365 Shades of Grey
Release Planning for Samba

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SambaXP – 2015

Who am I?

- Software Engineer for 15+ years.
- Systems Programmer.
- Systems Engineer.
- Studied software process and release cycles at:
  - TASC Inc.
  - The MathWorks Inc.
  - Red Hat Inc.
  - **None of these companies endorse this talk.**

Why Develop Software?

- Money?
- Enjoyment?
- Prestige?
- Gun to head?

Why Release Software?

- Commercial
  - Don't! (Works for Google Mail and Search!)
  - For the money! (Works for MathWorks!)

- Open Source
  - ????
  - For the “users”?
  - For the developers?

Open Source – Reasons.

- Help the planet.
- Tell the planet about our wonderful software.
- Hope someone will buy our little start-up for money.
- Buzzword compliant.
- Fairness.
- Freedom.

- Many, many, real reasons…..

When to Release Software?

- When it benefits the people “developing” it.
  - Call these people the stakeholders.
- What about the users?
  - Without the stakeholders, there IS no software.
  - There is nothing to release!
- Obvious, but critical insight.

The Lifecycle of a Release

- Development.
- The typical “Glideslope”.
  - Feature Freeze.
  - Code Freeze.
  - Release.

- Maintenance?! - Yes, it matters!
- End of maintenance.

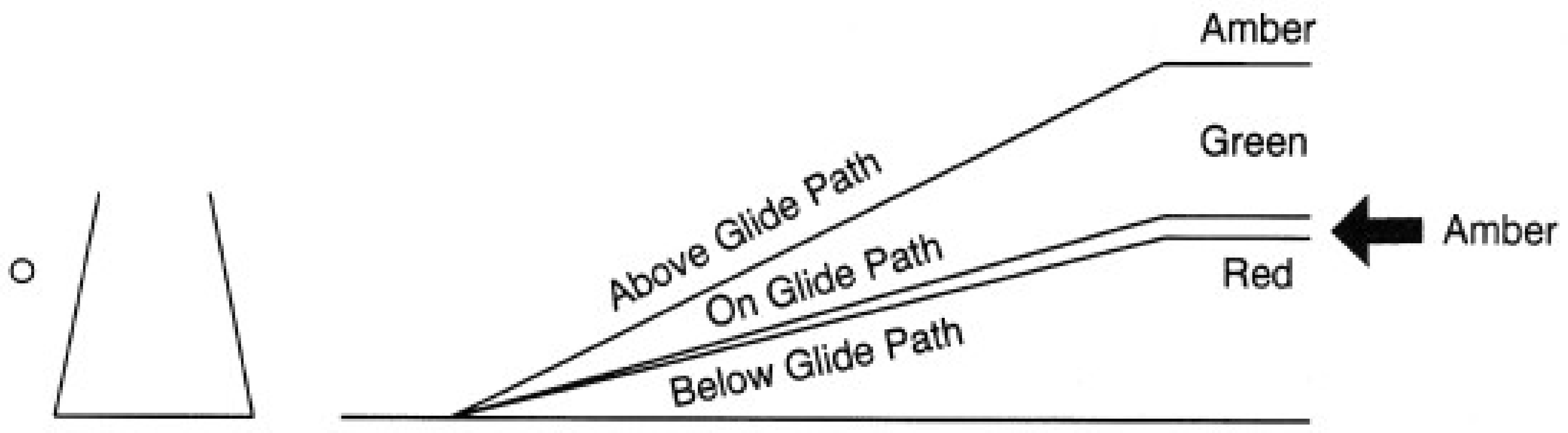
Development.

- Developers do what they do.
  - Write code.
  - Review code.
  - Make things unstable^Wbetter!
  - Run amuck!

- This is where feature development SHOULD be done.

The “Glideslope”.

- Taken from flying.

