

SUPERVISOR'S REPORT ON DIPLOMA THESIS

Name and Surname of Diploma Thesis Writer: Manomeet Gupta

Topic of Diploma Thesis: Business Intelligence Tools for Supporting Core Web Activities in a Small Company

Objective of Diploma Thesis: The primary objective is the proposal of a data warehouse solution which facilitates the storage of large data volumes, optimizes core web processes and enables business decision making based on web data in a small company.

Name and Surname of Supervisor: Ing. Athanasios Podaras, Ph.D

	Excellent	Very good	Good	Failed
I. Assessment of the thesis topic and its writing:				
Thesis topic completion	X			
Application of implemented methods	X			
Analysis performed and its profundity	X			
II. Assessment of thesis content and structure:				
Clarity and coherence of thesis	X			
Currency of the topic, appropriate sources	X			
Processing of sources and acquired data	X			
Comprehensible and adequate conclusions	X			
Phrasing of writer's points of view		X		
III. Assessment of thesis style:				
Formal layout of thesis (i.e. text, tables, graphs)	X			
Style of thesis (i.e. use of formal language)		X		
Application of academic sources in native language, including bibliographic references and citations		X		
Application of academic sources of foreign authors, including bibliographic references and citations		X		
Assessment of plagiarism checking result in IS STAG	Reviewed without objections			X
	Reviewed with objections			

Questions related to the diploma thesis defence:

Mention examples of database attributes which can be used for web analytics purposes in future implementation of the database solution (mention in which tables can you add specific columns, and suggest corresponding columns)

Describe one of the proposed processes with the help of a Use Case Model

I recommend - ~~do not recommend~~* the diploma thesis for defence.

(*delete if not applicable)

I suggest to evaluate the diploma thesis with the grade: Excellent Minus

Date 17/8/2020

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Signature of thesis supervisor

The present thesis deals with the proposal of a business intelligence data warehouse solution which can facilitate the data storage generated via the implementation of core web activities in a small enterprise, namely a restaurant. The proposed database solution can also ameliorate the execution of the selected web processes. The data which is stored in the database solution can be utilized for obtaining crucial business decisions. The thesis is well-written, it has a standard structure and is composed of the introduction, the theoretical part, the practical part including the inferred results and the discussion/conclusion sections. In the theoretical part the author describes the theoretical background required to conduct the target results, that is, the business intelligence data warehouse theory, relational database management systems concepts and business process modelling approaches. The practical part is composed of the company's description, the delineation of the selected processes with flowcharts and BPMN diagrams as well as examples of database queries the results of which can be used to enable specific web-based business decisions.

The author has demonstrated excellent writing skills, a capability to explain and use practically complex database and business process modelling concepts such as the BPMN (Business Process Modelling Notation) and the capability to explain and discuss the possible limitations of the conducted work. Moreover the author successfully implements an example of Online Analytical Processing (OLAP) which are highly valuable reporting tools when implementing business intelligence solutions.

In general the thesis covers all the involved concepts related to the web-based business process implementation and web data – supported business decisions. Moreover the goal of the thesis is clearly explained and achieved. The conclusions section briefly highlight the current achievement and explain the usefulness of Business Intelligence tools and their dramatic role in improving web activities and web-based strategic decision support.

The main limitation of the thesis is the fact that no database elements in the proposed schema (tables and columns) are mapped to the web-analytics metrics (bounce rate, conversion rate etc) which are mentioned in the discussion section. However, the author correctly justifies the need to focus on the current schema and suggest the incorporation of these features in future database versions. The same holds for the data mining activities which are not currently demonstrated due to the limited data sources (data mining requires huge data volumes and data access was highly restricted during the period that the author conducted the research and for the selected activities no web data was available for data mining applications). Additionally, in some points the author writes in the first person which is not recommended for diploma thesis. Finally more references could be incorporated. The issue is topical and a significant number of sources is available.