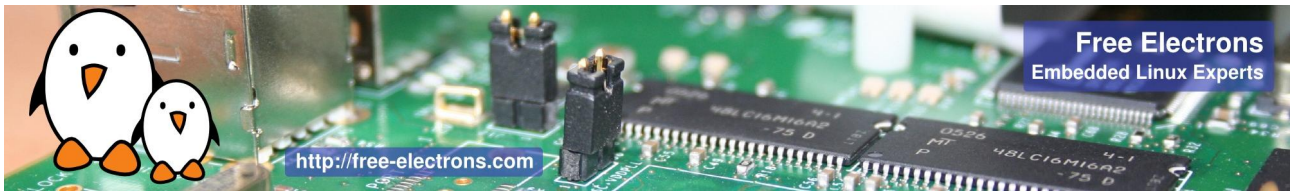


Training evaluation report

Training session: Embedded Linux Training (public session)
Training dates: Dec. 6-10, 2010 (5 days)
Country: France

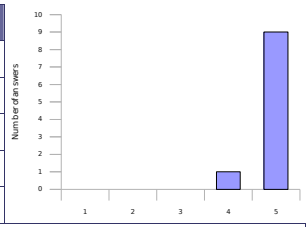
Number of participants: 10
Returned evaluation forms: 10

Thank you for having organized a Free Electrons training session!
Here is a wrap-up of evaluations from participants.

Learning objectives

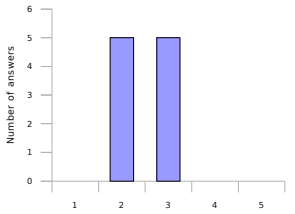
1. How well did the course meet your learning objectives?

Rating	Answers	Description
1	0	Not met
2	0	
3	0	
4	1	
5	9	Fully met



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	5	A little too short
3	5	Just fine
4	0	A little too long
5	0	Definitely too long. The concepts could be learned in much less time.

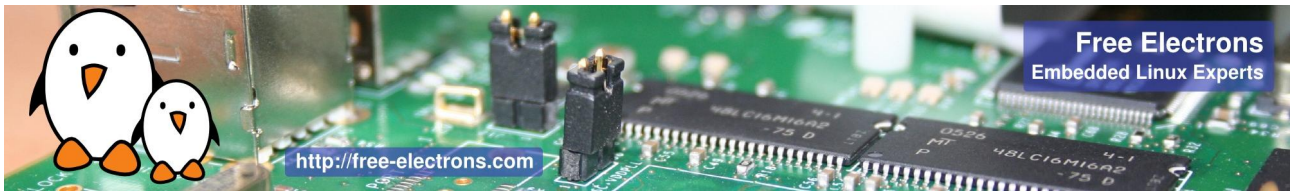


2 – 8 days would be nice.

2 – A little bit too short for people that have not enough experience with Linux commands.

2 – Well-proportioned. However, I think that the “Licences” part could be moved next to “Additional” and “Hotplugging” in “Day 5 Afternoon.

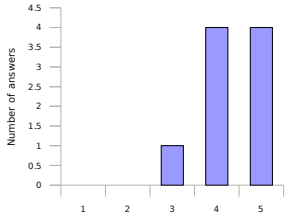
2 – Some practical labs not finished.



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	1	
4	4	
5	4	Really made things easier to understand and learn.



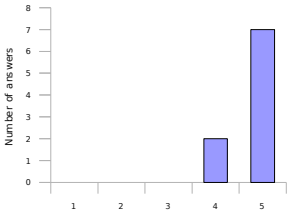
4 – The first labs are very good (comments + commands description) ; the others are more complex (command description or links to commands are missing).

4 – Why not the lecture materials in French language?
Free Electrons note: about half of our training sessions are performed in English. Maintaining a French version alongside the English one would take a lot of time. This would leave less time to keep our materials up to date and improve them.

4 – Lecture material in French is preferred, as all the docs in the Internet are already in English and are sometimes difficult to understand. Lecture materials in French would be welcome!
Free Electrons note: same remark.

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	2	
5	7	Definitely

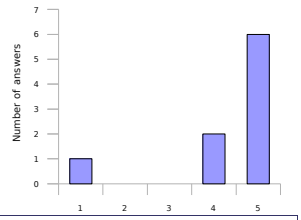


5 – A good user knowledge is needed as a prerequisite.

