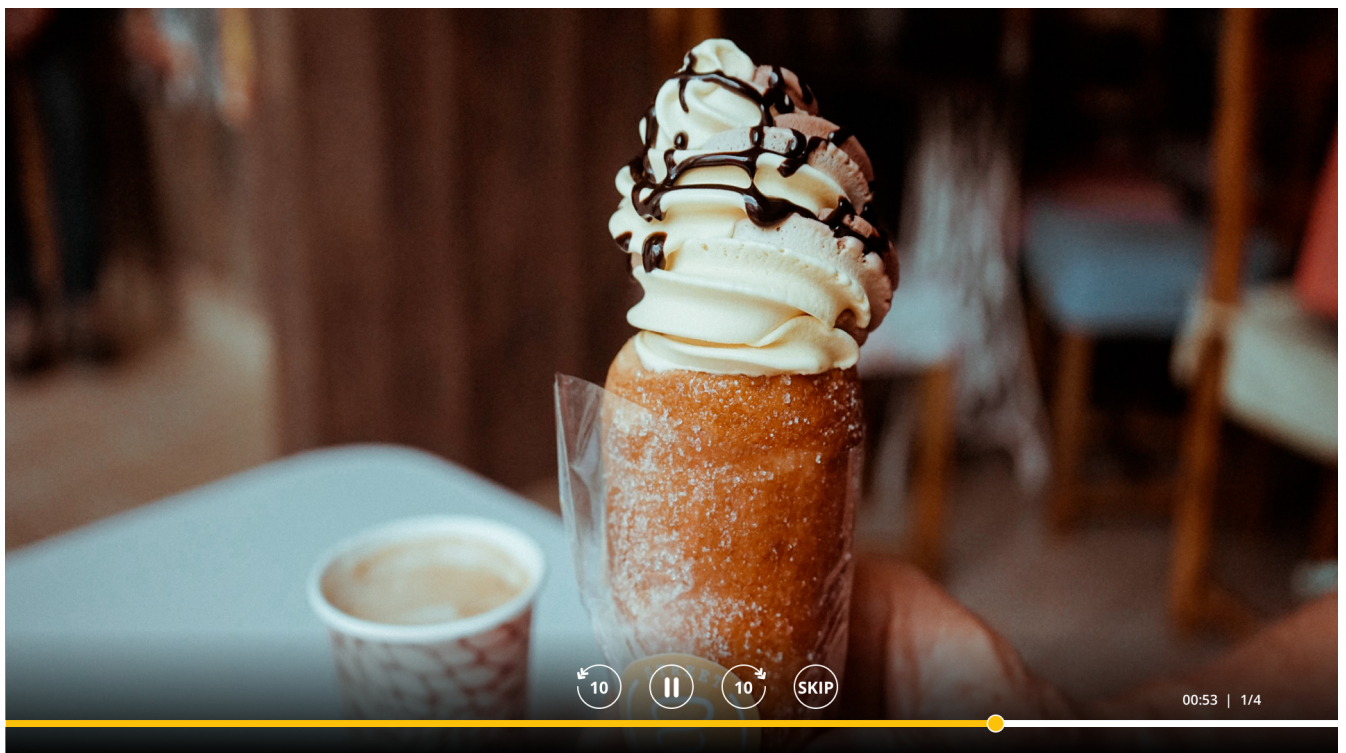
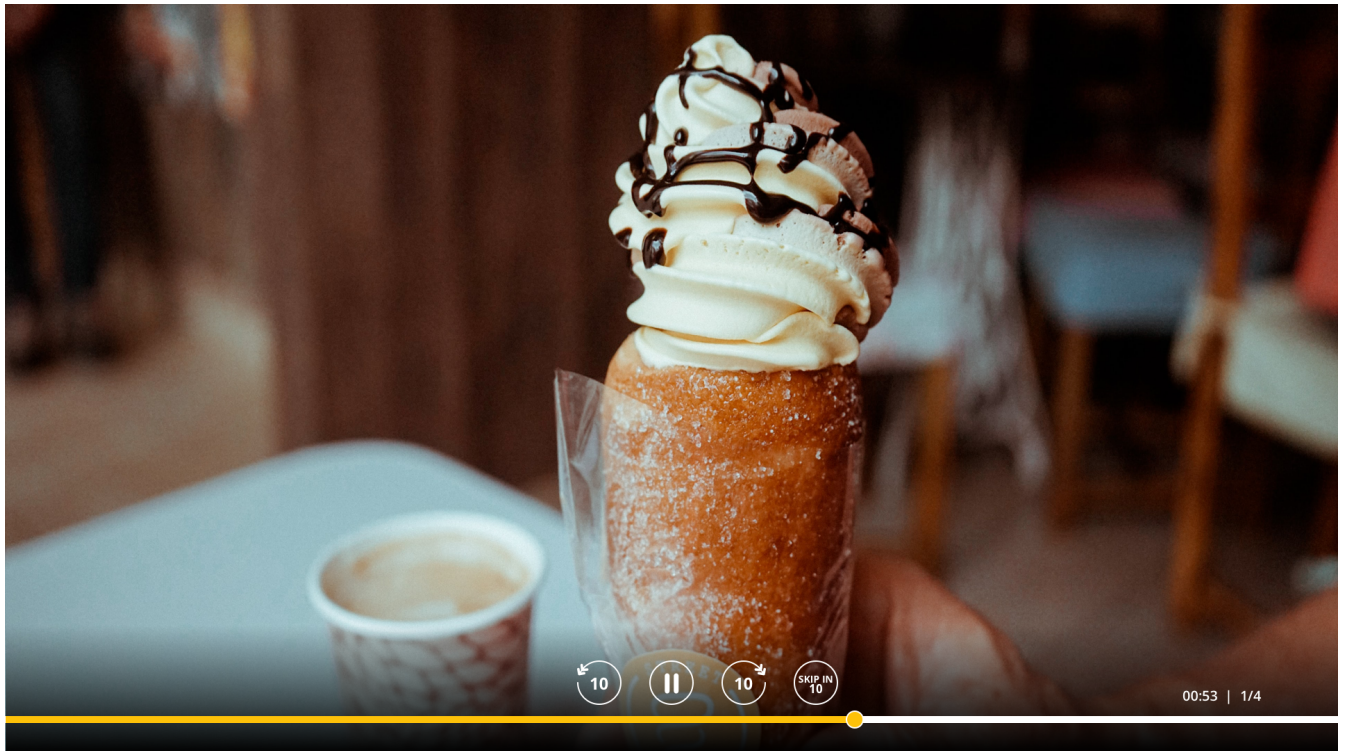


