Training evaluation report

Training session: Embedded Linux Training
Training dates: Jan. 25-29, 2010 (5 days)
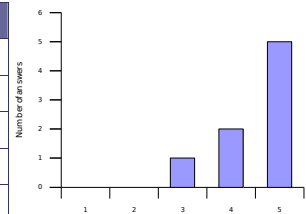**Country**: France

Number of participants: 8
Returned evaluation forms: 8

Thank you for having organized a Free Electrons training session!

Here is a wrap-up of evaluations from participants.

Learning objectives

1. How well did the course meet your learning objectives?

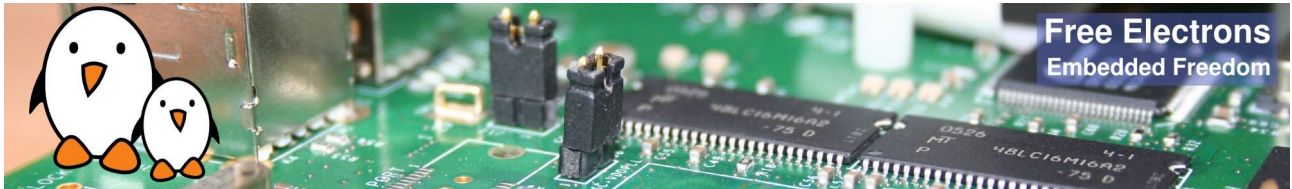| Rating	Answers	Description
1	0	Not met
2	0	
3	1	
4	2	
5	5	Fully met

5 - I just had a little on the job experience. The course completed my knowledge well.

5 - Maybe insist a little more on real-time and on the kernel scheduler. Quick presentation of the kernel architecture?

3 - I wish I had practiced and received more direct follow-up, to make sure I really understood the concepts.

2. How was the duration of the course?

Rating	Answers	Description
1	0	Too short. Couldn't learn enough in such a short time.
2	1	A little too short
3	6	Just fine
4	1	A little too long
5	0	Definitely too long. The concepts could be learned in much less time.
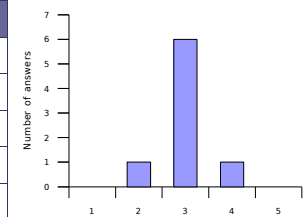
4 - Split the course in 2 sessions *(Free Electrons note: if we understand well 2 + 3 or 3 + 2 days)* to allow to assimilate the beginning.

2 - Very dense course.

3 - Some labs may have to be shortened according to the level of the audience. Maybe reduce the catalogs of solutions according to the audience and put them in an annex.

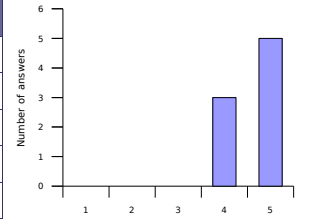4 - Given the contents of the training session, the 5 days were welcome.

Lecture materials

3. How helpful were the lecture materials?

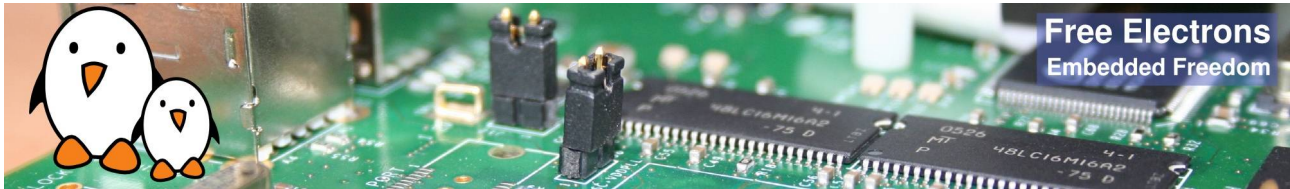| Rating	Answers	Description
1	0	Not helpful. Made things more difficult to learn and understand.
2	0	
3	0	
4	3	
5	5	Really made things easier to understand and learn.
4 - More diagrams, less text.		

