Modeling the Sociodynamics of Applause

Midterm Presentation

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Outline

Congress

State of the Union

Value and Application

Ideally, the Model:

1. Measures approval/acceptance of subject,
2. Can be applied to get a create a full blown applause,
3. Describes the transfer of ideas and the rate of approval,

Meet the Sponsors

Because the project is in research phase the sponsors have been chosen to be in an academic setting

1. Department of Applied and Mathematics and Statistics at JHU

   is well known for its multi-faceted and verastile research as well as its industrial connections

2. Department of Sociology at JHU

   is well known for its research in group psychology, social interactions, and group dynamics

Once a model is produced more industrial sponsors such as google, facebook, HBO, etc. can be added.

Goals

The main goal is to model the dynamics applause in an audience and to establish the critical mass needed to start a full blown applause.

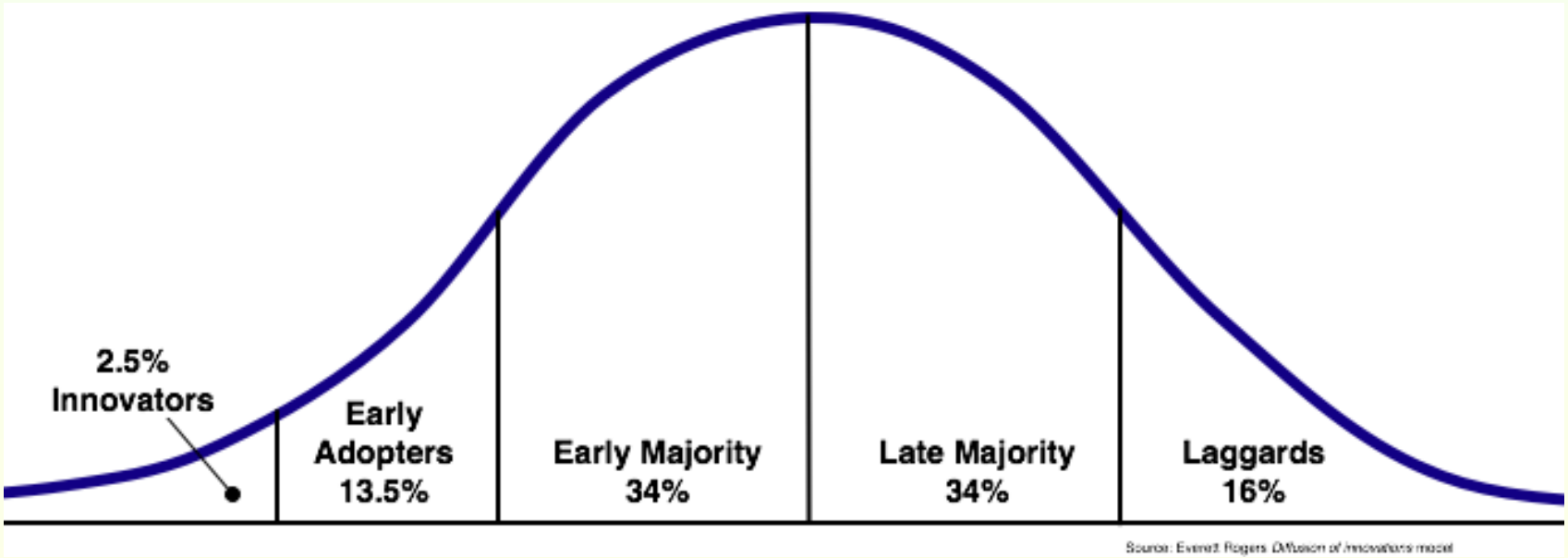
Deliverables:

1. A simple model of the individual,
2. An integrated model of the crowd,
3. A simulation to demostrate behavior given parameter changes,
4. Technical reports and presentations summarizing the work.

Related Work

1. Diffusion of Innovations by Everett Rogers

   Details the behavior and adoption of innovations and categorizes adopters.