5.12. Advertising Content

| FeatureID | Description |
|--------------|---|
| adplayer-001 | Broadcaster can define a path for the information crawler in the application configuration under the attribute ticker |

The time-bar for an advert is usually displayed using YELLOW color





5.13. Broadcaster Customisation

The following section describes the different assets and properties that can all be configured by the Broadcaster in a single **config.json** file. For more information on config.json, see [Application Configuration](#).

5.13.1. Broadcaster Logo

The recommended logo size is 80px × 50px. This can be configured in the header section of **config.json**.

Example:

```
"header": {  
  "id": "SRV1",  
  "name": "ID-1",  
  "logo": "/london/Station-3/q-bar/img/channel.png"  
}
```

5.13.2. Broadcaster ID and NAME

This can be configured in the header section of **config.json**.

Example:

```
"header": {  
  "id": "SRV1",  
  "name": "ID-1",  
  "logo": "/london/Station-3/q-bar/img/channel.png"  
}
```

5.13.3. Font Family and Font size

These can also be configured in the 'style' section of **config.json**.

Example:

```
"--font-family": "\"Open Sans\", sans-serif",  
"--title-font-size": "24px",  
"--description-font-size": "20px",
```


The process of installing new / custom fonts is as follows:

Copy the appropriate font file in 'ttf' format in **/font/** folder. Then add a corresponding block in the 'style.css' file in order to call your desired font. The snippet below is added to 'style.css' file and shows 'Ubuntu Medium' font being used as the desired font.

Example:

```
@font-face {  
  font-family: 'Ubuntu Medium';  
  font-style: normal;  
  font-weight: 400;  
  src: url(fonts/Ubuntu-Medium.ttf) format('truetype');  
}
```

5.13.4. Default and Focus Font Color

These can also be configured in the 'style' section of **config.json**.

Example:

```
"--font-color": "#fff",  
"--focus-font-color": "#008CDE",
```

5.13.5. Bar and Focus Background Colors

These can also be configured in the 'style' section of **config.json**.

