Vita: A Versatile Toolkit for Generating Indoor Mobility Data for Real-World Buildings

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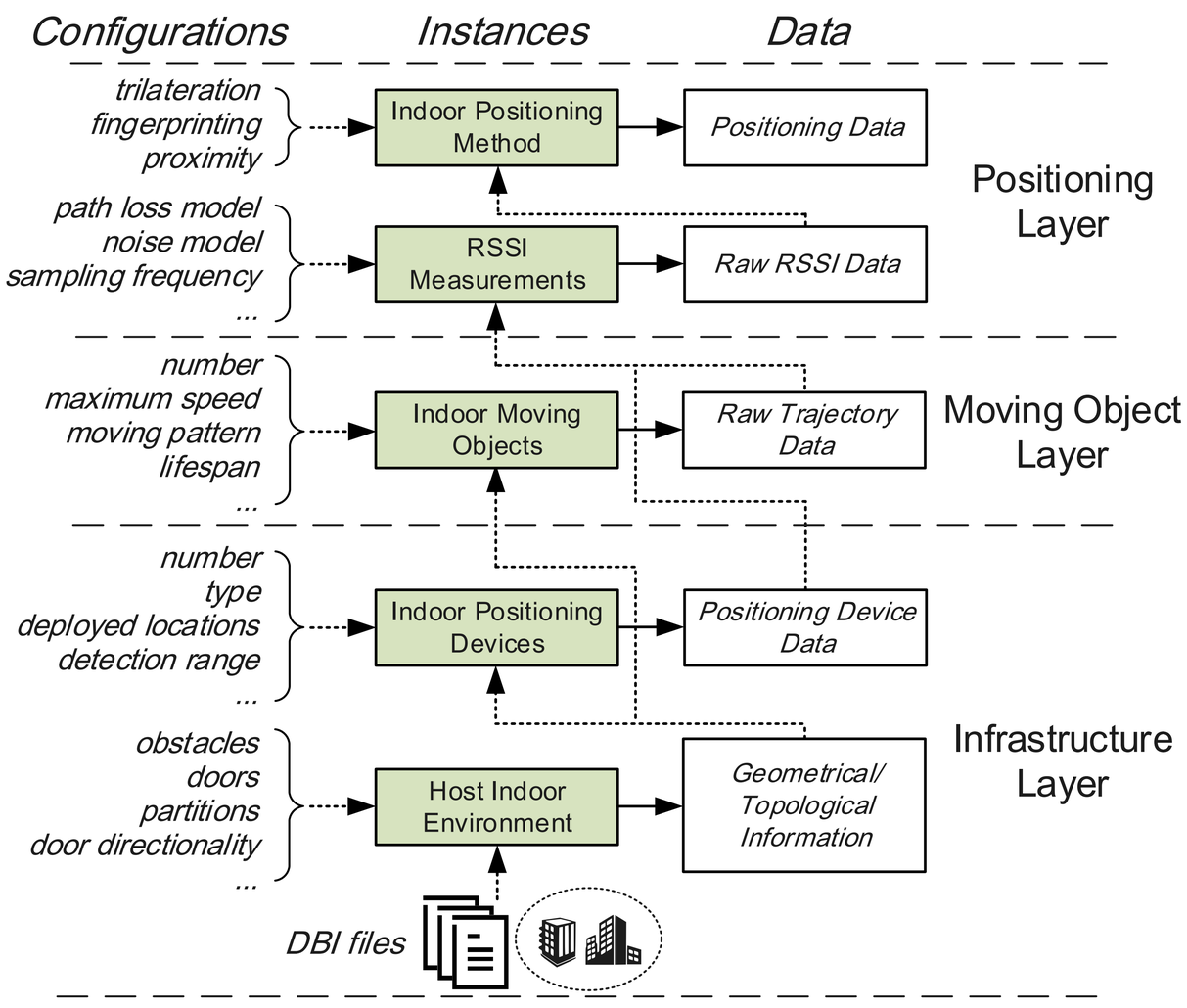
GENERAL DATA FLOW FOR INDOOR MOBILITY DATA GENERATION



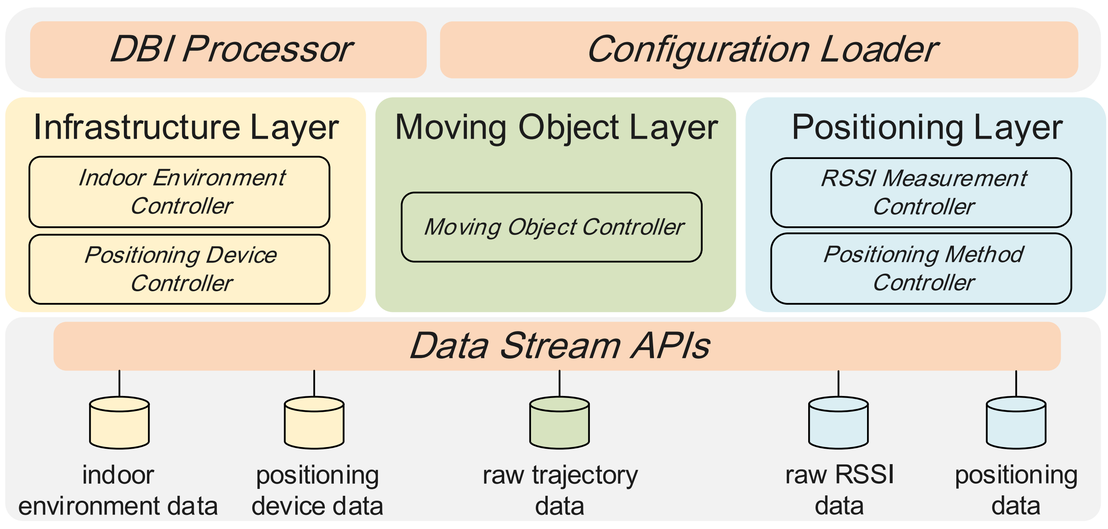
Analytics on indoor mobility data has emerged as a promising research frontier, the database community is still missing a synthetic data generator with important features.

