What does it take to be a Business Intelligence(BI) professional?

What is the difference between Business Intelligence(BI)developer and software developer?

Business Intelligence (BI) relies on its architecture that might include data sources, data warehouse and user interfaces. All the business intelligence parts need to work properly, otherwise the initiative will fail[1] and users can blame specific parts that they have been more in contact with that does not necessary includes the whole BI architecture. For example, BI users tends to blame the tool or particular tool's limitations that can impact final dashboards or reports.

But how can we know how to differentiate the roles and simplify what are the key elements in the BI process? What is the role of the BI developers and analysts? Which skills are necessary to become a BI professional and what differentiate the types of BI developers?

Figure 1- Data Charts

According to Top Business Intelligence Trends 2017[2], BI professionals consider the trends below the more important BI trends in the field:

- ❖ Data Discovery/Visualization
- ❖ Self-service BI
- ❖ MD/DQ management
- ❖ Analytical databases

The content of this paper relates the latest BI trends with the required knowledge and skills that BI professionals (developers) might have in order to succeed.

First of all, let's start from a very basic differentiation: what is the difference between a software developer and a BI developer?

The scheme below helps to clarify the basic differences between a software developer and a BI developer:
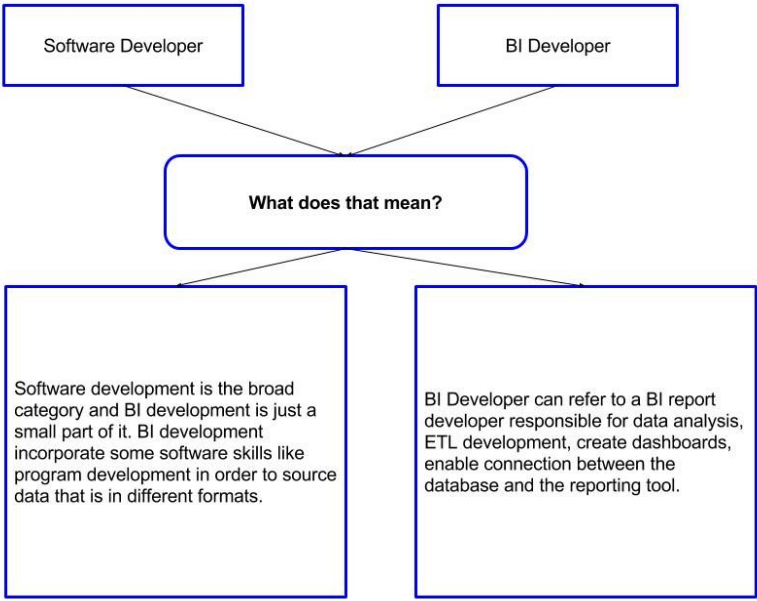

Figure 2: Software Developer Versus BI Developer

Another major difference is in the way BI developers and analysts usually work closely with customers to create reports that can drive business decisions.

