System Test Report: Lattice Boltzmann Solver

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1 Revision History

Table 1: Revision History

Date	**Developer(s)**	**Change**
Dec. 18	Peter Michalski	Initial Development

This document is a reflection of the development of Lattice Boltzmann Solver, which provides services based on Lattice Boltzmann Methods (LBM).

2 Project Overview

The goal of Lattice Boltzmann Solver is to predict changes in fluid characteristics such as location, velocity and pressure over time using LBM.

The functional requirements of Lattice Boltzmann Solver can be found in Section 7.1 of the Commonality Analysis (Michalski (a)). The non-functional requirements can be found in Section 7.2 of that document.

3 Key Accomplishments

The templates and language of the documentation allowed for good traceability. Referencing the documentation was straightforward, as was updating it.

The Module Guide (Michalski (b)) and Module Implementation Specification (Michalski (c)) allowed for quick and easy development of Lattice Boltzmann Solver.

The design process was very helpful in managing the development of Lattice Boltzmann Solver.

4 Key Problem Areas

The scope of Lattice Boltzmann Solver was too large to complete in the original time-frame, which needed to be extended. Only one library problem could be developed and tested in the first stage of implementation.

5 What Would you Do Differently Next Time

As the scope of the project was too broad, I would consider reducing it if I were to attempt to complete it in the current time-frame. Alternatively, if the time-frame were extended, I would increase the time between deliverables.

References

Peter Michalski. Lattice Boltzmann Solvers - CA, a. URL https://github.com/peter-michalski/LatticeBoltzmannSolvers/blob/master/docs/SRS/CA.pdf.

Peter Michalski. Module Guide for Lattice Boltzmann Solvers , b. URL https://github.com/peter-michalski/LatticeBoltzmannSolvers/blob/master/docs/Design/MG/MG.pdf.

Peter Michalski. Module Interface Specification for Lattice Boltzmann Solvers, c. URL https://github.com/peter-michalski/LatticeBoltzmannSolvers/blob/master/docs/Design/MIS/MIS.pdf.