Software Development at IBM
IBM Development Overview

- Gathering Requirements
- Choosing Technology
- Architecture and Design process
- Agile Development and Test processes
- Product Delivery and Support
- Intellectual Property
- Selling your idea
- Career Development
- What’s Hot?
Gathering Requirements

- **Sources**
  - Marketing
  - Customer requests
  - Architecture board

- **How to properly filter requirements**
  - Prioritize based on corporate initiatives
  - Cost should not be a factor at this stage
  - Leverage requirements for funding
    - Don’t overdo it! Control your own destiny
  - Market trends

- **Is this evolutionary or revolutionary?**
Choosing Technology

- Very little development is 100% “ground up”
  - Existing standards for data organization
  - Existing frameworks/runtimes
  - Existing components/apis
  - Reduce/Reuse/Recycle

- Research internally available tools

- Research open source
  - Understand the consequences of shipping open source code in commercial products
  - Commonly Apache, BSD, GNU. Beware GNU!

- Prototypes are a must!
  - You’ll learn a lot about the viability of a technology in the first week or two

- Don’t be fooled by “vaporware”

- Make sure you select a technology that will have a lifespan.
  - Have a plan for how to maintain it for the long haul.
Architecture and Design Process

- Develop Use Cases
  - Know what you want your product to be
  - Know how it should behave

- Identify all of the product attribute requirements
  - Redundancy/Backup
  - Service
  - Performance
  - Install/Delivery

- Create a workbook/design document
  - Larger products may have tiered documents
    - System/High/Low Level
  - Record all of the above information
  - Who should review it? Approve it?
Agile Development and Test processes

- **Key tenants**
  - Get it working, FAST
  - Work with others
  - Talk to your customers
  - Be responsive

- **What you gain**
  - Find gaps, issues, showstoppers much faster
  - Identify technology gaps more quickly
  - Respond to requirement changes without schedule issues
  - Spend more time developing
  - Motivated team, near term goals
  - Avoid the “burn”

- **Sprints**
- **Scrums**
Product Delivery and Support

- How is your product built?
- What platforms are you targeting?
- What is your “Go to Market” plan?
  - Fremium
  - Pre-install product
  - Embedded technology
  - User installed
- How do you know something is broken?
- Who do your customers call?
- How do your engineers get service data?
- Who fixes it?
Intellectual Property

- IP and Patent portfolio are important
- More important is the drive for innovation
  - R&D investment is critical to becoming market leaders
- It’s FUN and REWARDING
- Patents must be:
  - Useful
  - Novel
  - Non-Obvious
- It’s not as easy as you might think
- Every time you solve a “problem”, consider if you solved it in a new and novel way
- IBM Patents
  - [http://ibmblr.tumblr.com/tagged/20-Over-20](http://ibmblr.tumblr.com/tagged/20-Over-20)
“Selling” your idea

- New ideas need internal support to get funding and traction
- Keys to building support
  – Market Analysis
  – Find customers
  – Build prototypes
- Tie your idea to key corporate initiatives
- Show a roadmap that delivers value and revenue with a short term tactical solution to enable funding for longer term goals
Career Development

- Become a T Engineer
- Find Mentors
- Be a Mentor
- Be known for something
- Get exposure
- Be a leader
- Execute
What’s Hot?

- Cloud
- Big Data
- Analytics
- Energy
- Check out IBM’s 5 in 5
  – www.ibm.com/5in5