

Facilities Business Applications
Hannah Griffin

- a software engineer moonlighting as a group leader
(or maybe vice versa)





And there was a guy over in the America
doing some cooking.....



Science & Technology Facilities Council
ISIS

....And he had a blog.



Science & Technology Facilities Council
ISIS



Joel Spolsky, co-founder
of [Trello](#) and [Fog Creek Software](#),
and CEO of [Stack Overflow](#).

The Joel Test: 12 Steps to Better Code

[https://www.joelonsoftware.com/2000/08/09/the-j](https://www.joelonsoftware.com/2000/08/09/the-j Joel Test: 12 Steps to Better Code)
[12-steps-to-better-code/](https://www.joelonsoftware.com/2000/08/09/the-j Joel Test: 12 Steps to Better Code)

* Joel includes a disclaimer that you “*really shouldn’t* use it to make sure that your nuclear power plant software is safe” however I think that risks some people thinking their safety critical software is above this – it isn’t. I think it is more appropriate to say “do all this and then *do more stuff* that is safety critical specific”

The Joel Test

1. Do you use source control?
2. Can you make a build in one step?
3. Do you make daily builds?
4. Do you have a bug database?
5. Do you fix bugs before writing new code?
6. Do you have an up-to-date schedule?
7. Do you have a spec?
8. Do programmers have quiet working conditions?
9. Do you use the best tools money can buy?
10. Do you have testers?
11. Do new candidates write code during their interview?
12. Do you do hallway usability testing?



