

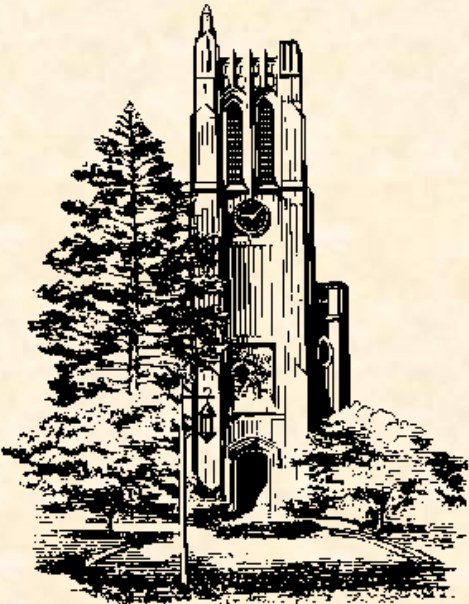
Beta Demonstration Irrigation Distribution Uniformity Analysis

Team 7. Toro
CSE 498, Collaborative Design

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Brett Janer
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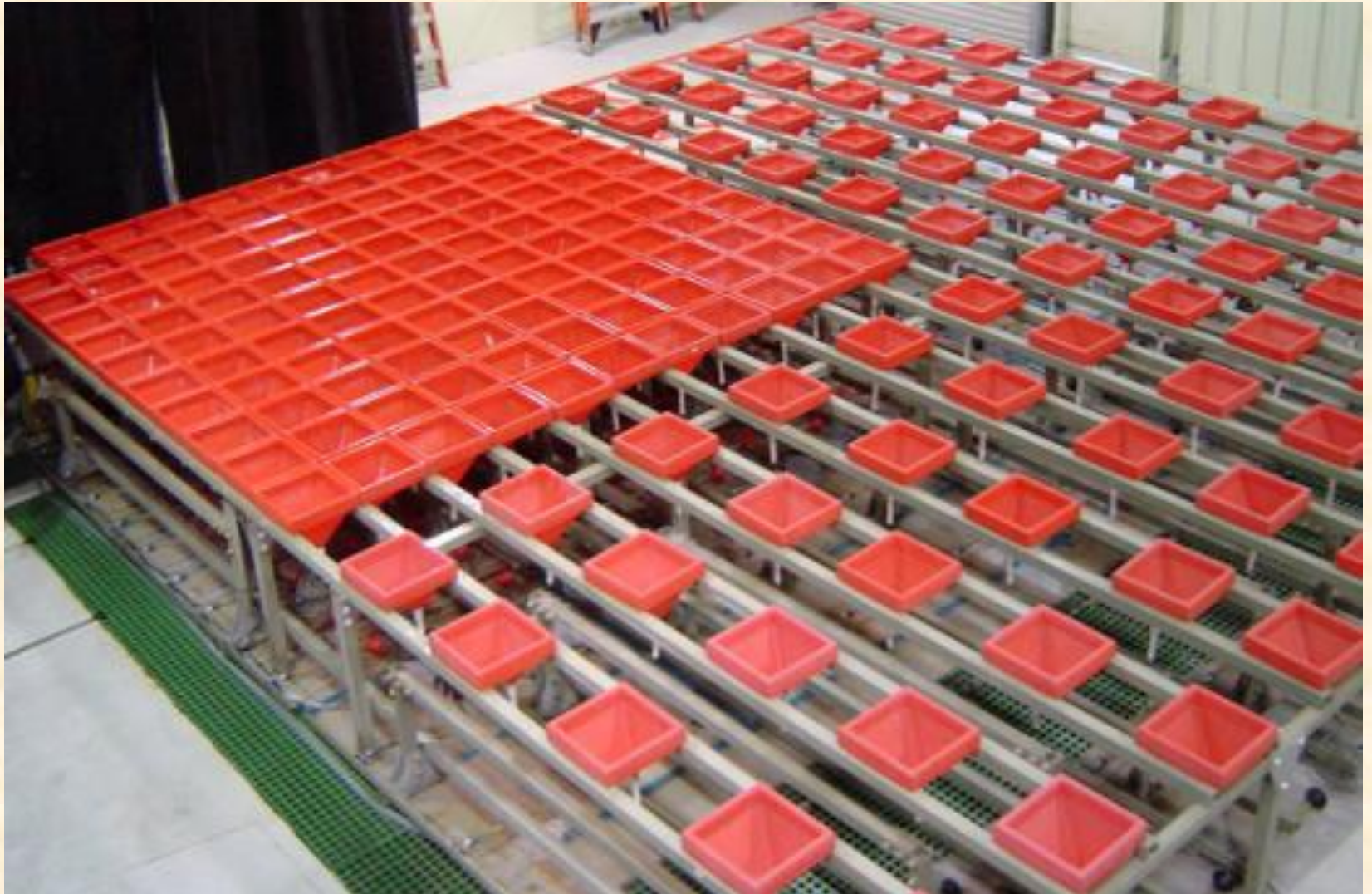
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Michigan State University