Set of skills required for a BI Developer

Considering that BI development deals both with the front-end and back-end development we end up with at least two categories filled with completely different skills when it comes to the BI development. The company need to identify what is urgent when it comes to BI tools implementation verifying the needs regarding the current architecture. The knowledge of the skills needed and which part of BI development needs to be revisited proved to be very efficient in many cases. The process model below includes an overview with the company needs, the requirements for a BI full life cycle and the key skills for BI developers:
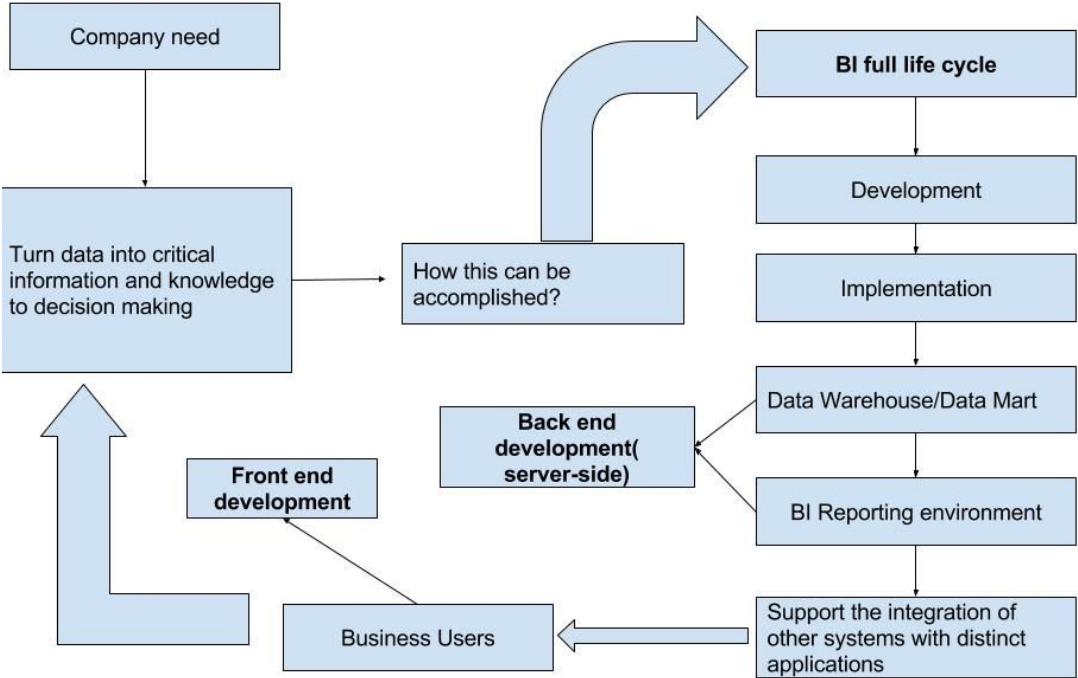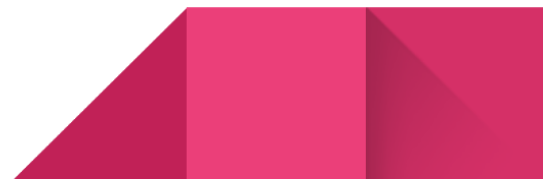

Figure 3: BI process model including company needs and BI developers

The process model above considered the basic parts regarding the BI full life cycle that involves development, implementation, data warehouse, BI reporting environment and the necessity of supporting the integration to other systems with distinct applications. All these parts have as objective to turn data into critical information/knowledge to decision making, in which the back-end development (also known as server-side) consists in what can not be seen in the browser but it is crucial to data gathering, security structure and content management. The front-end development consists in everything that the business user interacts directly. Based on this information is possible to identify some key characteristics that are important in the BI processes which would require certain skills linked with the more common tasks.

Obviously the roles regarding to BI tasks and development will vary according to company's needs. However, usually tasks will navigate in data collection, analysis/sharing to help business teams to trigger improvements in the current key business metrics. For reach these goals a company can utilize databases or web applications to develop innovative reports or tools. It is also possible to create or compare past models and support the integration of BI platforms.

Creating reports or dashboards, SQL programming are the most common BI responsibilities that companies usually hire for [3]. In that scenario, key skills are related to the creation of programs that source the data that is in all sort of formats, load in the databases and read it. It is important that the BI developers load data in a model that follow core business criteria to enable data analysis. The job of the front-end BI developer is to build a friendly user interface which allow business users extract data, for this reason the background of a front-end developer is also commonly cited as a web developer. There is more in this process through, integration between the web interface and how users can access data also have an important role. However, the focus of this paper is to identify the key skills of BI developers(the table below match key skills with the roles):

Key Skills	BI Front-End Developer	BI Back-End Developer
SQL databases, ORACLE, usually programming is not object oriented	-	✓
CSS, HTML, JavaScript	✓	-
Main Focus	Databases	Web Applications
Translate business needs	Important	Critical
Interpersonal skills	Critical	Important

Table 1: BI professionals key skills

Conclusion

A variety of functions are commonly attributed to BI developers and the set of skills expected from these professionals can go from most common tasks such as design and development of database solutions providing reports or new documents/tools. These popular tasks can also be more complicated when data conversions are necessary or when implementing tools and frameworks for automating reporting is the goal.In general terms, the BI professional need to work aligned and aware of the business needs in order to be able not only to design but also to provide the help that business teams require to succeed.

REFERENCES

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