2004



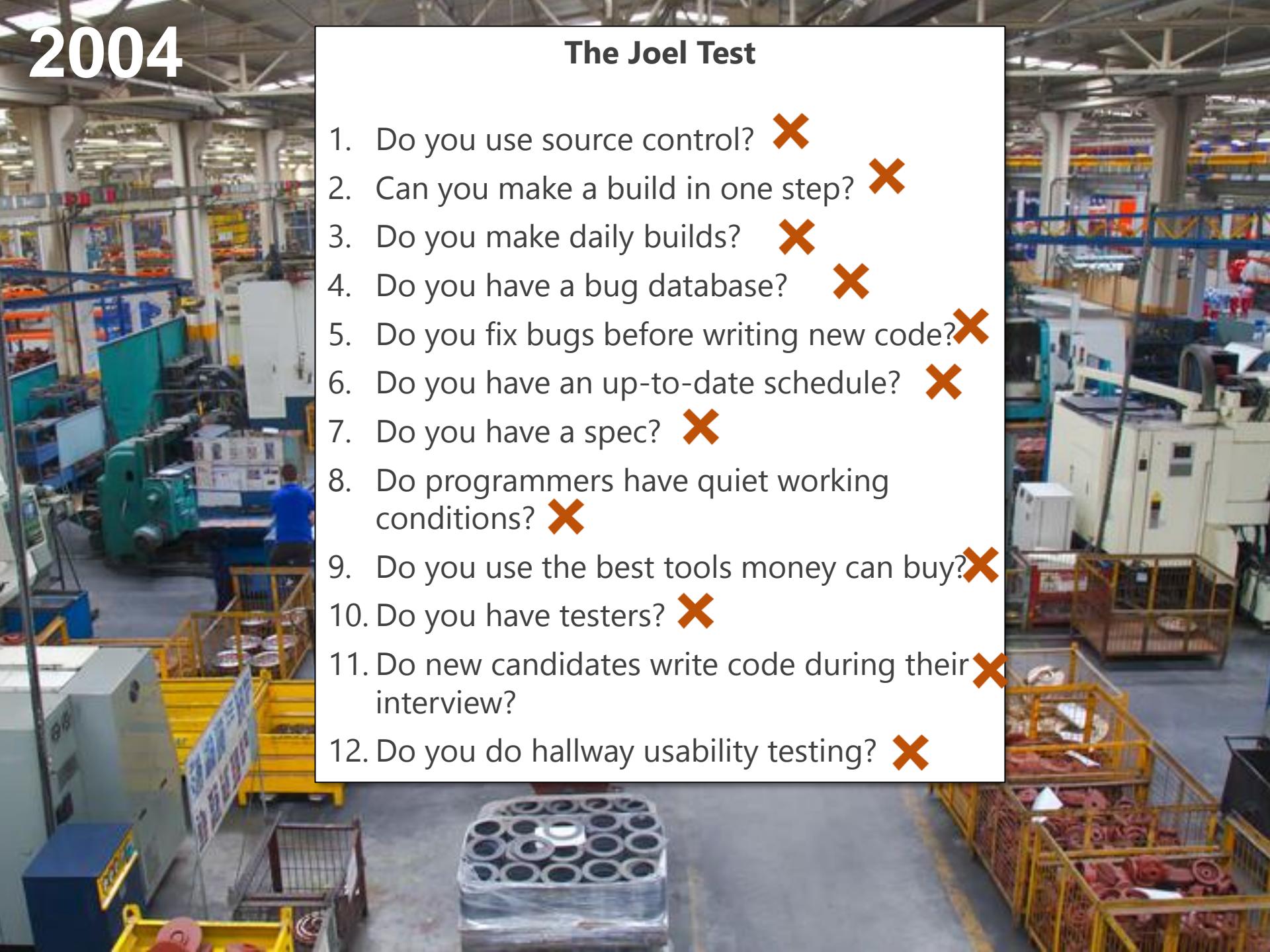
2004



2004

The Joel Test

1. Do you use source control? **✗**
2. Can you make a build in one step? **✗**
3. Do you make daily builds? **✗**
4. Do you have a bug database? **✗**
5. Do you fix bugs before writing new code? **✗**
6. Do you have an up-to-date schedule? **✗**
7. Do you have a spec? **✗**
8. Do programmers have quiet working conditions? **✗**
9. Do you use the best tools money can buy? **✗**
10. Do you have testers? **✗**
11. Do new candidates write code during their interview? **✗**
12. Do you do hallway usability testing? **✗**



2004

The Joel Test

1. Do you use source control? **✗**
2. Can you make a build in one step? **✗**
3. Do you make daily builds? **✗**
4. **Do you have a bug database?** **✓**
5. Do you fix bugs before writing new code? **✗**
6. Do you have an up-to-date schedule? **✗**
7. Do you have a spec? **✗**
8. Do programmers have quiet working conditions?

Date	Title	Description	Priority

2006



2006

The Joel Test

1. Do you use source control? **✗**
2. Can you make a build in one step? **✗**
3. Do you make daily builds? **✗**
4. Do you have a bug database? **✗**
5. Do you fix bugs before writing new code? **✗**
6. Do you have an up-to-date schedule? **✗**
7. Do you have a spec?
8. Do programmers have quiet working conditions?
9. Do you use the best tools money can buy? **✗**
10. Do you have testers? **✗**
11. Do new candidates write code during their interview? **✗**
12. Do you do hallway usability testing?

