



Strategy of Continuous Experimentation

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REFERENCE: OVERLAPPING EXPERIMENT INFRASTRUCTURE

[HTTPS://STATIC.GOOGLEUSERCONTENT.COM/MEDIA/RESEARCH.GOOGLE.COM/EN//PUBS/ARCHIVE/36500.PDF](https://static.googleusercontent.com/media/research.google.com/en/pubs/archive/36500.pdf)

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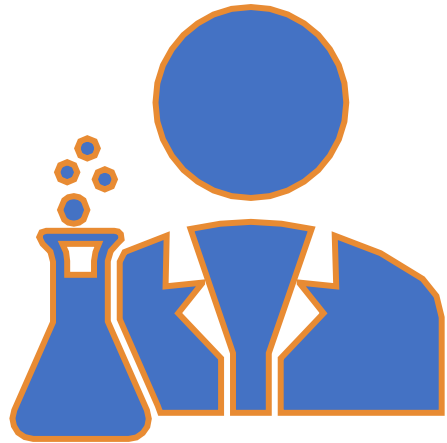
EXPERIMENTATION



EXPERIMENTATION
INFRASTRUCTURE



TAKEAWAYS



EXPERIMENTATION

Introduction



What is an experiment ?

Challenges and Needs

Large scale experimentation

1000+ Experiments - Google, Facebook

Limited traffic

Social processes

Sophisticated experiment infrastructure

Supporting analysis infrastructure

Examples

Optimizing a marketing campaign

Impact of changes to the UI

Impact of changes of search algorithms

Impact of changes of algorithms of targeted ads

If you can measure it, anything can be the subject of your experiment

Social Processes and Mindset



Business impact of everything you do

Success metrics - business, product, customer



Anything you can measure is the scope of an experiment

Insatiable appetite for experimentation



Culture of sophisticated experimentation

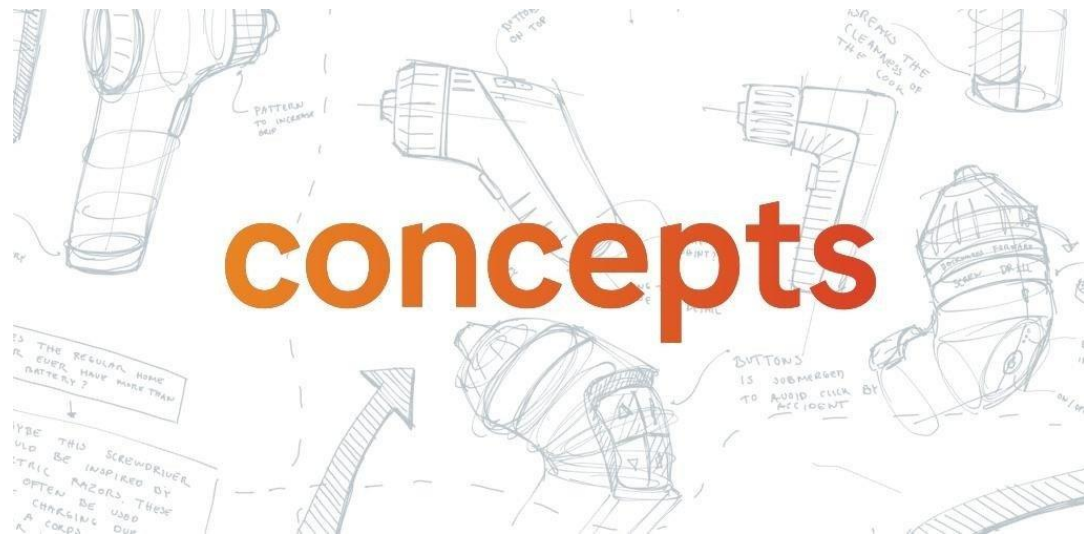
Standardized metrics for organization

Support structure



EXPERIMENTATION INFRASTRUCTURE

Elements of the Infrastructure