4. Will you recommend these materials to others?

Rating	Answers	Description
1	0	No. Not helpful without following the sessions.
2	0	
3	0	
4	1	
5	7	Definitely
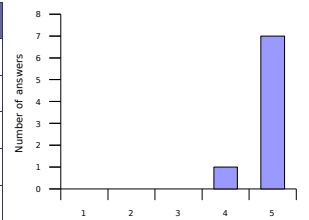
5. If you have Linux project opportunities, will you use these materials again?

Rating	Answers	Description
1	0	No. I will look for other sources of information.
2	0	
3	1	
4	0	
5	7	Definitely
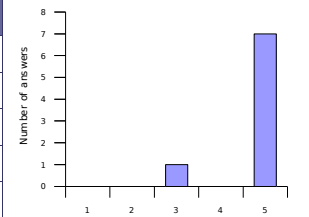
Instructor added value

6. How knowledgeable was the instructor?

Rating	Answers	Description
1	0	Not enough for my own technical experience.
2	0	
3	0	
4	0	
5	8	More than enough for my own experience.
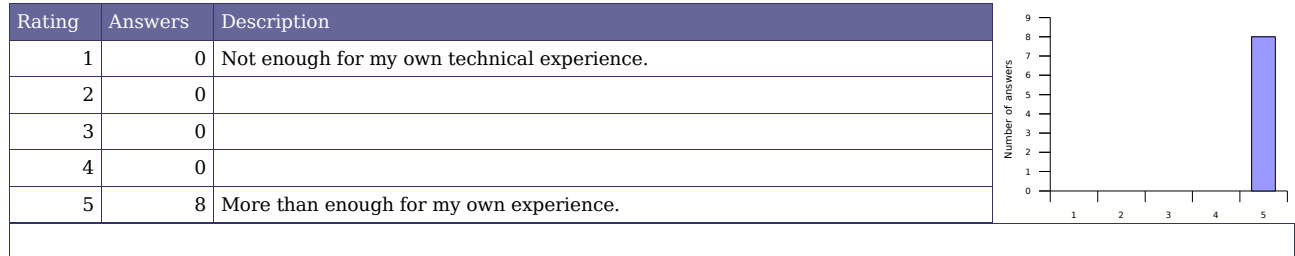
7. Did instructor oral explanations add value to the lecture materials?

Rating	Answers	Description
1	0	No added value to reading the materials.
2	0	
3	0	
4	0	
5	8	Yes. The instructor really made very useful oral explanations.
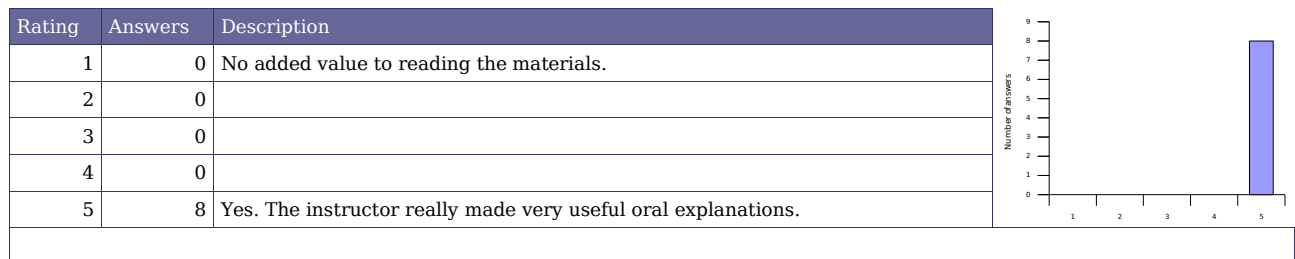
8. How well did the instructor answer questions from the audience?

