Innovation and Hackathons: Starting a Program that Ensures Relevance in Your Industry

Mark LaBell Jr
SR VDC Technical Leader @SSOEGroup

Join the conversation #AU2017
Learning Objectives

- Understand the simple structure that can be put in place to gather ideas for innovation, and the importance of a flexible, self-evolving format to allowing ideas to grow and mature through the process.
- Recognize the importance of creating an organizational culture and environment that embraces new ideas from untapped demographics, business goals, and technology solutions to foster the ideas that are developed.
- Understand the value a diverse group of people and perspectives can bring to improving ideas and developing better solutions to identified problems.
Learning Objectives

- Understand the importance of how ideas developed in the “hackathon” are carried forward including: how requiring a business plan and ROI can improve focus, the need to give employees an audience at the highest level when presenting the ideas, the critical nature of communicating back progress once ideas are handed off for consideration and implementation.

- Understand the secondary, or perhaps even primary, benefit that follows giving your Gex X and Millennial employees a voice that comes in the form of enhanced employee engagement.
Agenda

1. Intro
2. Hackathon Process
3. Hackathon Ideas
4. Management Support
5. Example of Success
6. Q&A
SSOE Group is a global project delivery firm for architecture, engineering, and construction management founded in 1948 and headquartered in Toledo, Ohio.

- Provides quality project solutions to semiconductor, automotive, food, chemical, glass, manufacturing, healthcare, power, and general building industries.
- 1,100+ employees and more than 20 offices around the world.
“One Company, One Culture” Initiative

- Year-long, company-wide rollout for all employees.
- Phased approach that builds upon itself.
Don’t let who you are prevent you from bringing innovation to the table.
Why Engage Gen-X and Millennials?

- Encounter challenges, but not in a position to drive change.
- Projected to make up 50% of the workforce by 2020; 75% by 2025.
Why Engage Gen-X and Millennials?
HACKATHON PROCESS
How many of your daily tasks could be automated?

By Michael Chui, James Manyika, and Mehdi Miremadi

“45% of employee time could be automated by adapting currently available or demonstrated technology.”
Back to the Future

- Ray Kurzweil boasts an 86% prediction rate on the future.
- 1900, 38% work on Farms, 25% in Factories
- 2015, 2% work on Farms, 9% in Factories
- We create new types of higher skilled jobs
Where did the idea come from?
3 Key Components

Keep it simple.

Self-evolution of format.

New idea generation – gathering ideas from every corner of the organization.
Hackathon Process

**DAY 1:**
- Idea generation
- Sticky dot voting
- Form teams
- Refine ideas
- Present for feedback

**DAY 2:**
- Develop business case
- Create presentation
- Pitch to management
- Path forward
What Does a Hackathon Look Like?
What Does a Hackathon Look Like?
What Does a Hackathon Look Like?
HACKATHON IDEAS
Hackathon Ideas

- Technology enhancements
- Workspace improvements
- Corporate initiatives
- Project improvements
- New revenue creation
Participation Across Office Locations

8 OFFICE LOCATIONS

STUDENT INTERN
DESIGNER
ENGINEER 1 – 5
ARCHITECT
SECTION MANAGER
PROJECT MANAGER
MARKETING
QUALITY SYSTEMS
TECHNICAL SPECIALIST
Demographic Breakdown

- 63% BABY BOOMER
- 29% GENERATION X
- 8% MILLENNIALS

Gender Breakdown
- 71% MALE
- 29% FEMALE
Connecting Ideas to ROI

- Iterative process to focus ideas and make a valuable business case.
- Develops skills necessary for career progression.
- Present to executive leadership at annual planning summit – exposure to this is part of the value for younger staff.
MANAGEMENT SUPPORT
Management Support

- Not every idea has to be implemented ... how do you evaluate effectively?
Management Support

- Need a progress loop
- Importance of communication
- Implementation
Management Support for Execution

Forum to present ideas.

Tracking mechanism / prioritization.
HACKATHON TOOLS
Tips for Canvas Usage

- Best done with a moderator
- Start with client focus
- Get picture of hack pack
The Value Proposition Canvas

Value Proposition

Customer Segment

Gain Creators

Products & Services

Pain Relievers

Gains

Customer Job(s)

Pains
<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
<th>Unique Value Proposition</th>
<th>Unfair Advantage</th>
<th>Customer Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 3 problems</td>
<td>Top 3 features</td>
<td>Single, clear, compelling message stating why you are different and worth paying attention to</td>
<td>Can't be easily copied or bought</td>
<td>Target customers</td>
</tr>
</tbody>
</table>

