Corporate Navigator App
How to Implement a Mobile Analytics App for Top Management

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Requirements Analysis
Accommodating functional and non-functional requirements > Client Cases

“Despite efforts to standardize, the figures from financial accounting and management accounting are still inconsistent in several areas”

“Our production use their own reports to conduct "shadow accounting" on their operational R/3; data do not correspond to our group reporting”

“Generally, only about 50% of the information from the reports we use is relevant for my decision making. For important decisions, I often have my assistant conduct special analyses”

“Creating reports in SAP remains complex. I need 2 IT people so that I don’t have to rely on group IT. Report creation must become easier”

“The board doesn't understand why group reporting requires so many people and costs so much. I'm supposed to cut costs, but the demands are growing”
Get online without log-on

“When I leave the plane, I want to be “online” right away, without a complicated log-on process”

“On the road” with one-pagers

“When I’m traveling, I need “one-pagers”: What's happening, deviations from plan, alternatives to decide on – hard numbers ... and my assistants' comments on all that”

Getting it right the first time matters

“I won’t spend a lot of time trying to get my solution to work or on training. IT is not my hobby!”

Complexity to be mastered

“Our leadership team is very diverse – from our back-grounds to our working styles. How will you find a single solution that suits all of us?”
Requirements Analysis

Feedback from our Finance Apps

Modern graphics – use sparklines to present information at a glance and complement them with tooltips to retrieve details. Integrate easy to use “Drill-Anywhere-Capabilities”.

Driver trees – support economic value-added concepts with sliders and make them more valuable with self-service analysis: EBIT decomposition is gaining importance.

Collaboration: to harvest the knowledge of different users, integrate collaboration capabilities into the solution: direct emails with “at the push of a button” screenshots, commenting with “wipe-in” bars.

Exception reporting – draw managers’ attention to critical events in real-time by sending notifications to their smart devices, setting the right alerts and proactive push-function for alerts.

Mobile – Consider even mobile offline use situations (sitting in a plane, train means mobile offline), predefined analysis, align different information media with managers’ devices (pdf, webbrowser, app).
Important use cases for a “Top Management App”

The Corporate Dashboard “Blueprint”

- Show me all relevant key figures on one page
- Let me change my point of view within seconds
- Let me start a deep dive analysis immediately
- Provide me the data offline and secure
Important use cases for a “Top Management App”

The Value Driver Tree Simulation

- Show me the dependencies of my main metrics
- Let me start a scenario for a simulation of a new business strategy
- Let me archive simulations for later usage
- Let me combine simulations with comments

This example uses Transaction Services!
Important use cases for a “Top Management App”
Guided Drill Anywhere Scenarios like “Customer Profitability Analyses”

- Custom drill-menus based on Info-Windows that can be designed individually
- Context handshake between individual documents including selector exchange scenarios
- This is not a standard drilling capability of MicroStrategy … this is an individually designed “guided drilling capability“
Moving Target

TOP Manager Apps need to be enhanced and adjusted frequently

- More use cases will come and need to be integrated
- More business coherences need to be addressed
- More data from different data sources need to be managed
- More management levels with more users need to be addressed
- More detail analyses need to be provided
- More devices need to be integrated

We need a strategy how to handle this rising complexity!
Key Solution Elements

Think about a moving target solution strategy > think about a modular solution framework

- Modularize complex solutions by defining clearly outlined use cases.
- Implement use cases as “modular/reusable” dashboards/reports.
- Outline an extensible network approach for wired dashboards/reports that are able to “exchange context”.
- Think about different options how to implement “handshakes” between dashboards/reports in order to navigate from TOP Views to DETAIL Views seamlessly without losing context.
- Keep your dashboards/reports manageable, easy to use and fast.
- Provide an easy to understand and extensible “multi-level” navigation menu and enhance role specific menus with data driven aspects if needed.
- Make your solution independent from frontend types (WEB/ MOBILE)
- Keep performance and offline capabilities in mind.
- Combine different styles of BI seamlessly without losing context.
- Give your app a good looking style.
Modular Solution Framework

Elastic approach for growing demands

- Home screen with extensible menu item list
- Each menu item represents an use case
- Use cases are implemented as documents
- Use cases can be linked to each other
- Each document owns a specific data context that is limited in size
- Documents are able to pass context to other documents or VI dashboards
- Drill-Downs and details analyses are pre-configured for ease of use

- Documents are configured as „offline-ready“
- Commenting capabilities can be integrated
- Approval processes can be integrated
- Alerting capabilities can be integrated
- Documents are using „Managed Views“ for a pixel perfect style in WEB & MOBILE without the need for redundant objects.
Modular Solution Framework

We do not implement “huge, unmanageable, monolithic” documents

We use an elastic folder/object structure
How to handle slow Data Sources

Performance is key! We don’t have a problem if …

Ø … we’re able to precache our dashboards/reports.
Ø … we're able to implement large in-memory Cubes for high-performance.
Ø … we’re able to estimate and precalculate ad-hoc user questions correctly.
Ø … we don't have the need to navigate seamlessly between different data levels of data granularity.
Ø … we can use alternative data sources optimized for high performance.
Ø … we have almost unlimited „time & resources“ to optimize our solution in regards to performance.