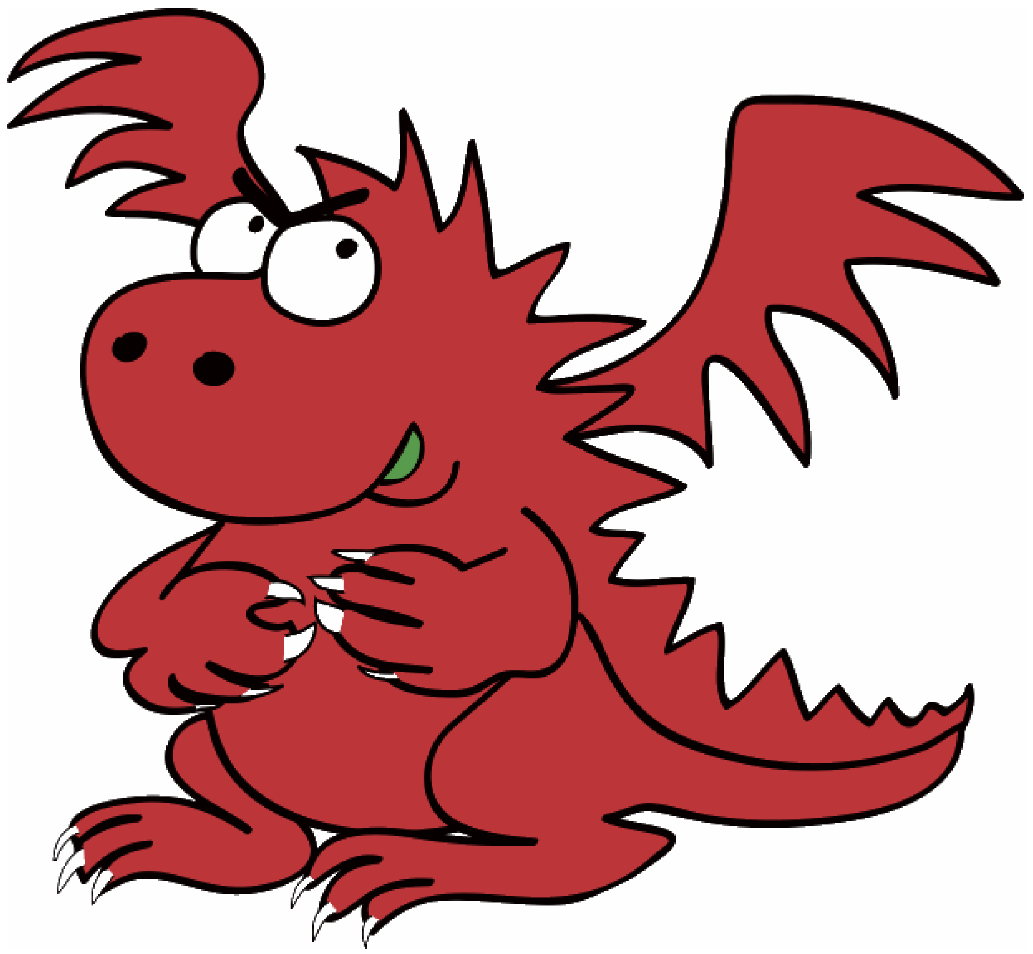


- The goal is a smooth landing.

Feature Freeze.

- Control hand-off from development to management.
- No more features after this date.
  - Exceptions?
    - I've never been somewhere there ISN'T!
    - Or worked on a project that way.
- Bug fixes go in without questions in this phase.
- Minor improvements MAY be taken.
  - Always be suspicious… There be dragons!

See... I warned you.