Rating	Answers	Description
1	0	Poorly. Didn't try to understand the questions well or rarely managed to find useful answers.
2	0	
3	0	
4	1	
5	7	Answered very well to questions from the audience
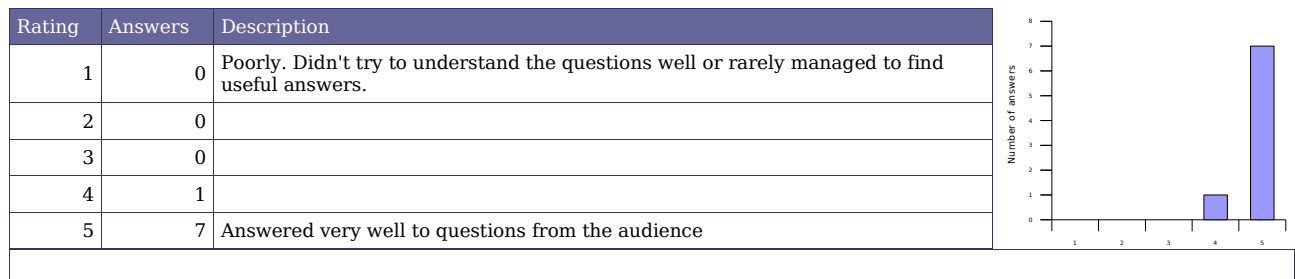
9. Was the instructor helpful with practical labs?

Rating	Answers	Description
1	0	No, not enough available and helpful during the labs.
2	0	
3	0	
4	2	
5	6	Yes. The instructor definitely helped to make labs a learning opportunity.
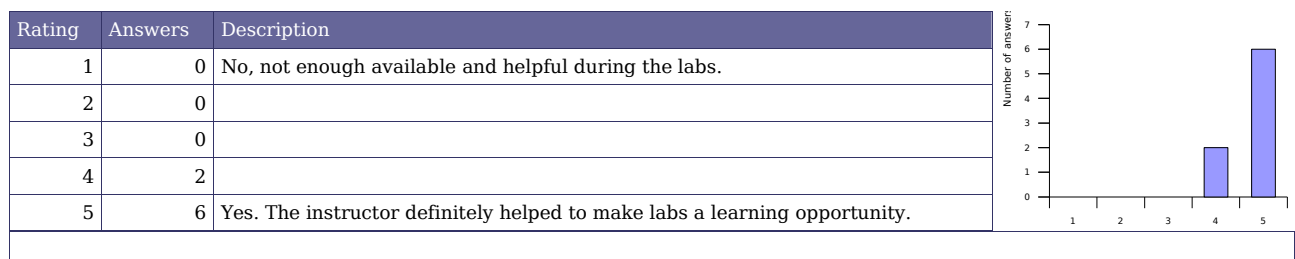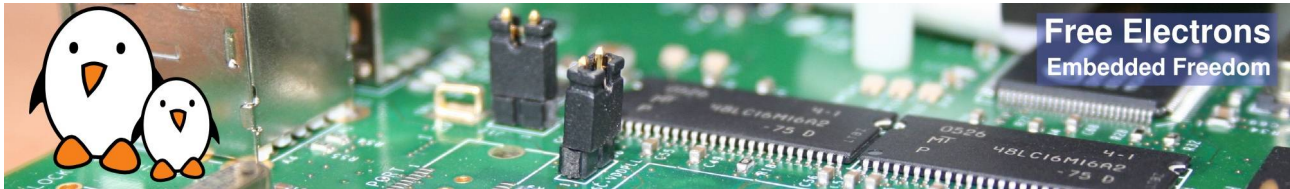
Training labs

10. How useful were the training labs?

Rating	Answers	Description
1	0	Not useful. Didn't add significant value to the lectures.
2	0	
3	0	
4	2	
5	6	Very useful. Helped to highlight things not understood and build useful experience.
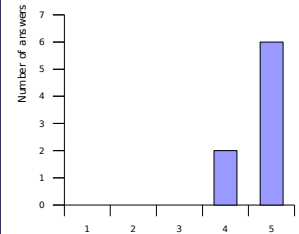
5 - Too much time with theory -> learning by doing

