
Bubonic Plague 2015

High Level Design (HLD) Document

1. Introduction

The Problem:

Our goal is to model the spread of the bubonic plague using Vensim, Excel and AgentCubes. In addition, we will reflect on the effectiveness of each approach in modeling our topic. The main factors in our model are the human and rat populations.

Our Group Project 1:

The 2015 Shodor Apprentice group will write project ideas on the whiteboard as project proposals. With groups of 2-3 based on project interest, we will **use the whiteboards and notebooks to work out ideas and form a plan** to build a model in Excel, Vensim, and AgentCubes Online. Based on our project topics, we will compare what we can learn from using the various modeling tools, emphasizing the strengths and weaknesses of each modeling approach. At the end, we will be presenting our group project to the class from our website making it viewable to the general public.

2. Subject Matter Experts Agreement List

Name	Title/Role	Mandatory Reviewer (y/n)	Approved
Nikhil	Apprentice: AgentCubes	Y	Y
Albert	Apprentice: Excel	Y	Y
Adithi	Apprentice: Vensim	Y	Y
Ernie Edinboro	Supervisor	Y	
Shodor	Client	Y	

Aspects

Aspects in all three models:

- Healthy humans
- Sick humans
- Dead humans
- Dead rats

Agent Cubes:

- Healthy Rats
- Sick Rats
- Natural rat birth/death
- Rat and human immunity

Vensim:

- Rat and human immunity
- Birth Rate
- Natural rat birth/death

Desired Behavior / Components

- Website
 - Description of our group project
 - our group's comparisons of the various modeling tools
 - Link to each project
 - HLD document will be downloadable file
 - Excel project
 - will be a downloadable file with screenshots of our project.
 - Have detailed description on how use our model
 - Description of what software is need to open you model
 - Vensim project
 - will be a downloadable file with screenshots of our project.
 - Have detailed description on how use our model
 - Description of what software is need to open you model
 - Agents Cube Online project
 - will be link to the Design/Edit version of our project with screenshot
 - Have brief description on how use our model on our website with screenshot.
 - Description of what software is need to open you model
 - Detailed description written in Agent Cube Online project on how to use the model.
- **Each person** will host a copy of the group website from their personal website.
Example:
 - shodor.org/~ernest/groupProject1
 - shodor.org/~rpanoff/groupProject1

○ shodor.org/~ldiala/groupProject1