Example:

```
"--bar-bg-color": "#008CDE",  
"--focus-bg-color": "#fff",
```

5.13.6. Bar Gradient

These can also be configured in the 'style' section of **config.json**.

Example:

```
"--gradient-color-start": "#008CDE80",  
"--gradient-color-end": "#008CDE10"
```

Notice that the color used here is the same as bar-bg-color (#008CDE) but the gradient has been set to vary from 10% to 80% along the length of the bar.

6. Application Configuration

This section covers the application specific configurations. Most of these have already been discussed in the section above.

6.1. Application Configuration File

As mentioned in the previous section, most aspects of the application design can be configured by editing a single file called 'config.json'. The following table explains all configurable elements

6.1.1. Root

The following fields are required, unless otherwise stated.

| Field | Description | Required / Type | Example |
|---------------|---|----------------------------|---------------------------------------|
| ga-id | The Google Analytics (GA4) identifier, as registered for the application. | String | G-MXP1YLWM3C |
| hidden | Completely hides the application if set to True | Boolean | False |
| timeouts | | Object | |
| trigger | The time (in seconds) to present the trigger screen. After this time the trigger screen is hidden. If not present, set to 10 seconds | Optional Integer | 60 |
| inactivity | The time (in seconds) that the viewer is inactive before the application is automatically closed If not present, set to 10 seconds | Optional Integer | 90 |
| player | The time (in seconds) to present the player bar If not present, set to 5 seconds | Optional Integer | 5 |
| skip | The time (in seconds) to skip when the viewer selects Fast Forward or Re-wind | Integer | 400 |
| player | | Object | |
| showCaption | If true, presents captions (subtitles) by default on video (where available) | Boolean | true |
| debug | | Object | |
| showVersion | If true, presents the version number (as set in the appVersion field of the appsList.json file) | Boolean | true |
| enableConsole | If true, enables the web console | Boolean | true |
| style | | Object | |
| default | A file location within the Starter Pack to the .css file for the application | String (File path) | /london/Station-3/q-bar/css/style.css |
| thumbnail | A directory location within the Starter Pack to the Q-Bar's icon files | String (Directory path) | /london/Station-3/q-bar/thumbnail |
| :root | The styling CSS configuration | CSS | |

| Field | | Description | Required / Type | Example |
|---------------|-----------------|--|---|--|
| cta | | | Object | |
| | standard | | Object | |
| | label | The CTA label to present when the Q-Bar detects that the current broadcast program does not support Restart functionality | String or Multi-Language String Object | Press <baAppearLabel> for more |
| | info | The CTA info text to present when the Q-Bar detects that the current broadcast program does not support Restart functionality | String or Multi-Language String Object | Open the application and navigate to settings to review... |
| | restart | | Object | |
| | label | The CTA label to present when the Q-Bar detects that the current broadcast program supports Restart functionality | String or Multi-Language String Object | Press <baAppearLabel> to Restart |
| | info | The CTA info text to present when the Q-Bar detects that the current broadcast program supports Restart functionality | String or Multi-Language String Object | Open the application and navigate to settings to review... |
| | feed | The location of the esg file that describes the availability of Restart functionality. For more details, please refer to [R3TV-IG-0231] | String (File Path) | /london/Station-3/q-bar/dynamic/esg.atom |
| ctaLabel | | The call to action string presented on the Trigger screen. This string accepts | String or Multi-Language String Object | |
| header | | Configuration for the Q-Bar header | Object | |
| | id | The service's identifier | String | SRV1 |
| | name | The service's name | String | ID-1 |
| | logo | The service's logo | String (File path) | /london/Station-3/q-bar/img/channel.svg |
| feeds | | An ordered list of feeds to be presented to the viewer | Array of Feed Objects | |
| ticker | | A feed of ticker data to be presented to the viewer at the bottom of the screen. If not present, the ticker will be hidden | Ticker Object | |
| | feedType | The type of feed as provided by the url field. See the feedType field of the Feed Object section for more details | String Enum | mrss |
| | title | The title to present before each entry. It may be appropriate to use the <callsign> Replacement Tag here. | String or Multi-Language String Object | Headlines |
| | speed | The speed of the ticker. Higher numbers result in faster scrolling | Integer | 10 |
| | url | Either a local file path within the framework or an HTTPS URL to the feed data | String (URL) | https://example.com/feed-<language>.atom |