2006

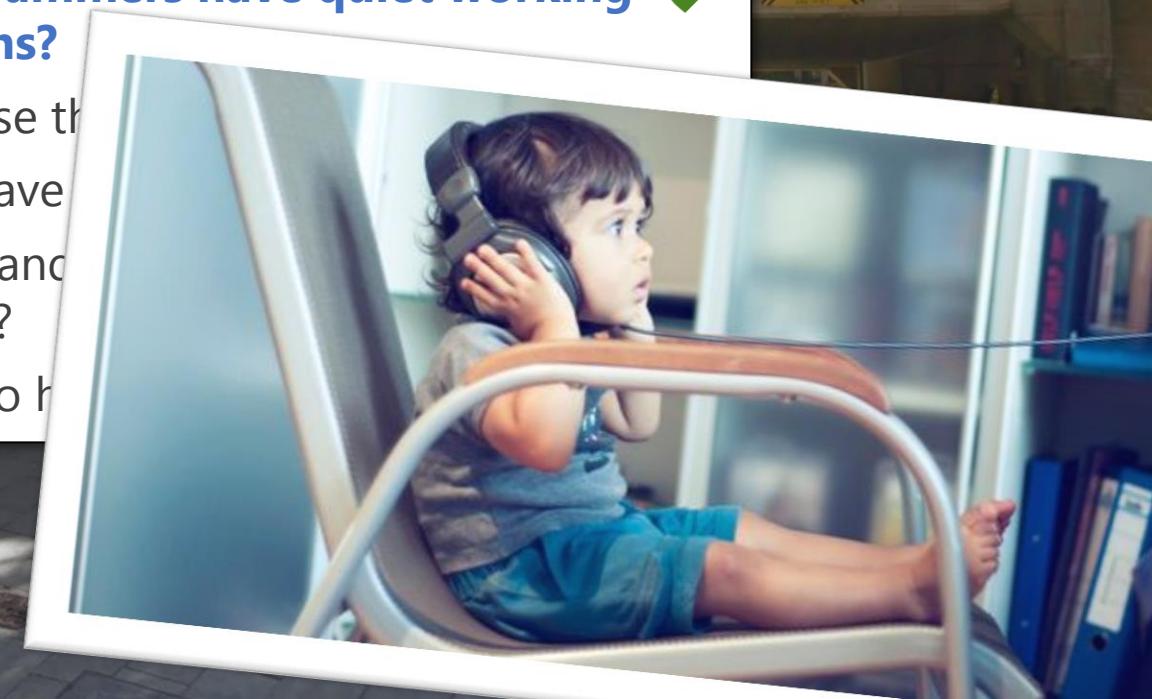
The Joel Test

1. Do you use source control? 
2. Can you make a build in one step? 
3. Do you make daily builds? 
4. Do you have a bug database? 
5. Do you fix bugs before writing new code? 
6. Do you have an up-to-date schedule? 
7. **Do you have a spec?** 
8. Do programmers have quiet working conditions?
9. Do you use the best tools money can buy? 
10. Do you have testers? 
11. Do new candidates write code during their interview? 
12. Do you do hallway usability testing?

2006

The Joel Test

1. Do you use source control? **✗**
2. Can you make a build in one step? **✗**
3. Do you make daily builds? **✗**
4. Do you have a bug database? **✗**
5. Do you fix bugs before writing new code? **✗**
6. Do you have an up-to-date schedule? **✗**
7. **Do you have a spec? ✓**
8. **Do programmers have quiet working conditions? ✓**
9. Do you use the best tools for the job?
10. Do you have multiple monitors?
11. Do new candidates write code in their interview?
12. Do you do pair programming?

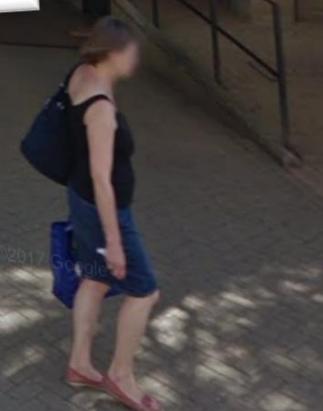


2006

The Joel Test



12. Do you do hallway usability testing? 



2006

The Joel Test

1. Do you use source control? **✗**
2. Can you make a build in one step? **✗**
3. Do you make daily builds? **✗**
4. Do you have a bug database? **✗**
5. Do you fix bugs before writing new code? **✗**
6. Do you have an up-to-date schedule? **✗**
7. **Do you have a spec?** **✓**
8. **Do programmers have quiet working conditions?** **✓**
9. Do you use the best tools money can buy? **✗**
10. Do you have testers? **✗**
11. Do new candidates write code during their interview? **✗**
12. **Do you do hallway usability testing?** **✓**