11. How difficult were the training labs?

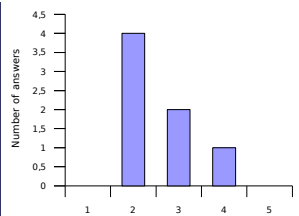| Rating	Answers	Description
1	0	Too difficult. Didn't help or even discouraged a beginner to get more familiar with the tools and concepts.
2	2	A bit too difficult. Would be better if the lab instructions gave a bit more details about explanations.
3	6	Just fine. Prompted me to look for answers, get my own experience and find my own solutions.
4	0	Too easy for my own technical level.
5	0	Too easy for everyone. Should challenge participants more and help everyone to practice on real issues.
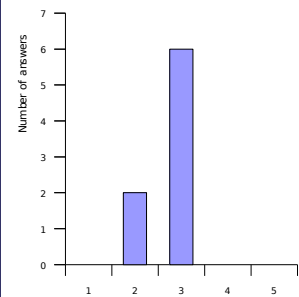
3 - In my opinion, the host platform configuration actions should be more guided if not automated. These actions do not have much interest.
Free Electrons note: we had the exact opposite criticism in the past when we automated some tasks on the host. People were frustrated by what was done under the hood. We no longer do this because we want the training experience to be as close as real life will be. And in real life, there is a lot of work on the host.
2 - It is very subjective because related to my initial level in the topic.

12. Was enough time dedicated to the practical labs?

| Rating	Answers	Description
1	0	No. More practice is needed
2	4	A little bit more time would help.
3	2	Just fine
4	1	A little bit less time would be enough.
5	0	Don't need to spend so much time on labs. On-the-job practice is best

12 - Some labs (the third party lab) could be reduced, in order to have more theory.
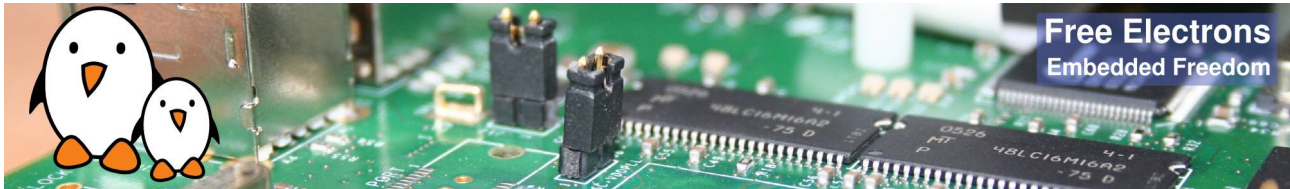
Training conditions

13. How do you rate training conditions (room size, equipment, environment...)?

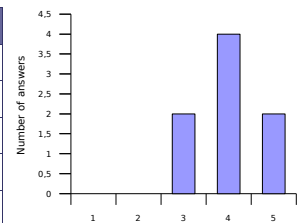| Rating	Answers	Description
1	0	Poor.
2	1	
3	1	
4	2	
5	4	Very good.
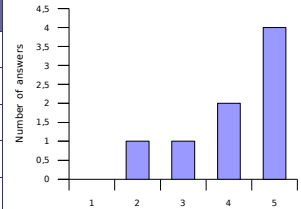
2 - One workstation per person would have been preferable and more appropriate in terms of learning.

3 - Our room was a bit too small. I would have preferred 1 PC per person.

Free Electrons note: the number of workstations is up to the customer. With 8 participants, we would have had no problem supporting 8 work desks.

