Challenges in Continuous Deployment

Laurie Williams
Distinguished Professor and Interim Department Head,
North Carolina State University
What is continuous deployment?
What is continuous development?

- Code
- Unit tests
- Code review
- Integrate
- Acceptance tests
- Deploy to production

Time:
- Minutes
- Hours
- Days

Feedback

*Some manual processing, the choices of manual were chosen randomly on this slide*
Benefits of Continuous Deployment

- More frequent releases ready for promotion on a regular cadence
- More developer empowerment/self-service/satisfaction
- Quality gains
- Productivity gains
- More automation of supporting processes (scans, checks, etc.)
- Quicker Mean-Time-To-Repair (MTTR) or defect/vulnerability remediation
- Developers can get instant signal about how their code is working in PROD rather than waiting days/weeks
Challenge 1: Database schema, architecture, and other large changes
Challenge 2: Privacy and security
Challenge 3: Costs/complexity of feature experimentation
Challenge 4: Technical debt ... and complexity
Challenge 5: Radically different testing strategies
Challenge 6: Mobile deployment
Challenge 7: Tool investment required
Challenge 8: Major culture shift

WHEN YOU ARE THE MIDNIGHT PHONE CALL
Summary: Transition to continuous deployment

• Lots of change .... “this changes everything”
• Lots of benefits
• Exciting challenges
Images

- http://blog.crisp.se/2013/02/05/yassalsundman/continuous-delivery-vs-continuous-deployment
- http://windows.appy.ninja/netflix
- http://chrismcintosh.me/when-you-are-the-midnight-phone-call/
- http://martinfowler.com/articles/feature-toggles.html#WhereToPlaceYourToggle
- http://blog.crisp.se/2013/02/05/yassalsundman/continuous-delivery-vs-continuous-deployment
- https://www.dcfcu.org/updates-to-our-mobile-app/
- https://cdn-images-1.medium.com/max/400/1*xyKBvrsqwldlNAmXlw3KgA.png
Thank you