Customer-Facing Reports Automation:
FOCUSING ON ADDING VALUE

May 28th, 2019

Pythian
AGENDA

- Who are we?
- Customer facing reports and value added
- A typical technical assessment
- Automation to the rescue
- Technologies involved
- Demo
- Future work
- Conclusions and Q&A
Who are we?

● Gabriel Ciciliani
  ○ @gabocic
  ○ Internal Principal Consultant
  ○ Open Source Databases
  ○ Automation super fan
  ○ Based in Argentina
Who are we?

- Ivan Groenewold
  - @igroenew
  - Lead Database Consultant
  - Managed Services MySQL
  - Also worked with Oracle, MongoDB
  - Based in Argentina
Helping businesses transform and win using data and cloud
22 Years in Business

400+ Experts in 35 Countries

350+ Clients Globally
# Pythian Services

## Professional Services

From data and cloud strategy to roadmap to development, implementation and beyond

Two millennia of technology enabled knowledge and methodologies to help guide you

Neutral trusted advisors—we put your interests first

## Managed Services

Complete 24 x 7 operational management services on premises and in the cloud

IT Infrastructure, databases, data warehouses/platforms & analytics workloads

Break/fix with ongoing improvements to boost operational performance and efficiency

## End-to-End Solutions

Proven templated cloud-native data solutions customized to your needs

From data warehouse migrations to enterprise data platforms and more

Fastest time to value with ongoing support and enhancements for continuous transformation
## Diversified, blue chip client base

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<th>Retail</th>
<th>E-commerce</th>
<th>SaaS</th>
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Consulting and value

- Common types of engagements
  - Fix a specific issue
  - Take part (or drive) a project
  - Improve overall performance
  - Do a system review
- Time can be a limiting factor
- Perceived value
Consulting and value

- Reports are a key part of any project
- Even with templates, tech reports take time
- Maximize time spent in tasks that make a difference
  - Benefits both big and small clients
A typical technical assessment

Collecting data  Populating files  Analyzing data  Generating recommendations  Reviewing

Only value added task!
Technical assessments - Challenges

● Deliver consistent, high quality, assessments
● Streamline analysis
● Focus on adding value
● Concentrate collective knowledge
Automation to the rescue!
But.. before automating, one needs to standardize...
Standardize first

Determine:

- Assessment points
- Data to be collected and collection methods
- Report sections -> build a model report
Then automate steps where possible...

Collection tools

Report builder

Analysis hints

Recommendations repository

Collecting data

Populating files

Analyzing data

Generating recommendations

Final report

Reviewing
Collection tools

- Simple / easy to use
- Machine readable output
- Low footprint and requirements
Report builder

- Builds standardized graphs
- Takes care of attaching tables, graphs and aux data
- Fed with collection tools output files
Analysis hints

- Guides the consultant through the analysis process
- Concentrates up-to-date collective knowledge
Recommendations

- Stores normalized, curated, reviewed versions of common recommendations
- Toolbar to easily include them into the appropriate section
- Avoids re-writing similar recommendations on every assessment and simplifies final review
Technologies
Technologies involved - Collectors

- Linux common tools
- MySQL conf and status variables
- Percona toolkit

Collectors (BASH)

- CSVs
- JSONs
- Flat files

- Why BASH? To keep dependencies to a minimum
- One-time and In-time collection
Technologies involved - Report builder

- **Package** with the files collected
- **PARBuilder.py** *(Python)*
- **Google Drive API**
- **GFolders**
- **GFiles**

- Why not keeping all code in Google App scripts?
  - Google App scripts execution limit: 6 mins
  - Need a script to coordinate the Google API calls
  - It is easier to interact with a script that takes parameters than calling a function directly in Google App scripts
Technologies involved - Report builder

Google Drive API
Google Sheets API
Google Docs API

GFolders
GFiles
Processed CSVs

Google App Script
(JavaScript)

Document ready for analysis
Technologies involved - Analysis hints

● Google Docs comments are copied with the template

● The consultant will respond and close each comment once that point is completed
Technologies involved - Recommendations repo

- Recommendations are stored in a special Google Doc
- Using Google Docs embedded Google App scripts, we can add new menus and toolbars
Demo
Future work

- AI to discover patterns hidden in the data collected
- PMM for data collection, data visualization and images generation
- Extend it to other technologies
Conclusions

- All reports analyze exactly the same points
- Recommendations are standardized and well presented
- It’s easy to incorporate additional checks or points to analyze
Q&A

ONE DOES NOT SIMPLY GIVE A PRESENTATION WITHOUT Q&A

IT'S NOT A BAD Q&A IF THERE IS NO A
Thanks!

We are always growing!
Come and see us after the session or reach out at ciciliani@pythian.com or groenewold@pythian.com
Pythian

LOVE

YOUR DATA