6.1.2. Feed Object

Feed Objects are present in both the feeds and ticker fields at the root of the **config.json** file.

| Field | Description | Required / Type | Example | | | | | | |
|--------------------|--|---|--|------|---------------|-----------|---------------|-------------|-----------|
| feedType | <div>The type of feed that is to be presented. Permitted feed types are:</div> <table><tr><th>Enum(s)</th><th>Specification reference</th></tr><tr><td>mrss</td><td>[PNC-IG-0231]</td></tr><tr><td>mrss-json</td><td>[PNC-IG-0231]</td></tr></table> | Enum(s) | Specification reference | mrss | [PNC-IG-0231] | mrss-json | [PNC-IG-0231] | String Enum | mrss-json |
| Enum(s) | Specification reference | | | | | | | | |
| mrss | [PNC-IG-0231] | | | | | | | | |
| mrss-json | [PNC-IG-0231] | | | | | | | | |
| url | Either a local file path within the framework or an HTTPS URL to the feed data | | https://example.com/feed- <language>.atom | | | | | | |
| title | The title of the feed. This will be presented as a heading above the feed on screen | String or Multi-Language String Object | Local News | | | | | | |
| ads | | Optional Object | | | | | | | |
| <div>vastTag</div> | <div>The URL of the pre-roll advertisement provider. Currently verified providers include:</div> <ul style="list-style-type: none">Google DAIMadhiveFreeWheel | Optional URL | | | | | | | |

6.1.3. Multi language string object

It is possible to supply multiple language text strings for various fields within config.json. This is achieved by creating an object of key : <String> pairs, where the key is an BCP 47 language code.

An example of a title field with two languages is shown below. Each ATSC 3.0 receiver selects the most appropriate language string to present to the viewer, based on the viewer's configuration choice.

Multi language string object: Example of a title field containing two languages.

```
...
  "title": {
    "en": "Local test streams",
    "es": "Flujos de prueba locales"
  }
...
```

6.2. Example Configuration File

A simplified example **config.json** file for the Q-Bar application is shown below.

```

1  {
2    "ga-id": "G-12345",
3    "hidden": false,
4    "timeouts": {
5      "trigger": 60,
6      "inactivity": 90,
7      "player": 5,
8      "skip": 400
9    },
10   "player": {
11     "showCaption": true
12   },
13   "debug": { "showVersion": false, "enableConsole": false },
14   "style": {
15     "default": "/london/Station-3/q-bar/css/style.css",
16     "thumbnail": "/london/Station-3/q-bar/thumbnail",
17     ":root": {
18       "--font-family": "\"Open Sans\"", sans-serif,
19       "--title-font-size": "24px",
20       "--description-font-size": "20px",
21       "--bar-bg-color": "#008CDE",
22       "--font-color": "#FFF",
23       "--focus-font-color": "#008CDE",
24       "--focus-bg-color": "#FFF",
25       "--focus-font-color-sub1": "red",
26       "--focus-font-color-sub2": "black",
27       "--focus-font-color-sub3": "#FDC109",
28       "--vbar-bgcolor-end": "#0069A6",
29       "--gradient-color-start": "#008CDE80",
30       "--gradient-color-end": "#008CDE10",
31       "--trigger-vbar-bg-color": "#FFF",
32       "--trigger-font-color": "#FFF",
33       "--trigger-bg-top": "linear-gradient(180deg, #006AA6 0%, #0069a67e 60%, transparent 100%)",
34       "--trigger-bg-bottom": "linear-gradient(0deg, #006AA6 0%, #0069a67e 60%, transparent 100%)",
35       "--ticker-bg-color": "#0C3C66",
36       "--opacity": 0.4
37     }
38   },
39   "cta": {
40     "standard": {
41       "label": {
42         "en": "PRESS <strong><baAppearLabel></strong> FOR MORE",
43         "es": "PRESIONE <strong><baAppearLabel></strong> PARA MÁS"
44       },
45       "info": {
46         "en": "OPEN THE APPLICATION AND NAVIGATE TO YOUR \"SETTINGS\" IN THE LEFT PANEL TO REVIEW ...",
47         "es": "ABRA LA APLICACIÓN Y NAVEGUE A SU \"CONFIGURACIÓN\" EN EL PANEL IZQUIERDO PARA..."
48       }
49     },
50     "restart": {
51       "label": {
52         "en": "PRESS <strong><baAppearLabel></strong> TO RE-START",
53         "es": "PRESIONE <strong><baAppearLabel></strong> PARA RE-INICIAR"
54       },
55       "info": {
56         "en": "OPEN THE APPLICATION AND NAVIGATE TO YOUR \"SETTINGS\" IN THE LEFT PANEL TO REVIEW...",
57         "es": "ABRA LA APLICACIÓN Y NAVEGUE A SU \"CONFIGURACIÓN\" EN EL PANEL IZQUIERDO PARA..."
58       },
59       "feed": "/london/Station-3/q-bar/dynamic/esg.atom"
60     }
61   },
62   "header": {
63     "id": "SRV1",
64     "name": "ID-1",

