Simulating Strategic Interaction on Online Marketplaces

[How to Survive Dynamic Pricing Competition]

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ABSTRACT

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1. INTRODUCTION

@TODO:

- Stress motivation of this topic in general
- stress motivation of a simulation platform since pricing strategies can be currently only testing in the field
- This shall provide a more academic approach to evaluate pricing strategies and their effects and interaction

[1] [2] [3] [4].

2. ARCHITECTURE

- (micro-)service architecture
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3. SERVICE CHOREOGRAPHY

@TODO: how do the services interact, how do we secure some major challenges in short sentences.

- fraud / cheating

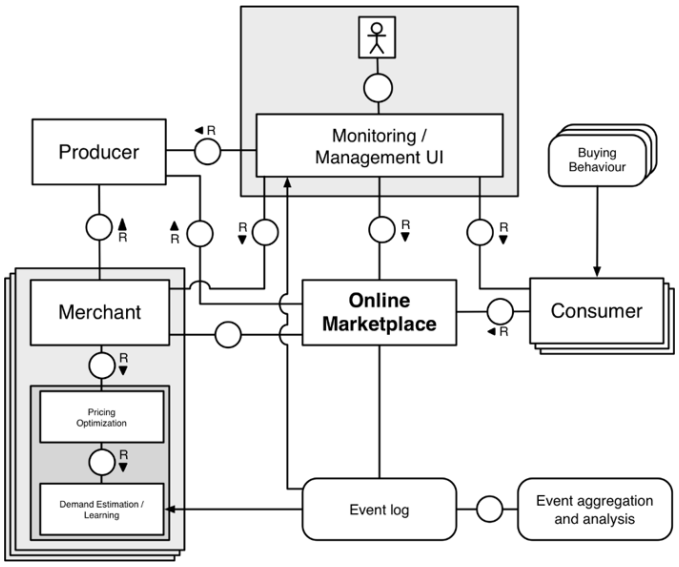

Figure 1: FMC

- inter service communication (via REST and connection pools)
- where are limits / bottlenecks?

4. BEHAVIORS

Consumer:

- Sigmoid distribution around twice of producer price
- Logistic regression coefficients which are used to calculate selling probability for consumer to buy

Merchant:

- Gas Station strategy
- Logistic regression
- Be the n-cheapest
- fix price

5. USER INTERFACE

TODO: some words regarding the UI, angularJS based. with socket.io for events, orchestrates the service interaction

Figure 2: Price Graphs

6. CONCLUSION

@TODO:

The source code and the documentation will be publicly available at
https://github.com/hpi-epic/masterproject-pricewars
while screencasts are accessible under
https://www.youtube.com/watch?v=75dStkQiYNo,
https://www.youtube.com/watch?v=sdo328JU_0Y, and
https://www.youtube.com/watch?v=YJG9fGpJU_8.

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References

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