Review of Group 3 Final Book Chapter Presentation

Title:

**Raster Database**

by

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**Problem Motivation:** What kind of research (e.g. Basic or Applied research) did the talk relate to? If it was basic research what fundamental questions or open problems did the speaker relate to? If it was applied research, what application use cases / examples/ questions did the speaker relate to? Do they have societal significance/are they made up? If they are made up what are some realistic application questions that can be addressed? Briefly explain within 75 words.

The presentation focused on raster databases, which involve storing image data in database. The focus is on the format of raster data, different operations that need to be performed on such data, as well as storage and retrieval techniques needed by such data. These kind of data are extensively used in GIS applications to represent image on a map area etc.

Problem Statement: What research problem / software prototype did the talk attempt to solve / build? Are the listed constraints reasonable? Why or Why not? Was the input / output well defined or easy to understand via a simple example? (75 word limit)
This book chapter is attempting to provide an understanding of raster data and how that would be stored in DBMS systems and what are the different type of operations that need to be executed, to understand the raster data management aspects needed to incorporate raster data management in DBMS. The presenters provided a good explanation of basic concepts involved as well as provided an exhaustive list of field operations that are possible as well as applications of raster data.

Challenges: Are the challenges articulated clearly (and possibly illustrated via an example)?

If so, what are they and identify their category (e.g. computational, statistical, others)?

Briefly describe some improvements that can help articulating challenges easier? (75 Word limit)

In slide 17, Presenters have mentioned that the space requirement is quite high when storing raster data in databases in comparison to using the traditional JPG and other image formats. However the advantage is that it provides faster access. Presenters could have provided a diagram to help explain the challenges in storing them in DBMS compared to traditional scheme, by providing a visual representation of the traditional storage scheme for raster data.

Proposed Approach: Did the talk explain the key elements of the proposed approach clearly via the use of suitable examples? If so what were the key elements? Did the proposed approach honor all the constraints listed in the problem statement while achieving the goals listed in the problem or were there some (simplifying) assumptions? If so, what were they? Briefly explain (and possibly include suggestions to improve the proposed approach to solve the stated problem). (150 Word Limit)

The presentation had good examples as well as diagrams to understand the concepts. For example, explanation of what is raster data, the advantages and disadvantages of storing them in DB as well as in traditional way are explained clearly.

Novel/Better: Did the talk give a reasonable (e.g. thorough / acceptable) classification of related work and identify their limitations via examples? Was the novelty of the proposed approach clear from the classification scheme used in the talk? If not, how can it be improved?
Did the talk emphasize on how the proposed approach was better with respect to related work via additional examples? If not, how can it be improved? (100 Word Limit)

Since this is a book chapter, it should mostly consider well understood concepts which are beyond novel and research stage and hence not applicable.

Validation: Did the talk provide hints about the validation methodology or provide examples to validate their contribution claims? (50 Word Limit)

Not applicable for Book chapter.

Presentation Critique: Rate the talk on a scale of 0(poor) to 10(excellent) and provide a brief justification (50 Words) while suggesting areas for improvement on the following:

• Was the talk accessible to an "intelligent lay person"? 9
  The talk had clear citation of examples and diagrams which are quite easy to understand and follow.

• Did the talk emphasize a central message that conveys the overall value of the work being executed? 10
  yes, it clearly states the central messages as well as makes the basic concepts very clear.

• Did the talk attempt to relate to the audience and showed effort in conveying key ideas clearly? 10
  yes, hand plenty of slides and diagrams explain their work in an easy to understand manner.

• Was the speaker's response to questions satisfactory? 10
  yes.
How did the talk do on covering the 6 elements? Kindly rate each element separately and include a brief justification for each.

- **Problem definition:** 10 – appropriately illustrated through diagrams
- **Problem importance:** 10 – clearly articulated through examples
- **Problem hardness:** 10
- **Description of Methods:** 9 – not clear how each pixel will be stored in database, whether it is stored in each field or as a BLOB.
- **Novelty of methods:** not applicable
- **How are the methods better?** Provides an alternate form of storage for raster data for ease of retrieval and comparison.

**Areas for improvement:**

- We suggest that the presenters include a slide showing how the raster data will look inside a table in RDBMS. This would have improved the understanding on the storage aspects of raster data in DBMS. Also a slide which shows the JPG data, to provide a comparison of the scheme would help.
- Also not very clear if this is an entirely new book chapter or an extension of old book chapter, hence it was little unclear to me as to what are the new topics added by the presenters.