**Key Metrics**
Key activities you measure
Examples: Monthly active users, Website unique visitors, Sales calls, Revenue, Requests for info

**The "Wow!"**
The one insanely cool feature that every review will rave about

**Channels**
Path to customers
Examples: Website, Sales force, Resellers, Distributors, Direct response mail

**Cost Structure**
Examples: Customer acquisition costs, Distribution costs, Web hosting, Employees, Manufacturing, Support

**Revenue Streams**
Examples: Direct sales, Subscriptions, Training, Support contracts, Upgrades
LUMIAMI

- Based on research from Autodesk Genome Project
- Moderator led event
- Each letter stands for the 7 essential questions
- Which then breaks into 49 questions
- For more information http://innovation.autodesk.com/
The 7 Essential Innovation Questions

I = IMAGINE
L = LOOK
M = MAKE
U = USE
A = ALTER
I = INTERCONNECT
M = MOVE

[Innovation Target]
## The 7 Essential Innovation Questions
from the Innovation Genome Project

<table>
<thead>
<tr>
<th>LOOK</th>
<th>What could we <strong>look</strong> at in a new way, or from a new perspective?</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE</td>
<td>What could we <strong>use</strong> in a new way, or for the first time?</td>
</tr>
<tr>
<td>MOVE</td>
<td>What could we <strong>move</strong>, changing its position in time or space?</td>
</tr>
<tr>
<td>INTERCONNECT</td>
<td>What could we <strong>interconnect</strong> in a different way, or for the first time?</td>
</tr>
<tr>
<td>ALTER</td>
<td>What could we <strong>alter</strong> or change, in terms of design and performance?</td>
</tr>
<tr>
<td>MAKE</td>
<td>What could we <strong>make</strong>, creating something that is truly new?</td>
</tr>
<tr>
<td>IMAGINE</td>
<td>What could we <strong>imagine</strong> to create a great experience for someone?</td>
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</tbody>
</table>
The 49 Essential Innovation Questions from the Innovation Genome Project