14. How do you rate the training equipment (mainly computers)?

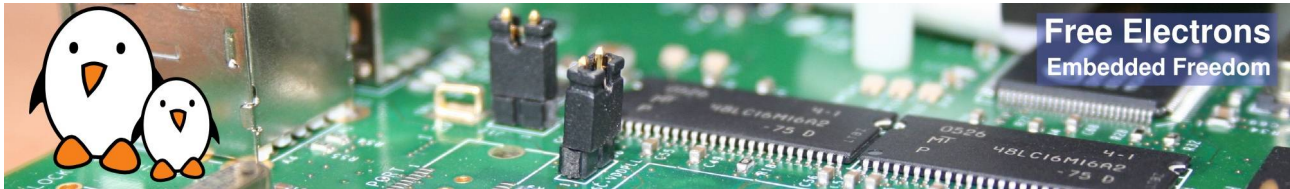| Rating	Answers	Description
1	0	Poor. Not powerful enough to execute practical labs.
2	0	
3	2	
4	4	
5	2	Very good. Very little time waiting, more time learning.

3 - See my remark on the number of PCs.

15. How well was the course organized (program, registration, meeting the schedule...)?

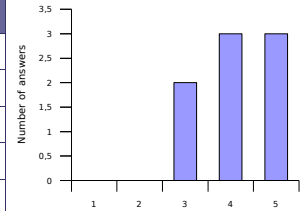| Rating	Answers	Description
1	0	Not well
2	0	
3	1	
4	0	
5	7	Very well
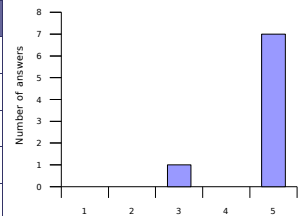
3 - Shorter but more numerous labs (cut the presentations more often).
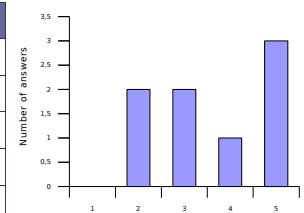
Overall rating

16. How much did you learn?

Rating	Answers	Description
1	0	Definitely not much
2	0	
3	2	
4	3	
5	3	Definitely more than I expected.

3 - Exactly what I was expecting.

17. How useful will this course be in your daily job?

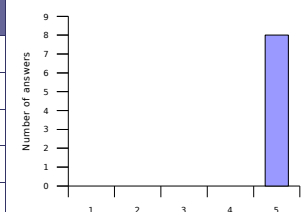| Rating	Answers	Description
1	0	Not useful.
2	2	
3	2	
4	1	
5	3	Very useful. Will make my job easier and more productive.

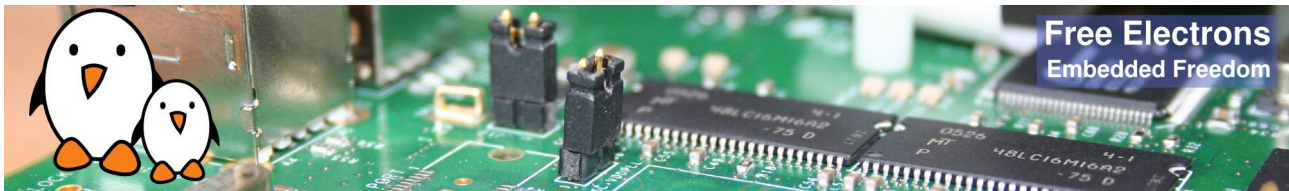2 - Opportunities to practice with embedded Linux are very rare (in my case).
2 - No direct usage right now. But I hope to be able to use it in the mid term.

18. Would you recommend this course to others?

Rating	Answers	Description
1	0	No.
2	0	
3	0	
4	0	
5	8	Yes, definitely

19. Overall rating

| Rating	Answers	Description
1	0	Very disappointing
2	0	Disappointing
3	0	A little bit disappointing
4	1	OK
5	1	Pretty good
6	5	Very good
7	1	Excellent
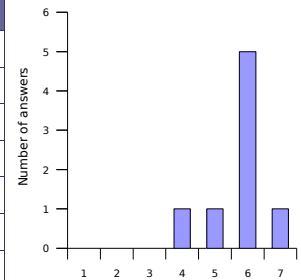
4 - Go quicker on tools (Gtk, Qt...), and on real-time.