Control: Results without an experiment

Ability to test on subset of users

Ability to setup an experiment in part of the code

Ability to setup inputs

Ability to log results

Ability to analyze results

Experimentation infrastructure that enables "more, better, faster" experiments

Elements of the Infrastructure: Domain



Domain: Segmentation of traffic

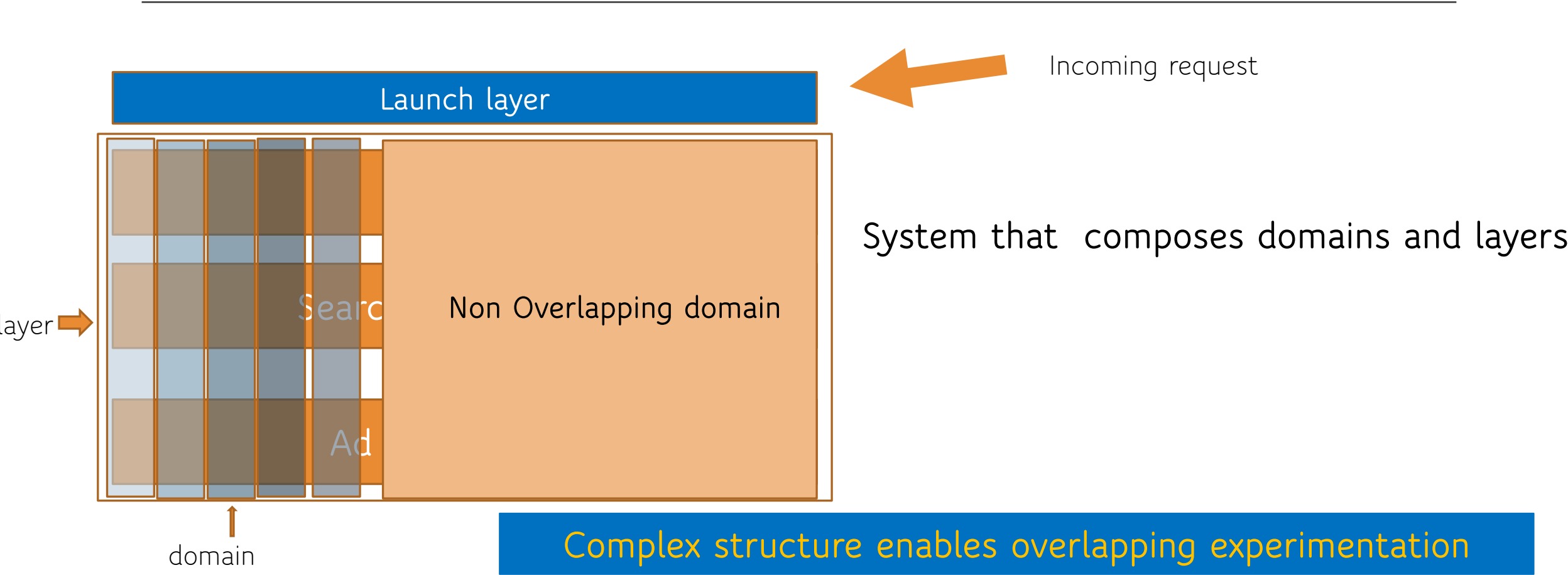
How do you divide traffic to enable multiple experiments ?

Mathematical methodologies to divide traffic

Consistent customer experience : Customer part of the same experiment

Ability to divide scarce resource of traffic among various experiments

Elements of the Infrastructure: Layers



Elements of the Infrastructure: People Side

Experiment Council

Group of Engineers who review experiment setup

Experiment checklist

Goal: Educate on proper experiment design

Dissemination of best practices

Data Interpretation Forum

For experimenters to discuss results with experts

Knowledge repository

Understand how to interpret results

Social structure that grows the experimentation culture



TAKEAWAYS

Takeaways

More, better and faster experimentation

Parameterize everything to enable experimentation

Fast Analytics to analyze results

Culture and Social Processes are a requirement

Additional reading

<https://hci.stanford.edu/publications/2014/planout/planout-www2014.pdf>

Planout - Facebook