

SENG 422 TA Lab Assessment Report on Project Part 2

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Project Part 2 Assessment Requirements:

1. The following groups have been evaluated for part 2 of their project out of a **12% total**.
2. It was asked to submit reports in hardcopy and electronic copy (1 report per group).
 - a. For the purposes of determining gaps of the system and better report presentation an oral assessment was conducted between group members and the TA. This was required to mark the hardcopy version where specific comments were made on some or all pages of the report.
3. The following comments are identical to the written comments in the hard copy relevant to both electronic and hardcopy versions of the reports.
4. Perfect marks will be considered within the assigned presentation of the system according to project requirements, and team performance based on student solutions for an identifiable gap in the system. This is a solution presented in addition to project specifications as the system performs in the SA quality context, to be clarified during the orals as well as written.
5. Most lost marks were on either **threads, synch vs. async** processes have not been properly ("explicitly" from the system specs/requirements document) discussed in the document. I have suggested on occasion **thread mapping** and web-links have been provided for a better report presentation prior to submission.

General and specific comments on Team No. 1:

- 1- Introduction and glossary on the relevant terms and technologies used in the system were well-presented.
- 2- Sec. 2.1. among system topology components, I expected to see this section later on, e.g. on p. 10 (hardware topology) for a better report structure and presentation. This avoids ambiguity and maintain subject flow and consistency. Based on the overall presentation of the topology, the full 4% was given but in the future, it is expected to maintain consistency in structuring the report.
- 3- In the same section, the LSCS database, I have questioned how many attributes (columns) and tuples (rows) have been included by default in the DB? The presenters of the LSCS system have explained in full and of course, the way data is inputted, updated etc. will be clarified during implementation. However, many aspects revolving around this component (DB) have been discussed during the report.

- 4- For the deployment diagram, pp. 6-9, 1% after another cumulating to 4% has been granted, although the balancer whether being in the back-end or front-end or a combination of both was not clarified. However, the reader can distinguish the difference by referring to the diagrams (Figs. 4 and 5).
The DB solution based on 'horizontal scaling' in order to maintain good **system performance** got the necessary mark in this section.
- 5- Process and sequence diagram on p. 11 gained 1%. Depending on component priority + task the critical tasks vs. least critical were not highlighted and thus not giving a good presentation on threads.
 - a. In the same section, the size of the repository connector was not presented although during the oral evaluation this has been clarified, which is merely **a code per DB checklist item request**.
- 6- Communication diagram in conjunction with the workflows describing the communication between system components was well presented in terms of communication type i.e. being done **asynchronously** or **synchronously**. **1%** However, the thread problem was not explicitly discussed during the workflow presentation. So **-1%** on this was deducted from the overall mark. The group during oral claimed that: a thread pool to recycling is already in req. thread (passing through) during communications. This claim was not visible in the current version of the document. It is however, expected to have some experience about this during demo presentation of the system to verify this claim.
- 7- Security solution relative to performance management was good, such as salting/hashing the passwords, whereby the tactic on say indexing DB is considered in their system per login request. Furthermore, Fig. 10 sequence diagram demonstrates that the DB request is pretty light-weighted which is interesting in maintaining a good overall performance of the system.
- 8- Minor typo spotted which doesn't grant mark reduction. Grammar and document readability were strong by this group.
- 9- Once again, the most critical components have not been highlighted in terms of which one must or would have an impact on the system performance. This concerns thread issues involving microscale task integration impacting performance on a macroscale in the system which wasn't clarified and pertain to the **-1% as already contemplated in #6.**
- 10-Well-defined tactics were introduced for a probably error event occurrence in the system. In addition, the document was upfront about uncertainties pertaining to a bad performance and thus, the group's

strategy on addressing them as stated throughout subsections of sec. 4.0. Thank you!

11-Overall: sequence diagrams apart from the threads, discussions revolving around performance problems and solutions got 3% out of 4%.

Summary comments on Team No. 1:

- 1- Sequence diagrams were well-explicated apart from threads.
 - 2- System performance concerns, deployment diagram and topology well presented.
 - 3- Based on the last 2 points, - 1% is deducted from the total mark.
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Total: 11% final mark.