→ can simulate high volumes of indoor mobility data for evaluating location-dependent queries/algorithms assuming different indoor positioning technologies;

→ can provide "ground truth" for the simulated data in spite of the discrete nature of the data (necessary for effectiveness studies).

- Industry-standard Building Designing Files as Input
- Moving Patterns & Distribution Models for Generating Indoor Objects
- Keep both the Mobility Data and the "Ground Truth" Trajectories
- Supporting Multiple Indoor Positioning Algorithms

DESIGN

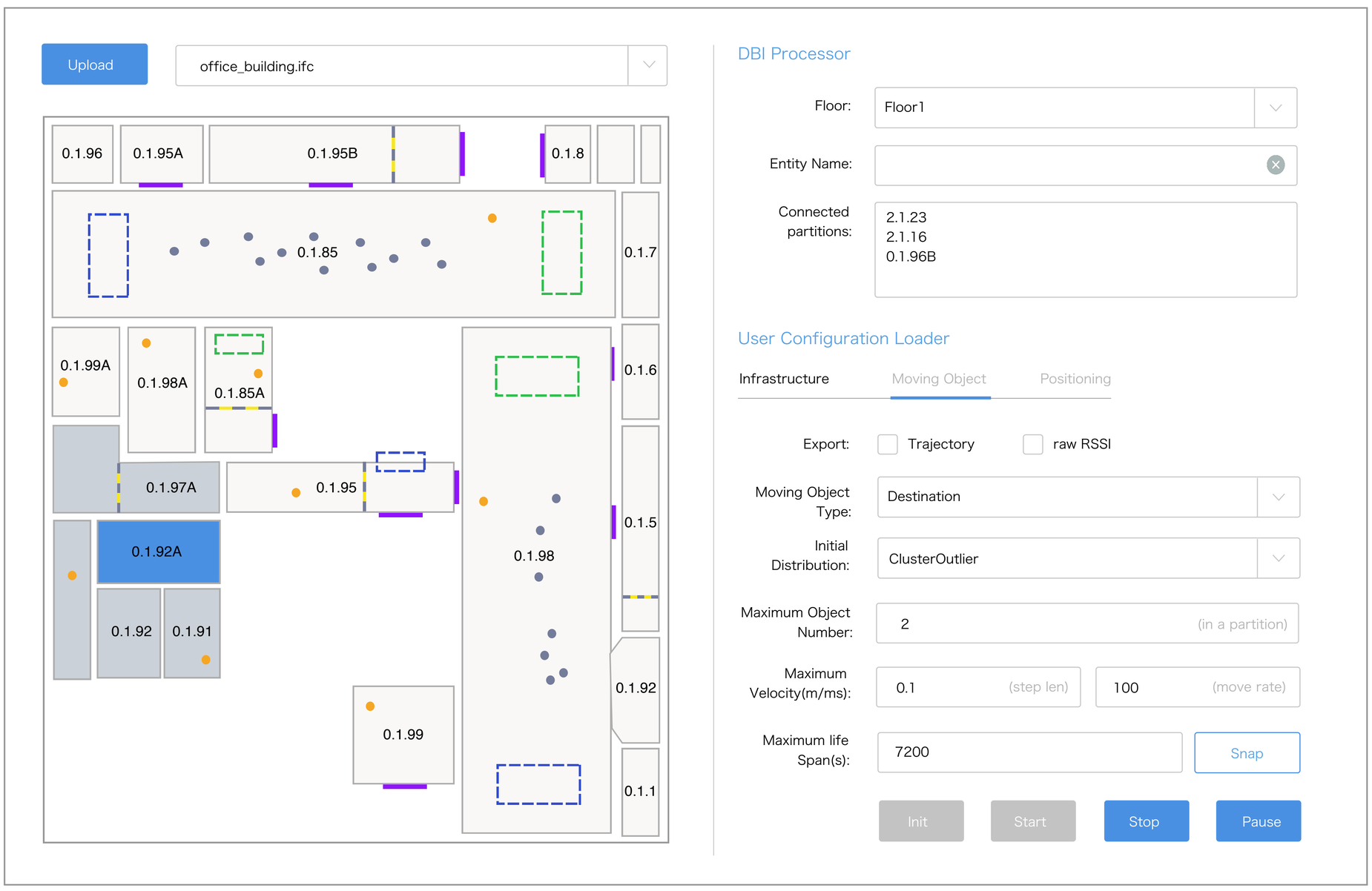


Interface — *reads and extracts the meta-data from user's input*

Producer — *receives meta-data from the Interface, produces specific types of data, and exchanges them with the Storage at relevant layers*

Storage — *serves as both the data provider and data keeper*

DEMONSTRATION



System Website.

A Demo Video.