```

```

65     "logo": "/london/Station-3/q-bar/img/channel.svg"
66 },
67 "feeds": [
68   {
69     "feedType": "mrss",
70     "url": "/london/Station-3/q-bar/dynamic/sub-apps.atom"
71   },
72   {
73     "feedType": "mrss",
74     "title": "SIMID CREATIVE",
75     "url": "/london/Station-3/q-bar/dynamic/simid-creative.atom",
76     "ads": {
77       "vastTag": "https://example.com/vast.xml?platform=run3tv"
78     }
79   },
80   {
81     "feedType": "mrss",
82     "title": { "en": "Local test streams", "es": "Flujos de prueba locales" },
83     "url": "/london/Station-3/q-bar/dynamic/test.atom"
84   },
85   {
86     "feedType": "mrss-json",
87     "title": "Local HLS Feed",
88     "url": "/london/Station-3/q-bar/dynamic/a3fa-hls-feed.json"
89   },
90   {
91     "feedType": "mrss-json",
92     "title": "Remote DASH Feed",
93     "url": "https://s3.amazonaws.com/feeds.atssc3-modelmarket.com/run3tv-dash-feed.json"
94   },
95   {
96     "feedType": "mrss-json",
97     "title": "Local Weather Feed",
98     "url": "/london/Station-3/q-bar/dynamic/weather-feed.json"
99   },
100  {
101    "feedType": "esg",
102    "title": "TV Guide Data",
103    "url": "tag:run3tv.org,2023:globalServiceID/3"
104  },
105  {
106    "feedType": "mrss",
107    "title": "Rich Guide Data (TitanTV)",
108    "url": "https://demo-data.titantvguide.com/api/schedule/7b26971a75b24cf2b385c3cb815a1038",
109    "timeout": 20
110  },
111  {
112    "feedType": "mrss",
113    "title": "VAST",
114    "url": "https://example.com/feed/df3083f49bc31d12dd12246fb33edf9600426754",
115    "ads": {
116      "vastTag": "https://serveit.linkstorm.net/sb/ETHE_DEMO_RXVP/linear.xml"
117    }
118  },
119  {
120    "feedType": "mrss",
121    "url": "https://example.com/feed/8e5146c3aeb2532f59cdd64187ec19215b541c38",
122    "timeout": 20
123  },
124  {
125    "feedType": "mrss",
126    "url": "https://example.com/feed/0429228931719e6b195b448fe17b9030f632d3a4",
127    "timeout": 20
128  },
129  {
130    "feedType": "mrss",
131    "url": "https://example.com/feed/047fefe0325dfac431df5731d9001e33824ed9d7",
132    "timeout": 20
133  },
134  {

```

```
135     "feedType": "mrss",
136     "url": "https://example.com/feed/bd23363a9ab9a2829e51fd8c82ae484a4142d21a",
137     "timeout": 20
138   },
139   {
140     "feedType": "mrss",
141     "url": "/london/Station-3/q-bar/dynamic/settings-<language>.atom"
142   }
143 ],
144 "ticker": {
145   "feedType": "mrss",
146   "title": "",
147   "speed": 10,
148   "url": "/london/Station-3/q-bar/dynamic/ticker-<language>.atom"
149 }
150 }
```

In this example, the Q-Bar application is configured to:

- Timeout at set points (lines 4 - 9)
- Be styled in a specific way (lines 14 - 38)
- Include a number of feeds (lines 42 - 54) of content (including a “feed” linking to the settings section)
- Include a ticker at the bottom of the screen (line 55)

Note The featureset of the Q-Bar application is completely driven by the config.json. For example, removing the `ticker` field will remove the ticker from the application.