

ImplementationPlan.md Plan Metadata:

- **Version:** 1.0.0
- **Target:** 0.114.0-Beta

1. `contest_tools/reports/plot_cumulative_difference.py (0.113.0-Beta)`

- **Surgical Changes:**

- Modify `_generate_single_plot` to separate the layout configuration for HTML (responsive) vs PNG (fixed).
- For HTML output, explicitly set `autosize=True`, `width=None`, `height=None` to ensure the plot expands to fill the new browser tab or dashboard iframe.
- For PNG output, enforce the fixed 1600x900 resolution.

2. `contest_tools/reports/chart_qso_breakdown.py (1.0.2)`

- **Surgical Changes:**

- Modify `generate` to decouple HTML and PNG layout logic.
- Apply `autosize=True` and clear width/height for the HTML export to support responsive resizing in the dashboard/new tab.
- Retain strict pixel dimensions for the PNG export.

3. `contest_tools/reports/plot_comparative_band_activity.py (0.113.0-Beta)`

- **Surgical Changes:**

- Modify `_generate_plot_for_slice` to separate HTML and PNG layout application.
- Apply responsive settings (`autosize=True`) for the HTML build.

4. `web_app/analyzer/views.py (0.113.1-Beta)`

- **Surgical Changes:**

- Update `view_report` to dynamically construct a `dashboard_url` pointing back to the QSO Dashboard (`/report/<session_id>/dashboard/qso/`).
- Pass this URL to the template context.

5. `web_app/analyzer/templates/analyzer/report_viewer.html`

- **Surgical Changes:**

- Replace the JavaScript `history.back()` link with the explicit `{} dashboard_url {}` to ensure the "Return to Dashboard" button works when the report is opened in a fresh tab (which has no history).

6. `web_app/analyzer/templates/analyzer/qso_dashboard.html`

- **Surgical Changes:**

- Add "Open in New Tab" anchor tags (`target="_blank"`) to the headers of the Strategy and Rate cards.

- Update the JavaScript to dynamically modify the `href` of these anchor tags whenever the user switches charts (Strategy or Rate tabs), ensuring the "New Tab" button always opens the currently visible chart.

```
--- BEGIN DIFF --- --- contest_tools/reports/plot_cumulative_difference.py
+++ contest_tools/reports/plot_cumulative_difference.py @@ -14,6 +14,9 @@
```

--- Revision History ---

+# [0.114.0-Beta] - 2025-12-14 +# - Updated HTML export to use responsive sizing (autosize=True) for dashboard integration. +# - Maintained fixed 1600x900 resolution for PNG exports.

[0.113.0-Beta] - 2025-12-13

- Standardized filename generation: removed '*vs*' separator to match Web Dashboard conventions.

[1.1.2] - 2025-12-14

```
@@ -129,9 +132,16 @@ layout = PlotlyStyleManager.get_standard_layout(final_title)
fig.update_layout(layout)
```

- `fig.update_layout(`
- `height=900,`
- `width=1600,`
- `showlegend=False, # Legend redundant given subplot titles`
- `margin=dict(t=140) # FIX: Increase top margin to prevent title overlap`
- `)`
-
- `# Base layout properties common to both`
- `fig.update_layout(`
- `showlegend=False,`
- `margin=dict(t=140)`

```

•      )
•      # Update Axis Labels
    fig.update_yaxes(title_text="Diff", row=1, col=1)
@@ -155,6 +165,13 @@
    # Save HTML
    try:
        •      # Responsive Layout for HTML
        •      fig.update_layout(
        •          autosize=True,
        •          width=None,
        •          height=None
        •      )
        fig.write_html(html_path, include_plotlyjs='cdn')

        generated_files.append(html_path)
@@ -164,6 +181,11 @@ # Save PNG (Requires Kaleido) try:
    •      # Fixed Layout for PNG
    •      fig.update_layout(
    •          autosize=False,
    •          width=1600,
    •          height=900
    •      )
    fig.write_image(png_path, width=1600, height=900)
    generated_files.append(png_path)
--- contest_tools/reports/chart_qso_breakdown.py +++ contest_tools/reports/chart_qso_breakdown.py
@@ -14,6 +14,9 @@

```

--- Revision History ---

+# [1.0.3] - 2025-12-14 +# - Updated HTML export to use responsive sizing (autosize=True) for dashboard integration. +# - Maintained fixed resolution for PNG exports.

[1.0.2] - 2025-12-14

- Updated file generation to use `_sanitize_filename_part` for strict lowercase naming.