2007-10



2007-10

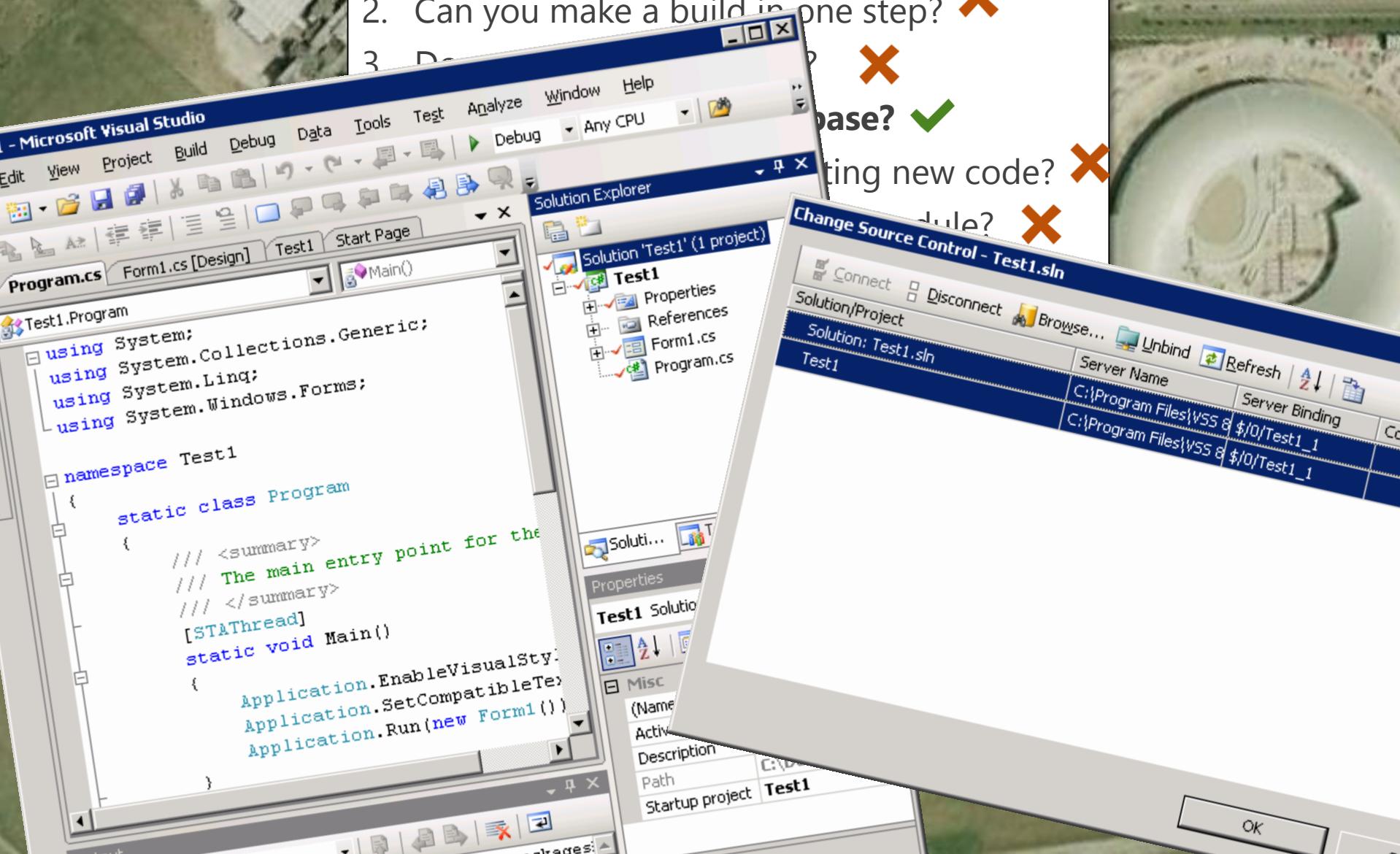
The Joel Test

1. **Do you use source control?** ✓
2. Can you make a build in one step? ✗
3. Do you make daily builds? ✗
4. **Do you have a bug database?** ✓
5. Do you fix bugs before writing new code? ✗
6. Do you have an up-to-date schedule? ✗
7. Do you have a spec? ✗
8. **Do programmers have quiet working conditions?** ✓
9. Do you use the best tools money can buy? ✗
10. Do you have testers? ✗
11. Do new candidates write code during their interview? ✗
12. Do you do hallway usability testing? ✗

2007-10

The Joel Test

1. Do you use source control?
2. Can you make a build in one step?
3. Do you get a fresh build before you start working on new code?
4. Do you have a short build cycle?
5. Do you have a daily compiles?
6. Do you have a short daily build cycle?



2007-10

The Joel Test

1. Do you use source control? ✓
2. Can you make a build in one step? ✗
3. Do you make daily builds? ✗
4. Do you have a bug database? ✓
5. Do you fix bugs before writing new code? ✗
6. Do you have tests? ✗

Issues - New Item

Save Cancel

Commit

Clipboard

Actions

Spelling

Title

Assigned To

Issue Status

Priority

Description

Category

Related Issues

Add >

Click for help about adding basic HTML formatting.

(2) Category2

2007-10

The Joel Test

1. Do you use source control? ✓
2. Can you make a build in one step? ✗
3. Do you make daily builds? ✗
4. Do you have a bug database? ✓
5. Do you fix bugs before writing new code? ✗
6. Do you have an up-to-date schedule? ✗
7. Do you have a spec? ✓



Change Record		
Date	Issue	Section
16 March 2009	1	
17 March 2009	2	2
		3.4
18 March 2009	3	
19 March 2009	4	4
		4.3
31 March 2009	5	4.1
1 May 2009	6	2



2. USER INTERFACE

- ISIS and CLF offer the same accommodation service but have different travel arrangements. ISIS do not organise flights for their users but do provide taxi transfers. CLF offer flight arrangements, car hire and taxi transfers. Where the Primary Purpose* is Other or ISIS (i.e. not CLF) then travel requests for flights or car hire i.e. only CLF visits should be offered. * as determined by field Primary Purpose in Primary Purpose of the Visit. The accommodation and travel requests for a visiting group can be made by one 'Prime Requestor'. The requestor will authenticate using their Federal ID (CLRC). The requestor shall be able to enter at least 20 peoples' names. The steps for filling in the form shall be as follows:

- The requestor shall identify the primary purpose of the visit.
- The requestor shall specify the list of organisations involved.