But in many customers cases this is not the reality we’re living in!
How to handle slow Data Sources

That's why we have big challenges if …

- … backend data sources are slow
- … online data access is a must
- … redundant in-memory data stores are taboo
- … backend data source security needs to be addressed
- … multi level, interconnected ad-hoc queries from TOP to BOTTOM business coherences are needed
- … guided self-service scenarios are important

So we need a new approach to handle these demands successfully.
How to handle slow Data Sources
Fortunately the modular solution framework approach will help us in this case as well

- A complex use case comprises different levels of data aggregation down to the details level.
- Each level is implemented as a MSTR document or VI dashboard that is limited in regards to the level of data aggregation that's used for visualizations.
- The levels are interconnected (MSTR documents or VI dashboards). They are able exchange user context.
- Navigating to the next level creates an optimized, limited SQL/MDX to ensure performance goals.
- The modular solution framework interconnects the needed MSTR documents or VI dashboards and provides efficient data context exchange capabilities in combination with optimized SQL/MDX statements.
- No „monster“ queries, no MSTR Documents or VI-Dashboards with more than just a few Datareports, no iCubes if this is a taboo, just an optimized, „online“ query flow between the levels of data aggregation.
How to handle slow Data Sources
Fortunately the modular solution framework approach will help us in this case as well

Use Case 1
From a users standpoint he works with a dashboard/report page that changes visualizations and data levels dynamically “on-the-fly”

Use Case 1
Dashboard/Report
Data Level 1
High Level Data Context

Use Case 1
Dashboard/Report
Data Level 2
Optimized SQL/MDX with Filter Criterias
More detailed Level 2

Use Case 1
Dashboard/Report
Data Level 3
Optimized SQL/MDX with Filter Criterias
More detailed Level 3

Use Case 1
Dashboard/Report
Data Level 4
Optimized SQL/MDX with Filter Criterias
More detailed Level 4
## Context Exchange Capabilities

Options for the implementation of an “intelligent” navigation flow based on “LINKING”

<table>
<thead>
<tr>
<th>FROM \ MicroStrategy Frontend Object</th>
<th>TO \ MicroStrategy Frontend Object</th>
<th>Context Exchange Capabilities</th>
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<tbody>
<tr>
<td>Document</td>
<td>Document</td>
<td>➢ Hidden Prompts Answers</td>
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<td>➢ Passing Selector Values</td>
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<td>➢ Passing Selector Values as Hidden Prompts Answers</td>
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<tr>
<td></td>
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<td>➢ Dynamic Generation of „Compound Attribute Keys“ Context</td>
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</tbody>
</table>

| Document                             | VI Dashboard                        | ➢ Hidden Prompts Answers      |
|                                      |                                     | ➢ Passing Selector Values     |
|                                      |                                     | ➢ Passing Selector Values as Hidden Prompts Answers |
|                                      |                                     | ➢ Dynamic Generation of „Compound Attribute Keys“ Context |

| VI Dashboard                         | Document                            | ➢ Hidden Prompts Answers (only Value Prompts) |
|                                      |                                     | ➢ Dynamic Generation of „Compound Attribute Keys“ Context |

| VI Dashboard                         | VI Dashboard                        | ➢ Hidden Prompts Answers (only Value Prompts) |
|                                      |                                     | ➢ Dynamic Generation of „Compound Attribute Keys“ Context |
Seamless combination of BI Styles
Use the BI style that fits best for your use case

Pixel Perfect Document

Pixel Perfect Multi Page Document

VI Dashboard for Details Analysis

VI Dashboard for Details Analysis
The concept of “Managed Views”

- In order to optimize the solution for different screens and devices (e.g. iPAD and WEB on your laptop or desktop) you can use the “Managed Views Approach” for MicroStrategy Documents.
- Define two “Managed Views” for each MicroStrategy Document. You don’t clone these Documents!
- The first one is the standard view that should be used for WEB.
- The second one is the View for the Mobile Device. Define the exact screen resolution for the Mobile Device.
- You can adjust the positioning of objects “pixel-perfect” related to different devices with different screens.
- You can even hide objects if needed.
- This approach does not need redundant documents for MOBILE & WEB at the same time. Only one for both!
- VI-Dashboards work responsive in WEB & MOBILE!
  Managed Views are not relevant for VI-Dashboards.
Offline Mode on MOBILE

The fastest Access Mode

- Relate Documents to business use cases and make their size small. RAM is “limited” on mobile devices.
- Use only selectors that work in “slice” mode with pre calculated slices.
- Prompts won’t work with offline mode. Just subscriptions with pre answered Prompts.
- Configure an offline configuration for mobile that pre caches all related objects.
- Linking works between offline Documents on mobile.
- Define Subscriptions for prompted Dashboards that you want to use offline with pre answered Prompts.
Commenting and approval processes
Can be part of the framework as well ... supported by Transaction Services
Corporate Navigator App
How to Implement a Mobile Analytics App for Top Management

Thanks for your attention