<table>
<thead>
<tr>
<th>LOOK</th>
<th>HIGHER</th>
<th>REVERSE</th>
<th>VALUES</th>
<th>KID</th>
<th>IGNORE</th>
<th>HOLISTIC</th>
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<tr>
<td></td>
<td>What could we</td>
<td>REVERSE or look</td>
<td>What VALUES</td>
<td>How could we</td>
<td>What could we</td>
<td>How could we</td>
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<td></td>
<td>look at from a</td>
<td>at inversely?</td>
<td>could we switch?</td>
<td>look at this</td>
<td>IGNORE everyone</td>
<td>look at this</td>
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<td></td>
<td>HIGHER level?</td>
<td></td>
<td>(Bad/Good)</td>
<td>like a KID</td>
<td>“knows is true”</td>
<td>in a more</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>would?</td>
<td></td>
<td>HOLISTIC way?</td>
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<th>USE</th>
<th>LEVERAGE</th>
<th>FOUNDATION</th>
<th>SUBSTITUTE</th>
<th>ASPECT</th>
<th>APPLY</th>
<th>CHANGE</th>
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<td>What could we</td>
<td>What could we</td>
<td>What new</td>
<td>What could we</td>
<td>What could we</td>
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<td></td>
<td>LEVERAGE</td>
<td>use as a</td>
<td>SUBSTITUTE for</td>
<td>ASPECT of</td>
<td>APPLY in a new</td>
<td>CHANGE and then</td>
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<td>better, or for</td>
<td>FOUNDATION for</td>
<td>something else?</td>
<td>something we</td>
<td>way or context?</td>
<td>use differently?</td>
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<tr>
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<td>the first time?</td>
<td>something else?</td>
<td></td>
<td>use?</td>
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<table>
<thead>
<tr>
<th>MOVE</th>
<th>IMPORT</th>
<th>REARRANGE</th>
<th>REPLACE</th>
<th>REMOVE</th>
<th>SPEED</th>
<th>FREQUENCY</th>
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<td>What could we</td>
<td>REARRANGE or</td>
<td>REPLACE with</td>
<td>REMOVE altogether,</td>
<td>What could we</td>
<td>What could we</td>
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<td>IMPORT from</td>
<td>reconfigure?</td>
<td>something else?</td>
<td>to help us streamline?</td>
<td>SPEED up or</td>
<td>make happen more/less</td>
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<td></td>
<td>another field or</td>
<td></td>
<td></td>
<td></td>
<td>slow down?</td>
<td>FREQUENTLY, or at</td>
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<td></td>
<td>reaim?</td>
<td></td>
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<td></td>
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<td>different times?</td>
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<th>POWER</th>
<th>COMBINE</th>
<th>NETWORK</th>
<th>TRANSPARENCY</th>
<th>OPEN</th>
<th>PARTNERSHIPS</th>
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<td>What could we</td>
<td>What could we</td>
<td>What could we</td>
<td>What people or</td>
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<td>use to POWER</td>
<td>we COMBINE to</td>
<td>turn into/make</td>
<td>make more</td>
<td>more OPEN to</td>
<td>groups could</td>
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<td>something else?</td>
<td>make a new thing?</td>
<td>more like a</td>
<td>TRANSPARENT,</td>
<td>enable co-creation?</td>
<td>form new</td>
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<td></td>
<td>NETWORK?</td>
<td>connecting us</td>
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<td>PARTNERSHIPS?</td>
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<tr>
<th>ALTER</th>
<th>QUALITY</th>
<th>DESIGN</th>
<th>PERFORMANCE</th>
<th>AESTHETICS</th>
<th>EXPERIENCE</th>
<th>STANDARDIZE</th>
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<td>How could we</td>
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<td>radically</td>
<td>change/Improve</td>
<td>change/improve</td>
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<td>increase</td>
<td>the DESIGN?</td>
<td>the PERFORMANCE?</td>
<td>more beautiful,</td>
<td>EXPERIENCE</td>
<td>align/unify to</td>
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<td>QUALITY?</td>
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<td>improve the</td>
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<td>make things</td>
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<td>AESTHETICS?</td>
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<td>better?</td>
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<th>MAKE</th>
<th>PROCESSES</th>
<th>MEANING</th>
<th>HARNESS</th>
<th>INSTANTIATE</th>
<th>FUNCTIONS</th>
<th>SPECIALIZE</th>
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<td>What new</td>
<td>What could we</td>
<td>What could we</td>
<td>What could we</td>
<td>What could we</td>
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<td>PROCESSES could</td>
<td>MEANING could</td>
<td>HARNESS to make</td>
<td>INSTANTIATE</td>
<td>make new</td>
<td>make more</td>
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<td></td>
<td>we create?</td>
<td>we create/infuse</td>
<td>something new?</td>
<td>into something</td>
<td>FUNCTIONS could</td>
<td>SPECIALIZED, and</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>new?</td>
<td>we create?</td>
<td>focused?</td>
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<table>
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<tr>
<th>IMAGINE</th>
<th>AMPLIFY</th>
<th>EASIER</th>
<th>NEGATIVES</th>
<th>CRAZY</th>
<th>SCI-FI</th>
<th>TRY</th>
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<td>What could we</td>
<td>What NEGATIVES</td>
<td>What CRAZY</td>
<td>What could we</td>
<td>What could we</td>
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<tr>
<td></td>
<td>AMPLIFY or</td>
<td>make EASIER, or</td>
<td>could we get</td>
<td>idea could we</td>
<td>learn from</td>
<td>just TRY, to see</td>
</tr>
<tr>
<td></td>
<td>increase?</td>
<td>more fun?</td>
<td>get rid of?</td>
<td>try that</td>
<td>SCI-FI?</td>
<td>what happens?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>just might</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>work?</td>
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LASER SCANNING EXAMPLE
Laser Scanning

- Hackathon idea focused on implementation at SSOE (not the technology itself).
- High investment… had to come up with a way to justify cost while adding value to projects.
Define the Process
Users Trained
Laser Scanning Case Study

- Reduced design schedule by 5 months
- SSOE profit margin 18%
- Demolition contract had only 14 RFIs
- Only one designer required for equipment process design
- Reduced false clash count by 32%
Hand Scanner Case Study

- Budgeted 80 hours of field work
- Spent 6, including 3 hours of drive time
- Used time to train engineers in Plant 3D
- Design was meant to be 2D
- Fully detailed 3D model with B.O.M. and ISOs
- Saved 100 hours on T&M
Year Long Innovation

- Hackathon idea focused on implementation of a full innovation program @ SSOE.
- Like Laser Scanning high investment… Difference Hackathons proved that value was tapping all employees for input
Crowd Sourced Yearly Program

7 MONTHS: AT A GLANCE

4/01/2017 - 11/01/2017

- Votes: 2406
- Comments: 900
- Users: 555
- Idea: 165
- Logins: 113

Best day: June 19th
New users: 21
Post views: 504
New ideas: 12
New comments: 33
Votes: 151
Key Takeaways

- Enhance employee engagement.
- Embrace new ideas from untapped demographics and understand the value of a diverse group of people.
- Importance of flexible, self-evolving format.
- How to effectively carry ideas forward.