2007-10

The Joel Test

1. **Do you use source control?** ✓
2. Can you make a build in one step? ✗
3. Do you make daily builds? ✗
4. **Do you have a bug database?** ✓
5. Do you fix bugs before writing new code? ✗
6. Do you have an up-to-date schedule? ✗
7. **Do you have a spec?** ✓
8. **Do programmers have quiet working conditions?** ✓

Do you use the best tools money can buy? ✗

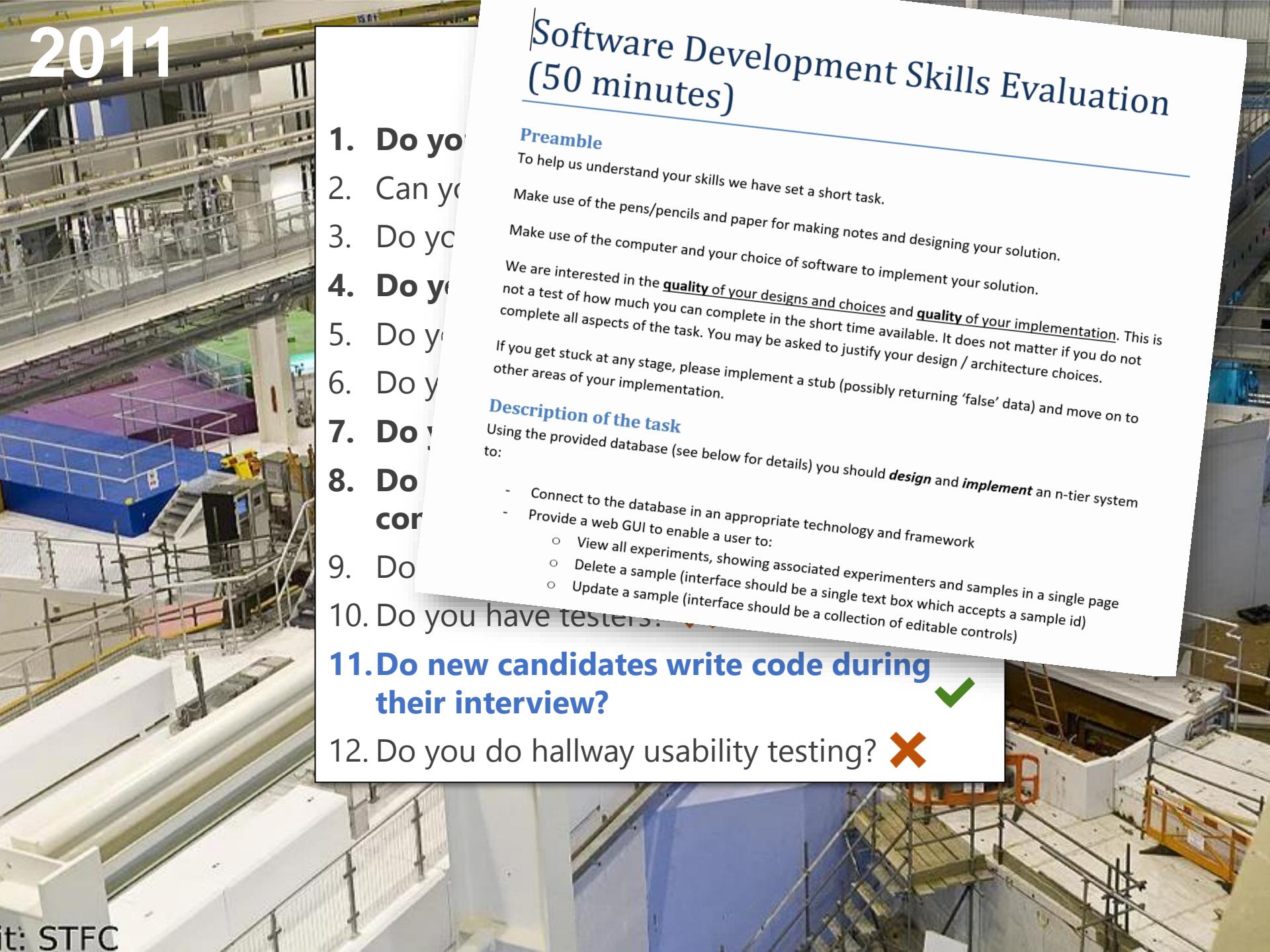
Do you have testers? ✗

Do new candidates write code during their interview? ✗

Do you do hallway usability testing? ✗



2011



1. Do you have a test harness?
2. Can you write unit tests?
3. Do you use a build system?
4. Do you use a dependency manager?
5. Do you use a code editor?
6. Do you use a version control system?
7. Do you use a continuous integration system?
8. Do you use a configuration management system?
9. Do you use a build system?
10. Do you have testers?