Fall 2009



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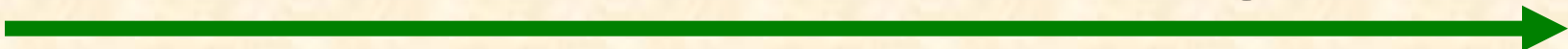
Overview: Sprinkler Testing



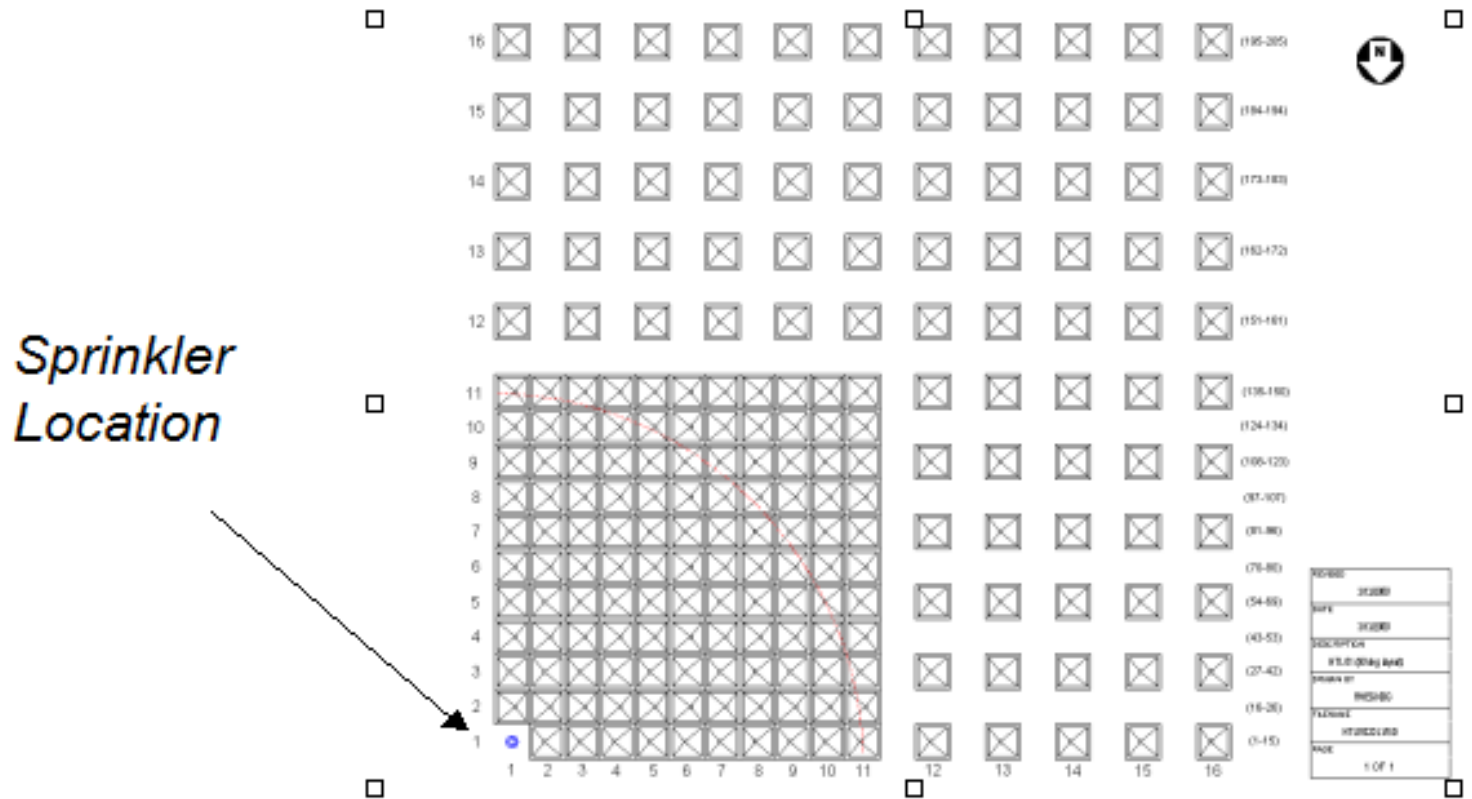
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Overview: Data Modeling



Collector Cup Grid Layout





Project Overview

- IDUA is a tool to assist engineers with finding the most efficient arrangement of sprinklers to ensure uniform irrigation
- Retrieves sprinkler test data stored in a MS Access database and performs transformations and calculations
- Represents findings in a visual graph known as densogram

