Hypothesis Driven Development
In Practice

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Continuous Delivery?
Speed
Available at Amazon
Better, Faster, Cheaper
Finished means in the hands of users and delivering value, not just ‘in production’

- Dave Farley
Hypothesis Driven Development

We Believe That (a discount with a timeout on the shopping cart)

Will Result In (increase of conversion from items placed in shopping cart to order)

We Will Have Confidence To Proceed When (we see a 2% increase in number of orders from shopping cart)
1. A Clear Goal
“Decrease abandoned shopping carts”
Goals

Goal: Decrease abandoned shopping carts

Goal: Increase number of products purchased per session

Goal: Increase return visits
2. Measure
**Metrics**

**Goal:**
Decrease abandoned shopping carts

**Goal:**
Increase number of products purchased per session

**Goal:**
Increase nr. of purchases of more than 1 item at a time

**Goal:**
Increase return visits

- Nr. of clicks on ‘Buy’ in the shopping cart
- Time to return visit
- Nr of visits in first 30d
Pirate Metrics
People visiting product page 15%
People putting book in shopping cart 10%
People buying the book 3%
Feature Ideas

**Goal:** Decrease abandoned shopping carts

- **Idea:** Discount with a timeout
- **Idea:** Bigger buy button
- **Idea:** Single click checkout
- **Idea:** Precalculate shipping
- **Idea:** Threaten to sue if they don’t buy
Tests (aka MVP)

Idea:
- Threaten to sue if they don’t buy
- Discount with a timeout
- Bigger buy button
- Single click checkout
- Precalculate shipping

Test:
- Add simple unchecked timer
- Make button big
- Add single-click checkout for trusted customers
- Show customers w/ known address shipping costs
3. Decide
Hypothesis Driven Development

We Believe That a discount with a timeout on the shopping cart

Will Result In increase of conversion from items placed in shopping cart to order

We Will Have Confidence To Proceed When we see a 2% increase in number of orders from shopping cart
4. Get Ready...
Feature Toggles
<VirtualHost *:80>

RewriteEngine On

##
## Set search-variant cookie A/B
##
SetEnv VARIANT old

# cookie is not already set
RewriteCond %{HTTP_COOKIE} !variant=(^[^;]+)
# ... the number of seconds of the time right now ends with...
RewriteCond %{TIME_SEC} [01]$  
# Set cookie to 'new'
RewriteRule ^/detail/.* - [C0=variant:new:%{HTTP_HOST}]

# Serve the new page for detail pages
RewriteRule ^/detail/.* /app.php [E=VARIANT:new,L,PT]

# Proxy everything else to old site
RewriteRule ^.* ${{OLDSITE_URL}}/ \$1 [P,E=VARIANT:old]

ProxyPassReverse ${{OLDSITE_URL}}/ 
ProxyPreserveHost On
</VirtualHost>
4. Code!
4. Track it!
Use What You Have

grep | sed | awk | cut | wc

logstash / kibana / grafana

google analytics
### Dashboard It

<table>
<thead>
<tr>
<th>Category</th>
<th>User Status</th>
<th>Conversion %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition</td>
<td>Visit site (homepage, search page, detail page)</td>
<td></td>
</tr>
<tr>
<td>Acquisition</td>
<td>Doesn't bounce (2+ pages, 2+ clicks, stays 10+ sec)</td>
<td></td>
</tr>
<tr>
<td>Activation</td>
<td>Happy 1st visit (X pages, Y clicks, Z sec)</td>
<td></td>
</tr>
<tr>
<td>Activation</td>
<td>Leaves contact details (email addr., facebook, linkedin, ...)</td>
<td></td>
</tr>
<tr>
<td>Activation</td>
<td>Creates account (profile info)</td>
<td></td>
</tr>
<tr>
<td>Retention</td>
<td>Reacts to contact attempt (e-mail open, notification clickthrough, ...)</td>
<td></td>
</tr>
<tr>
<td>Retention</td>
<td>Repeat visitor (3+ visits in a month?)</td>
<td></td>
</tr>
<tr>
<td>Referral</td>
<td>Refers 1+ people to visit the site</td>
<td></td>
</tr>
<tr>
<td>Referral</td>
<td>Refers 1+ people that activate</td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>Uploads CV -&gt; cv-database product</td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>Clicks on Apply button -&gt; job placement product</td>
<td></td>
</tr>
</tbody>
</table>
Thanks!

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