11. Do new candidates write code during their interview?



12. Do you do hallway usability testing?



Software Development Skills Evaluation (50 minutes)

Preamble

To help us understand your skills we have set a short task.

Make use of the pens/pencils and paper for making notes and designing your solution.

Make use of the computer and your choice of software to implement your solution.

We are interested in the quality of your designs and choices and quality of your implementation. This is not a test of how much you can complete in the short time available. It does not matter if you do not complete all aspects of the task. You may be asked to justify your design / architecture choices. If you get stuck at any stage, please implement a stub (possibly returning 'false' data) and move on to other areas of your implementation.

Description of the task

Using the provided database (see below for details) you should *design* and *implement* an n-tier system to:

- Connect to the database in an appropriate technology and framework
- Provide a web GUI to enable a user to:
 - o View all experiments, showing associated experimenters and samples in a single page
 - o Delete a sample (interface should be a single text box which accepts a sample id)
 - o Update a sample (interface should be a collection of editable controls)

2011

The Joel Test

1. Do you use source control?
2. Can you make a build in one step?
3. Do you make daily builds?
4. Do you have a bug database?

Do you fix bugs before writing new code?

The image is a collage of several screenshots and a photograph. At the top left is a photograph of a multi-level industrial or laboratory facility with glass railings. Overlaid on the center is a screenshot of a Trac bug database interface. The header says 'trac Integrated SCM & Project Management'. The main area shows a table of 'All Active Tickets' with 1083 matches, listing items like '#8813 next_rev is slow, particularly in the direct-svns case' and '#4431 wiki_to_wikidom'. At the bottom left is a screenshot of a software interface with a large 'RELEASE' banner across the middle. The banner text is partially visible as '- Revision 7643: /RELEASE/'. On the right side of the collage is a screenshot of a software interface with a table of data, including columns for 'Component', 'Version', 'Milestone', 'Type', and 'Severity'. The data includes items like 'version control' with 'Component' 'version control', 'Milestone' 'next-dev-1.3.x', 'Type' 'defect', and 'Severity' 'major'. The entire collage is set against a background of a factory floor with blue structures and equipment.

Component	Version	Milestone	Type	Severity
version control	0.11	next-dev-1.3.x	defect	major
wiki system	0.10.3	topic-wikiengine	enhancement	critical
ticket system	devel	next-major-releases	enhancement	major
project	1.3dev	1.4	defect	none
ticket system	1.0.1	next-dev-1.3.x	defect	major

2013

The Joel Test

1. Do you use source control? ✓
2. Can you make a build in one step? ✓

... Continuous builds? ✓



2013

The Joel Test

1. Do you use source control? ✓
2. Can you make a build in one step? ✓
3. Do you make daily builds? ✓
4. Do you have a bug database? ✓