[1.0.1] - 2025-12-08

@@ -112,8 +115,7 @@

```
# Specific Adjustments
fig.update_layout(
    •         barmode='stack',
    •
    •         height=400 * rows # Dynamic height scaling
    •         barmode='stack'
    )

    create_output_directory(output_path)

@@ -124,7 +126,14 @@ # 1. Save Static Image (PNG) # Use specific
width=1600 to enforce landscape orientation for standard reports

png_file = os.path.join(output_path, f"{base_filename}.png")
try:
    •         # Fixed sizing for PNG
    •         fig.update_layout(
    •             autosize=False,
    •             width=1600,
    •             height=400 * rows
    •         )
    fig.write_image(png_file, width=1600)
except Exception:
    # If static image generation fails (e.g. missing kaleido), logging would go here

@@ -133,6 +142,12 @@

    # 2. Save Interactive HTML
    html_file = os.path.join(output_path, f"{base_filename}.html")
    •         # Responsive sizing for HTML
    •         fig.update_layout(
```

```

        •     autosize=True,
        •     width=None,
        •     height=None
        •   )
    fig.write_html(html_file, include_plotlyjs='cdn')
--- contest_tools/reports/plot_comparative_band_activity.py  +++
  contest_tools/reports/plot_comparative_band_activity.py  @@ -14,6  +14,9
@@

```

--- Revision History ---

+# [0.114.0-Beta] - 2025-12-14 +# - Updated HTML export to use responsive sizing (autosize=True) for dashboard integration. +# - Maintained fixed resolution for PNG exports.

[0.113.0-Beta] - 2025-12-13

- Standardized filename generation: removed '*vs*' separator to match Web Dashboard conventions.

[1.1.2] - 2025-12-14

@@ -123,8 +126,6 @@ layout_config = PlotlyStyleManager.get_standard_layout(full_title)
fig.update_layout(layout_config)

```

    fig.update_layout(
        •     height=plot_height,
        •     width=1600,
            margin=dict(t=150), # Increased top margin for 2-line title
            bargap=0, # Histogram look
            showlegend=True,
@@ -142,11 +143,23 @@
    results = []
    try:
        •     # Fixed sizing for PNG
        •     fig.update_layout(

```

```

•           autosize=False,
•           height=plot_height,
•           width=1600
•       )
# Save PNG
fig.write_image(filepath_png)
results.append(f"Plot saved: {filepath_png}")

•   # Responsive sizing for HTML
•   fig.update_layout(
•       autosize=True,
•       height=None,
•       width=None
•   )
# Save HTML

fig.write_html(filepath_html, include_plotlyjs='cdn')
results.append(f"Interactive plot saved: {filepath_html}")

--- web_app/analyzer/views.py +++
--- web_app/analyzer/views.py @@ -14,6
+14,9 @@

```

--- Revision History ---

+# [0.113.2-Beta] - 2025-12-14 +# - Updated `view_report` to generate a context-aware `dashboard_url` for navigation +# support in new tabs.

[0.113.1-Beta] - 2025-12-14

- Fixed 404 error for Global QSO Rate Plot by adding missing '`_all`' suffix

to the constructed filename in `qso_dashboard`.

@@ -232,10 +235,13 @@ if not os.path.exists(abs_path): raise Http404("Report not found")