General and specific comments on Team No. 2:

- 1- Most sections have been well-presented except some points that were not presented or missing in the document:
- 2- On. p.4, classes and data types have been well presented. Questions were asked in order to clarify what sort of standard (GSI-based according to system specs.) the data will meet. For instance, why only **int** data type in order to present e.g. 12°C which could be a combination of **int** and **str** when data is parsed and the information is thereby displayed on screen for the user? Overall 1% was given which is a full mark in this section.
- 3- On p. 4, a good presentation was made on the dimensions of the map, whether being 2D (**xy**-based) as targeted, or even 3D (**xyz**-based) if wanted according to GSI standard or custom standards according to group preference satisfying the **usability** quality requirement. 1%
- 4- Components have been highlighted in the hardcopy version of the report in order to question which one is the most critical in terms of having a system performance impact. **Threads** were barely touched upon in the documents and too generic in terms of discussing the process. Although, technologies were referred to and relied upon in terms of performance within the acceptable limits, but **data correlation** between components during communication was not discussed nor focused upon. For example, **m1:sendMap** merely points out appropriate information will be sent to the ClientBrowser to display a map. The appropriate information was not referenced (what is "appropriate" from a user, manager, surveyor perspective relative to system? Hence the correlation was not properly highlighted between the weather map information and the information handled by processors in terms of tasks i.e. threads). For instance, how

many jobs will be reiterated in terms of **threads by a system user request?**

- 5- The latter point also raised problems in delivering an explicit viewpoint on asynchronous and synchronous operations in sec. 4 of the document which discusses component communications. **-1%**
- 6- Worst-case and best-case scenarios caused by one or more system components have not been discussed, however, the level of criticality from **b1 to b9** was clarified by the group members during the oral.
 - a. Within the same context, async. and sync. operations in detail were not highlighted nor discussed in presentation. 1% granted.
- 7- Presentations were made by two members in improving their marks on the missing bits of the report: mainly on the system communication part as well as technologies (deployment), which granted them 1% relevant to report contents.
 - a. During the oral, certain aspects were further clarified but not presented in the report e.g., metadata or file identifier usage will be implemented as the purpose of **a1:delete()** function. Secs. 4.6 through 4.8 not properly connected to technology but indirectly explained. 2% granted for the overall presentation of technologies and functions.
- 8- 2% granted on the deployment diagram and discussions as presented.
- 9- 2% granted on the sequence diagrams. Nicely done!
- 10- **-1%** was deducted due to lack or too generic representation on the async and sync discussion concerning critical and less critical components of the system such as checklist updates.
- 11- **Thread mapping** could have made this document more comprehensive in evaluating worst case and best case scenarios concerning system performance.

Summary comments on Team No. 2:

- 1- Sequence diagrams well-explicated apart from threads plus explicit specification on the async and synch operations.
- 2- System performance concerns, deployment diagram and topology well presented.
- 3- Based on the last 2 points, - 2% were deducted from the total mark.

Total: 10% final mark. 1% added to the relevant sections discussed by two group members clarifying the gaps within the report as added comments to be addressed during the next step (demo presentation).

General and specific comments on Team No. 3:

- 1- All sections have been presented with minor gaps but highly solution based, threads discussed as well as async. and sync. processes per component! Critical vs. less critical components were highlighted as expected. Well-done!
- 2- Comments were stated in the hardcopy of this report, and by overall, I was pleased with the presentation of this report.
- 3- Probable errors in the system were discussed in the report although in the deployment diagram part, the presentation lacked in terms of technologies and merely stuck to the load-balancer theoretical approach as a solution raised in the previous part of this group's work relevant to system performance issues. -1%
- 4- Deployment diagrammatic presentation was sufficient and response times plus peaks were adequately depicted/highlighted in this report. 3% granted.
- 5- Bidirectional connectors and overall communication between components were well illustrated and discussed in this report.
- 6- System topology presentation lacks a little according to point 3, however, sequence diagrams, class diagrams were well discussed per component in a succinct manner. Thank you!

Summary comments on Team No. 3:

- 1- Excellent solutions and idea presentation on system performance, and the report can be simply revised on the topological and deployment aspects of the system for a better presentation on the demo part which is next in line.

Total: 11% final mark.

Keep up the good work!

Cheers,

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