riting new code? ✗

e schedule? ✗

quiet working ✓

money can buy? ✗

code during ✓

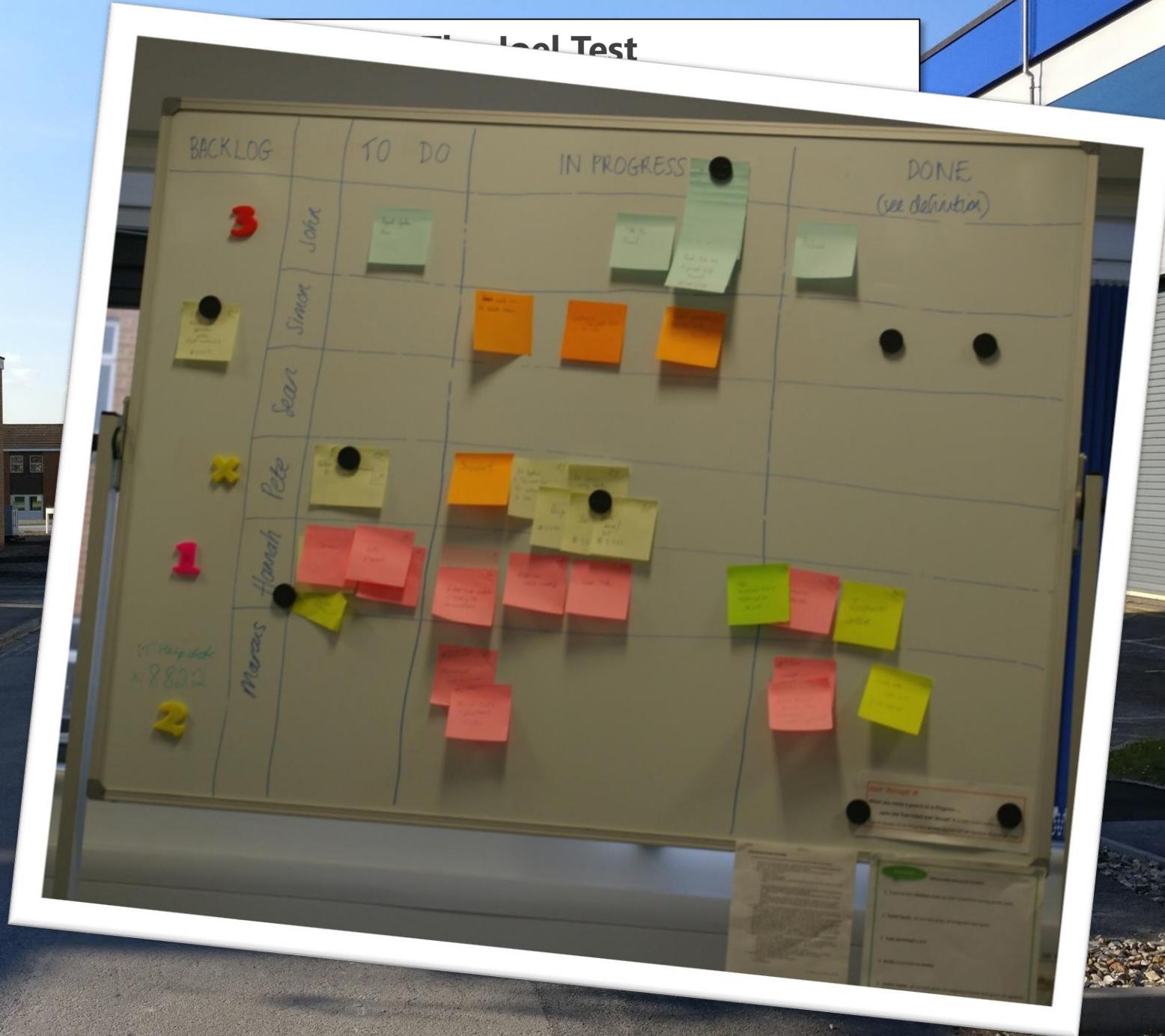
testing? ✗

Failing or In Progress Jobs	
1025	user_ScheduleReview- Build-Staff-Pkg
1026	dev_Authenticate-Build- Office
1027	dev_AwarenessView- Build
1028	dev_SafetyTest-Deploy
1029	user_ScheduleReview-build- Staff-Pkg
1030	dev_Visits-Build-Mobile- Pkg
1031	dev_Visits-Build-User- Pkg
1032	prod_Visits-Build-LTA- Pkg
1033	prod_Visits-Build-Office- Pkg

Completed Jobs	
1034	dev_Auth-BLAATS
1035	dev_Authenticate-Build- Users
1036	dev_MOBILE-deploy
1037	dev_ScheduleReports- Deploy
1038	dev_USERCHECK-BLAATS
1039	dev_Visits-Build-Office- Pkg
1040	prod_MOBILE-build
1041	prod_Visits-Build- Mobile-Pkg
1042	prod_Visits-Build-User- Pkg



2013



2013-16

The Joel Test

1. Do you use source control? ✓
2. Can you make a build in one step? ✓
3. Do you make daily builds? ✓
4. Do you have a bug database? ✓
5. Do you fix bugs before writing new code? ✗
6. Do you have an up-to-date schedule? ✗
7. Do you have a spec? ✓
8. Do programmers have quiet working conditions? ✓
9. Do you use the best tools money can buy? ✗
10. Do you have testers?
11. Do new candidates write code during their interview? ✓
12. Do you do hallway usability testing? ✗

2013-16

The Joel Test

1. Do you use source control? ✓
2. Can you make a build in one step? ✓
3. Do you make daily builds? ✓
4. Do you have a bug database? ✓
5. Do you fix bugs before writing new code? ✗
6. Do you have an up-to-date schedule? ✓
7. Do you have a spec? ✓
8. Do programmers have quiet working conditions? ✓
9. Do you use the best tools money can buy? ✗
10. Do you have testers? ✗
11. Do new candidates write code during their interview? ✓
12. Do you do hallway usability testing? ✗