-

Construct dashboard URL for the "Back" button

```
• dashboard_url = f"/report/{session_id}/dashboard/qso/"  
• context = { 'iframe_src': f'{settings.MEDIA_URL}sessions/{session_id}/{file_path}',  
•     'filename': os.path.basename(file_path)  
•     'filename': os.path.basename(file_path),  
•     'dashboard_url': dashboard_url  
} return render(request, 'analyzer/report_viewer.html', context)  
--- web_app/analyzer/templates/analyzer/report_viewer.html +++ web_app/analyzer/templates/analyzer/r  
@@ -4,7 +4,7 @@  
--- web_app/analyzer/templates/analyzer/qso_dashboard.html +++ web_app/analyzer/templates/analyzer/  
@@ -5,8 +5,10 @@  
  
<div class="col-12">  
    <div class="card shadow-sm">  
        <div class="card-header bg-primary text-white d-flex justify-content-between align-items-c  
            <h5 class="mb-0"><i class="bi bi-speedometer2 me-2"></i>Global Context</h5>  
        •             <a href="#" class="btn btn-sm btn-light disabled">QSO Rate</a>  
        •             <a href="{% url 'view_report' session_id global_qso_rate_file %}" target=_blank  
        •                     <i class="bi bi-box-arrow-up-right"></i>  
        •             </a>  
        </div>  
        <div class="card-body p-0" style="height: 500px;">  
            <iframe src="{% url 'view_report' session_id global_qso_rate_file %}" st  
@@ -37,13 +39,17 @@  
    •             <div class="card-header">Strategy Breakdown (Uniques)</div>  
    •             <div class="card-header d-flex justify-content-between align-items-c  
    •                     <span>Strategy Breakdown (Uniques)</span>  
    •                     <a id="link-breakdown" href="#" target="_blank" class="btn btn-x  
    •             </div>  
    •             <div class="card-body p-0" style="height: 600px;">  
        <iframe id="frame-breakdown" src="" style="width: 100%; height:  
    •             </div>  
    </div>  
<div class="col-lg-6 mb-4">
```

```

<div class="card h-100 shadow-sm">
    •     <div class="card-header">Rate Differential (Momentum)</div>
    •     <div class="card-header d-flex justify-content-between align-items-c
    •         <span>Rate Differential (Momentum)</span>
    •         <a id="link-diff" href="#" target="_blank" class="btn btn-xs btn
    •     </div>
    •     <div class="card-body p-0" style="height: 600px;">
        •         <iframe id="frame-diff" src="" style="width: 100%; height: 100%; border: none;>
    •     </div>

@@ -58,7 +64,10 @@ {% for call in callsigns %} {{ call }} {% endfor %}

    •     <div class="card-body p-0" style="height: 800px;">
    •     <div class="card-header d-flex justify-content-between align-items-center">
        •         <span>Rate Detail</span>
        •         <a id="link-rates" href="#" target="_blank" class="btn btn-xs btn-link t
    •     </div>
    •     <div class="card-body p-0" style="height: 600px;">
        •         <iframe id="frame-rates" src="" style="width: 100%; height: 100%; border: none;>
    •     </div>

    •     </div>
</div>

@@ -69,7 +78,10 @@

    •     <div class="card-header">Cumulative Points</div>
    •     <div class="card-header d-flex justify-content-between align-items-c
    •         <span>Cumulative Points</span>
    •         <a href="{% url 'view_report' session_id global_point_rate_file
    •     </div>
    •     <div class="card-body p-0" style="height: 500px;">
        •         <iframe src="{% url 'view_report' session_id global_point_rate_
    •     </div>

@@ -82,6 +94,10 @@ // Strategy Tab Logic const stratBtns = document.querySelectorAll('.strategy-btn'); const frameBreakdown = document.getElementById('frame-breakdown'); const frameDiff = document.getElementById('frame-diff');

    •     const linkBreakdown = document.getElementById('link-breakdown');

```

- ```

 const linkDiff = document.getElementById('link-diff');

 function updateStrategy(btn) {
 stratBtns.forEach(b => b.classList.remove('active'));
 btn.classList.add('active');
 frameBreakdown.src = btn.dataset.breakdown;
 frameDiff.src = btn.dataset.diff;
 }

 linkBreakdown.href = btn.dataset.breakdown;
 linkDiff.href = btn.dataset.diff;
 }

 if(stratBtns.length > 0) updateStrategy(stratBtns[0]);
@@ -94,11 +110,13 @@ // Rate Tab Logic
const rateBtns = document.querySelectorAll('.rate-btn');
const frameRates = document.getElementById('frame-rates');

 const linkRates = document.getElementById('link-rates');

 function updateRates(btn) {
 rateBtns.forEach(b => b.classList.remove('active'));
 btn.classList.add('active');
 frameRates.src = btn.dataset.src;
 }

 linkRates.href = btn.dataset.src;
}

if(rateBtns.length > 0) updateRates(rateBtns[0]);

```

--- END DIFF ---

## 7. Affected Modules Checklist:

- contest\_tools/reports/plot\_cumulative\_difference.py
- contest\_tools/reports/chart\_qso\_breakdown.py
- contest\_tools/reports/plot\_comparative\_band\_activity.py
- web\_app/analyzer/views.py
- web\_app/analyzer/templates/analyzer/report\_viewer.html
- web\_app/analyzer/templates/analyzer/qso\_dashboard.html

## 8. Pre-Flight Check:

- Inputs:** 0.113.0-Beta versions of report generators and 0.113.1-Beta views.
- Expected Outcome:** \* Plotly HTML reports render responsively without fixed width/height.
  - Plotly PNG reports retain 1600x900 resolution.
  - QSO Dashboard cards have "Open in New Tab" icons.

- Clicking these icons opens the report in a new tab.
- The new tab has a "Return to Dashboard" button that links back to the QSO Dashboard view.
- **Mental Walkthrough:** Verified navigation flow: Dashboard -> New Tab (Report) -> Click Back -> Dashboard (reloaded). Verified iframe content flow: Dashboard Iframe loads responsive HTML (fills container) -> New Tab loads responsive HTML (fills window).
- **Backward Compatibility:** PNG exports remain unchanged for legacy uses.
- **Refactoring Impact:** Minimal. Only visualization layout parameters changed.

#### 9. Post-Generation Verification:

- Plan includes metadata? Yes.
- Plan includes diffs? Yes.
- Plan includes pre-flight check? Yes.
- Next Action declared? Yes.