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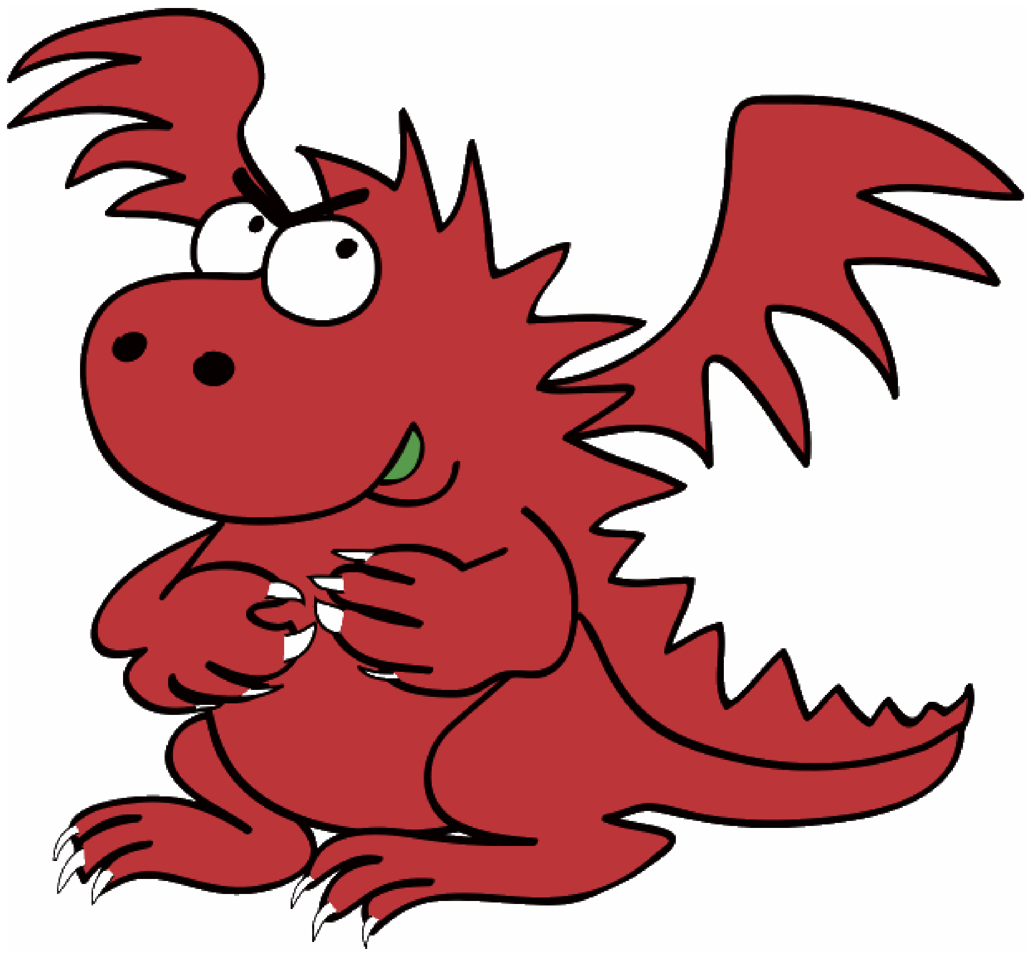
Code Freeze.

- No changes without written exceptions.
- Exceptions == Day for Day slip on the issue.
  - Just a bug is NOT enough to get in.
  - “It is only a small change.”
  - “It's almost done!”

- Only critical fixes should be made at this point.
- Changes at this point are VERY dangerous.
  - There be more dragons here!

I told you...



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How to Train Your Dragons.

- Don't have any?!
  - Not very realistic.

- Put strong conditions on waivers.
  - Any waiver should be tracked!
  - Is it REALLY a day for day slip?
  - Discipline is needed here!
- May need to be done by committee?

Glideslope Exit?

Policies You Need.

- What about late security issues?
- Late breaking data corruption issues?
- Late severe regressions?
- IMHO:
  - Decide based on what it is.

Release!

- Ask Karolin.
- She'll explain it better than I ever could!

Maintenance?

- Each branch has a set of policies that govern it.
- Nobody says they have to be the same!
- Should they be?
- Depends… who is maintaining them, and why.
  - Those who drive the maintenance, decide policy!