2013-16

The Joel Test

1. Do you use source control? ✓
2. Can you make a build in one step? ✓

Do daily builds? ✓

Title	SP	Start Date	Target Date	Projected Date	Driving Tasks / Notes	Customer	Status
Engin-X Xpress system : COMPLETE (4)							
Scheduling solution (v3.2)	#8 SCHED	30/07/2014	08/08/2014		Done as part of SOTW. Development complete. Despite initial request for system "exactly like GEM" on demonstration there were Engin-X specific changes needed. These changes will be done in due course (i.e. when prioritised). See # for outstanding tickets.	AK	COMPLETE
Scheduling solution (v3.3)	#8 SCHED	09/08/2014	13/08/2014	13/08/2014	https://trac.isis.rl.ac.uk/BIS/milestone/SCHEDULE%203.2		
Scheduling Solution Rolled Out to ISIS	#8 SCHED	19/08/2014	26/11/2014	26/11/2014	https://trac.isis.rl.ac.uk/BIS/milestone/SCHEDULE%203.3	PK, RC & CHG	COMPLETE
IN PROGRESS (3)							
Release experimental outputs system	#9 EXPO	11/07/2011	30/06/2013		TG and PK are looking at eVal (from ResearchFish). Feasibility should be complete by end of 2012 early 2013. Aim for system around June 2013.	PK	IN PROGRESS
MICE rollout		03/10/2013	11/10/2013	31/01/2014	Includes suite set up so Rose Hayes can use software for MICE like Facilities User Office use it for ISIS & CLF. AK has informed HG that Ken Long has acknowledged he is responsible for this. See https://trac.isis.rl.ac.uk/BIS/milestone/MICE%20suite%20setup for comments and documented outstanding tickets so far.	Ken Long (AK)	IN PROGRESS
Scheduling solution for ISIS staff training (complete)	#8 SCHED	28/11/2014	28/11/2014		Completed initial training in Jan 2014. Created a user guide for Rose and Debbie. Waiting for Ken Long to arrange meeting to finalise T & C tick box. (May then need to do refresher training) * user office staff training - DONE * ISIS scheduler training - DONE * ISIS local contact training - DONE * ISIS SE teams training - DONE * ISIS LCR training - DONE	PK	IN PROGRESS

2013-16

The Joel Test

- 1. Do you use source control? 
 - 2. Can you make a build in one step?
 - 3. Do you have a CI pipeline? 

2013-16

The Joel Test

1. Do you use source control? ✓
2. Can you make a build in one step? ✓
3. Do you make daily builds? ✓
4. Do you have a bug database? ✓
5. Do you fix bugs before writing new code? ✗
6. Do you have an up-to-date schedule? ✓
7. Do you have a spec? ✓
8. Do programmers have quiet working conditions? ✓
9. Do you use the best tools money can buy? ✓
10. Do you have testers? ✗
11. Do new candidates write code during their interview? ✓
12. Do you do hallway usability testing? ✗

2013-16

The Joel Test



2017

The Joel Test



2017

The Joel Test

1. Do you use source control? ✓
2. Can you make a build in one step? ✓
3. Do you make daily builds? ✓
4. Do you have a bug database? ✓
5. Do you fix bugs before writing new code? ✗
6. Do you have an up-to-date schedule? ✓
7. Do you have a spec? ✓
8. Do programmers have quiet working conditions? ✓
9. Do you use the best tools money can buy? ✓
10. Do you have testers? ✗
11. Do new candidates write code during their interview? ✓
12. Do you do hallway usability testing? ✗

The Joel Test

1. Do you use source control?
2. Can you make a build in one step?
3. Do you make daily builds?
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- 5. Do you fix bugs before writing new code?**
6. Do you have an up-to-date schedule?
7. Do you have a spec?
8. Do programmers have quiet working conditions?
9. Do you use the best tools money can buy?
- 10. Do you have testers?**
11. Do new candidates write code during their interview?
- 12. Do you do hallway usability testing?**



https://en.wikipedia.org/wiki/List_of_best-selling_mobile_phones

https://en.wikipedia.org/wiki/Human_Genome_Project

https://en.wikipedia.org/wiki/PlayStation_2

http://news.bbc.co.uk/1/hi/in_depth/business/2000/review/1069169.stm

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https://en.wikipedia.org/wiki/List_of_Prime_Ministers_of_the_United_Kingdom

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<https://statuscake.com>

<https://balsamiq.com>

<https://www.monitis.com>

<https://github.com>