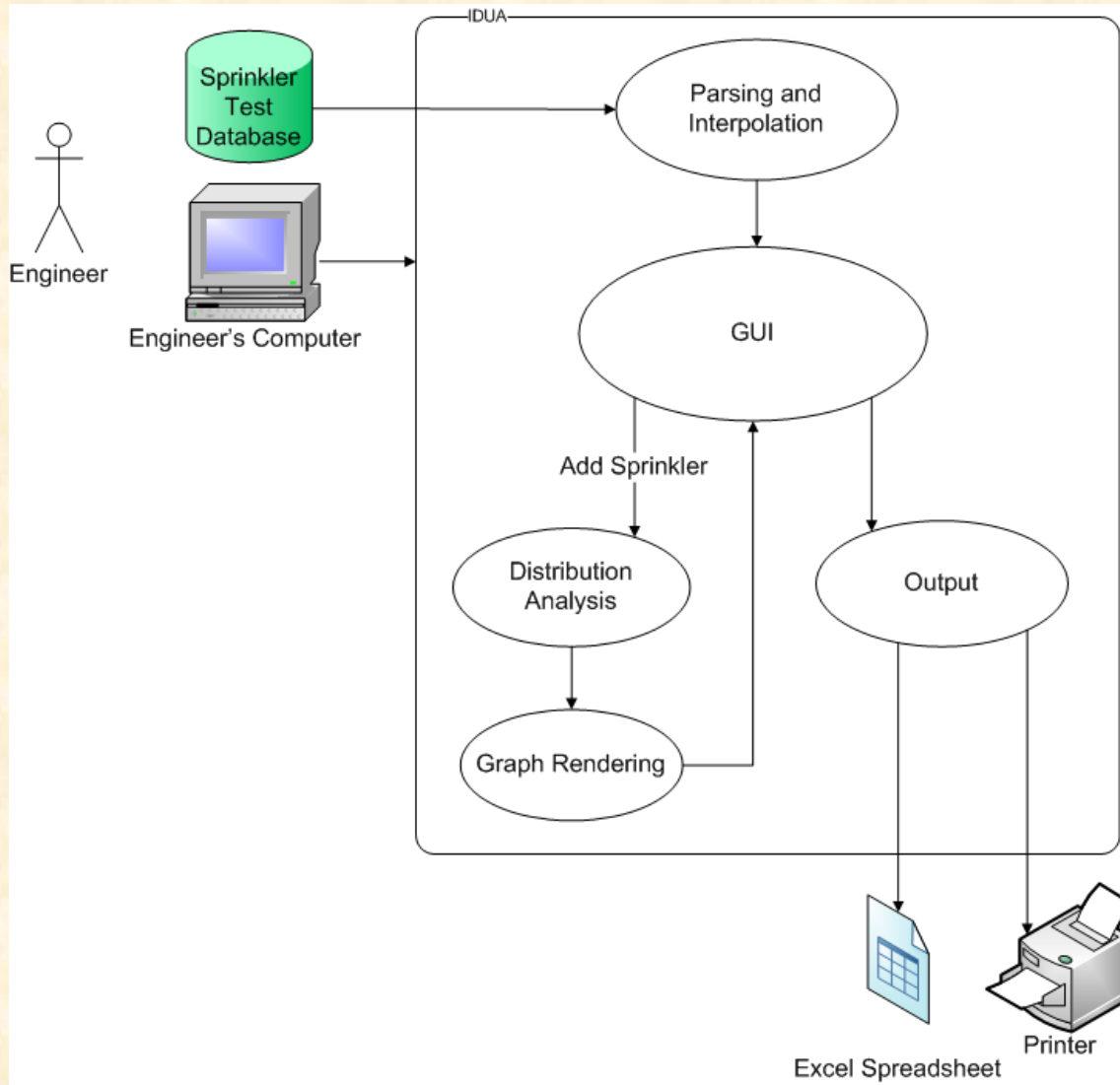


Project Overview, cont.

- Multiple modes: Automatic and manual
- Automatic mode allows for a single sprinkler type to be placed in preset arrangements
- Manual allows for multiple types of sprinklers to be placed as desired

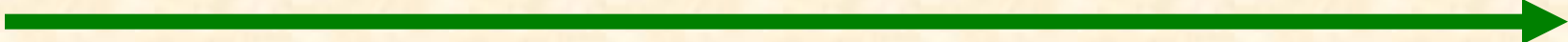


Architecture Illustrated





Program Demo



Team 7: Toro

Irrigation Distribution Uniformity Analysis

File Tools

TORO

Automatic
 Manual

Clear Graph Densogram Print

Toggle Grid

+ - Zoom

Automatic Settings

Square
 Triangle
 Line

Scale:

Manual Settings

X:
Y:
Angle:

Move Delete

Load File

Clear Selected

Distribution Uniformity: Scheduling Coefficient: Model:
Christiansen's Uniformity: Precipitation Rate: PSI:

Comments

Irrigation Distribution Uniformity Analysis