When to Release?

- Think about why we release…
- To benefit the “stakeholders”.
- So shouldn't release timing benefit those people?
- Some policies I've seen….

End of Maintenance

- This is a touchy issue.

- This may be a “shade of grey”.
  - No more “feature” backports.
  - No more “security” backports.

- We need to know who cares!
  - Plus, who pays.

What We Do Today.

- ~10-11 month full cycle.

- 9 months of Development.
- 1-2 months of Feature Freeze.
- 1 week of Code Freeze.

- Maintain 3 releases concurrently.
  - 1 with some back ports.
  - 2 with security back ports.

We've Got Dragons!

Today's Dragons.

- “I need to complete this feature.”
  - Release slips 2-3 months.
  - Some needed that release sooner!

- No real control of the dragons.
  - They run wild!

Problems?

- Clearly this results in about a release a year.
- No real time in Feature Freeze.
- No time at ALL in Code Freeze for the release.
- These things really hurt quality.

Benefits.

- We know what we do today.
- We actually have done this!
- It has worked for three years.
  - Do not knock this fact.

4-6 Month Cycle.

- Development is between the rest of the cycle.

- ~1-2 months for Feature Freeze. (Beta)
- ~1-2 months for Code Freeze. (RC)

- Hard stop on the time lines.
  - No dragons!

Surprise!

There Be Dragons.

- 4-6 months is a LONG time to not get a feature to the field.
- Some developers may be stuck forking on major features.
  - Look at how aggressively Red Hat backports kernel patches…
    - Red Hat does make our Samba versions available via git on git.samba.org from asn.
  - Probably not what we want for our community.

How to Train Your Dragons 2.

- We need to acknowledge the needs of our stakeholders.
- Exceptions are part of life in this type of cycle.
- Control them.
  - Train your dragons.
  - Yes, we may need a dragon tamer…
    - Or do we do it by committee?

Benefits.

- It is better than today.
- It meets the needs of at least one stakeholder better.
- Can we do better?

Linux Kernel

- Releases are ~6-8 weeks.
- Branches beyond 2-3 back are NOT maintained.
  - Anything older is basically kept up by a distro.

- ~2-4 weeks of Development.
- ~2 weeks of Feature Freeze.
- The rest is Code Freeze.

Problems?

- Fast release pace may confuse people.
- Do releases have a real meaning?
- What is a “stable” release?
- We don't have a “Linus.”
  - Can we do it by committee?

Benefits.

- Fast release pace. Code gets to the field fast!
  - RC's can be as fast as 2 weeks!
- Those willing to maintain decide what to maintain.
  - Not the “main line” developer's problem.
  - Well, it is… but we'll be paid for it.

9-12 Month Release Cycle.

- I won't pretend to like this.
  - Need more field feedback.
  - If we had stronger QA, we might get away with it.
  - Some developers need more frequent feature drops.
    - They'll PAY for it.

- It just doesn't meet our needs, and we know it!

Feature Based Release.

- There's a key set of features that must be done.
- Decide on the features.
- Don't ship until they are done.

Benefits.

- Features are what drive releases.
  - There's always a feature for a release!
- Features always make the release.

Disadvantages.

- What if a feature slips?
- What if a feature never ships?

- What if a feature's developer won't admit it slips?
  - Yes, this happens.

- Feature based release, is something to be wary of.
  - But it can work, at times.

Other Plans?

- I welcome you to come up with plans!
- But understand the constraints.
  - Who is paying for it?
  - Who will work with it?
  - Who are the “stakeholders”?
  - Why does it meet our needs?
- I welcome discussions today, and tomorrow!
  - On samba-technical once we are closer.
  - Please not until we ARE closer.

Remember.

- Most software ships late.
- Many projects never ship at all.
- Figuring out what is going when, is a true art.
  - That's why there be dragons!
- Our goal is to meet our stakeholder's needs!

Questions?

Thanks for Attending!