6 - Improve the Xenomai slides with more graphics, above all on the PREEMPT...

6 - Side note: I found that the exchanges between the 2 trainers took a bit too much importance. I also wish there was more presence / help during the practical labs. For the rest, congratulations for the technical and presentation quality!

20. An extra session?

Rating	Answers	Description
1	0	No
2	0	
3	3	Why not?
4	3	
5	0	Yes, definitely
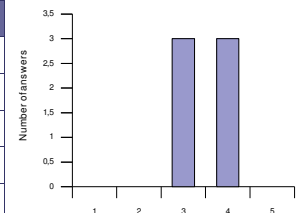
3 - More device driver oriented.

4 - Kernel driver development

Free Electrons note: you may then be interested in our "Linux kernel and device driver development course":
*http://free-electrons.com/training/kernel*

Number of votes for topics in an extra session

Understanding the Linux kernel		Linux device driver development		Linux board support packages		Embedded system development		Miscellaneous needs	
Process management	2	USB device drivers	2	Processor specific code	3	Lightweight tools		Java	
Filesystem implementation	1	USB host drivers	2	Board specific code	2	Embedded system development tools		Real-time	1
Memory management	2	PCI drivers	2	Board specific interrupt support code	2	Cross-compiling toolchains		Audio	
Scheduling implementation	2	Network drivers	2	DMA support	2	Debugging solutions		Video	
Bootstrap code	1	Block drivers	2	Bootloader development	3	Software development tools		uClinux	
		Flash drivers	1			Programming with graphical libraries	1	Voice over IP	
		I2S drivers	1			POSIX API	1		
		Input drivers	1			System optimization	1		
		Sound drivers	1			Root filesystem creation	1		
		Video drivers	1				1		

Free Electrons comments

Thanks to the (sometimes oral) suggestions from the audience, we will improve future training sessions...

- By reducing long sections of presentations by interleaving more, and shorter practical labs, to make notions easier to assimilate. However, we can't have too many labs either, because switching between labs and lectures always consumes time, reducing the overall efficiency of the course.

- By suggesting before the course to have 1 PC per participant when the number of participants doesn't exceed 8.

- By adding more graphics to our lecture materials, to make concepts easier to understand.
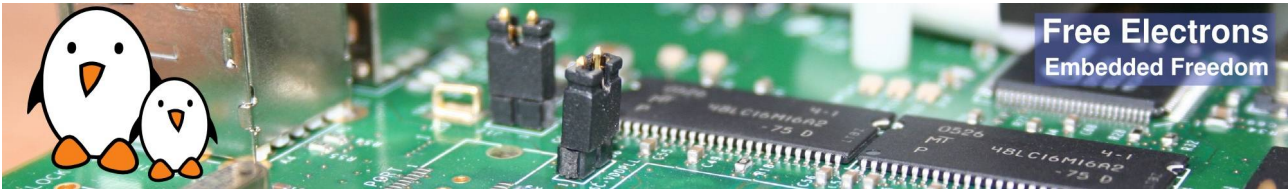
Life after training

After this training session, do not hesitate to get back to us! Here are things we could do to support you in your embedded Linux projects:

- More training: you may be interested in the other training sessions that we propose, either embedded Linux system development or Linux kernel and driver development, depending on the course you have already taken. See http://free-electrons.com/training for details.

- If some people in your organization missed the session, and you don't have enough requests to organize another session, they can choose to go to our public training sessions. See http://free-electrons.com/training/sessions for details.

- Linux kernel porting. Adding Linux support to your boards, or supporting you in doing this.

- Having your board support code merged in mainstream sources (Linux, U-boot), so that your sources are maintained by the community. This also means for customers that your boards will be supported for a long time.

- System development and integration. Creating demos and prototypes.

- System optimization: improving system performance and features (power consumption, speed, size...)

- Investigating and fixing nasty bugs that you don't have time to cope with by yourselves.

See http://free-electrons.com/services for details.