Categories of Innovativeness

Key Observations

1. Members in the crowd are compelled to clap if crowd is clapping,
2. The greater the intensity and duration of applause the greater the approval,
3. After a full blown applause, there is a wait period in which clapping would be too late and full applause can not be generated,
4. Willingness of individual members to clap depends on percieved intensity, stimulus, emotional state, and resistance to the crowd.

Key Assumptions

1. Stimulus (speech, opinion, performance, etc.) is average and constant,
2. Clapping is only a result of a positive response other reasons are disregarded,
3. Psychological state of individual is stochastic

First Objective

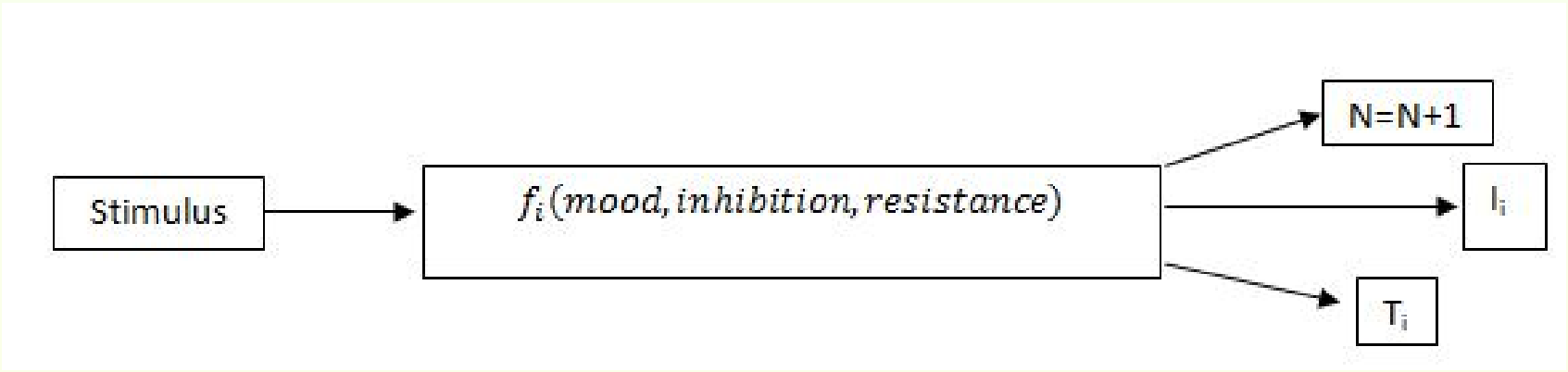
We will model individual as a open loop system.

3 factors to consider:

1. mood (happy, sad, angry, etc.),
2. resistance and connectivity with the crowd,
3. social inhibition.

First Objective

Let N be the population that claps, I be intensity and T be duration then we can think of the individual as:



Scheme of the Individual

Second Objective

The second objective is to integrate the indivual models to examine the behavior of the population.

The critical mass/threshold needed to start a full-blown applause will be determined.

Simulation

The simulation will be coded using Matlab with R documentation

Time Permitted

If time permits we will examine recordings of speeches, performances, etc. We will determine the average intensity of a clap.

Milestones

Milestones

1. Work Statement, Sep 28,2012,
2. Midterm Presentation, Oct 17,2012,
3. Progress Report, Oct 26,2012,
4. Final Presentation, Nov 6,2012,
5. Final Report, Nov 30,2012.

Deliverables

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1. A simple model of the individual,
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4. Technical reports and presentations summarizing the work.

To be Done (Objectives):

1. Derive a function from observations for individual models,
2. Derive a function that integrates individual models,
3. Integrate models,
4. Algorithm for simulation.

To be Done (Deliverables):

1. Progress Report, Oct 26,2012,
2. Final Presentation, Nov 6,2012,
3. Final Report, Nov 30,2012.

Future Steps

1. Get feedback
2. Establish Individual Model

THANK YOU