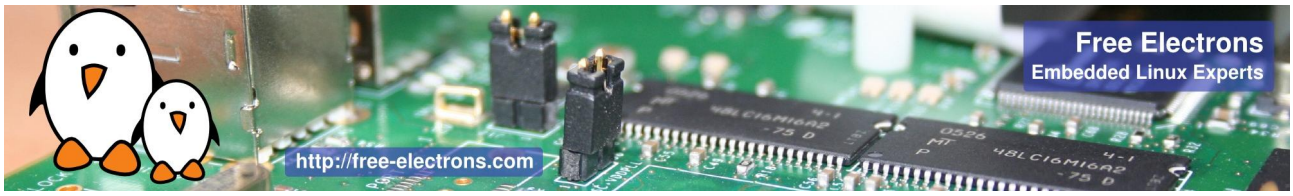
4 – A table of contents + incremental page numbering at the beginning of the material.
Free Electrons note: we can't do this with OpenOffice. This will be available when we switch to other documentation systems (DocBook), and that's in our plans.

5. If you have Linux project opportunities, will you use these materials again?

Rating	Answers	Description
1	1	No. I will look for other sources of information.
2	0	
3	0	
4	2	
5	6	Definitely



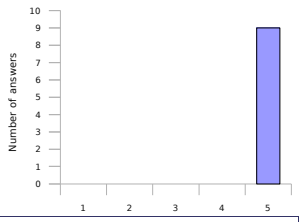
4 – Plus an Embedded Linux book



Instructor added value

6. How knowledgeable was the instructor?

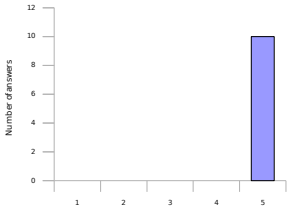
Rating	Answers	Description
1	0	Not enough for my own technical experience.
2	0	
3	0	
4	0	
5	9	More than enough for my own experience.



5 – Excellent skills to adapt to all levels of knowledge of the students.

7. Did instructor oral explanations add value to the lecture materials?

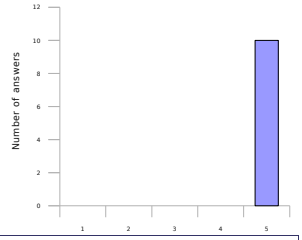
Rating	Answers	Description
1	0	No added value to reading the materials.
2	0	
3	0	
4	0	
5	10	Yes. The instructor really made very useful oral explanations.



5 – Add more examples for complex subjects.

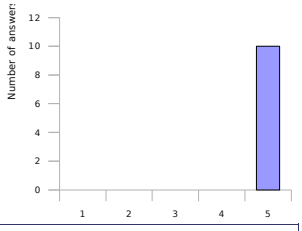
8. How well did the instructor answer questions from the audience?

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	0	
5	10	Answered very well to questions from the audience

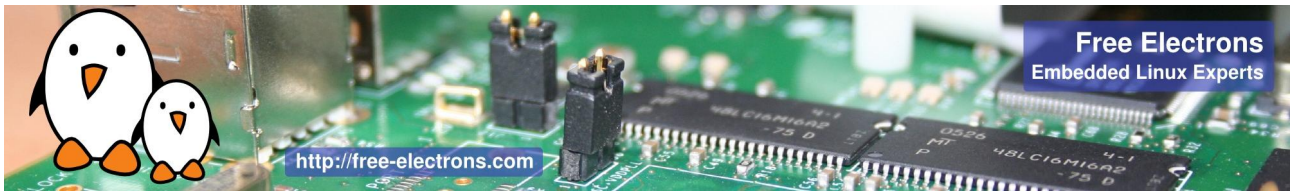


9. Was the instructor helpful with practical labs?

Rating	Answers	Description
1	0	No, not enough available and helpful during the labs.
2	0	
3	0	
4	0	
5	10	Yes. The instructor definitely helped to make labs a learning opportunity.



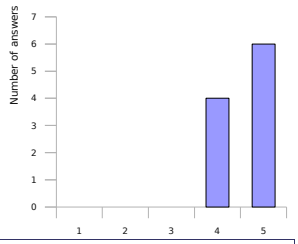
5 – A group of 10 students (or more) may be too much during the labs for one instructor. Limit the number of students?
5 – Excellent availability and great skills to help and explain things.



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	4	
5	6	Very useful. Helped to highlight things not understood and build useful experience.



4 – Not enough time in some cases.

4 – Same remark as number 3

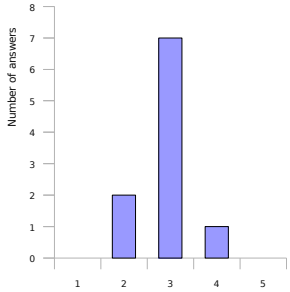
5 – Mandatory: Usage of the board and finally true practical labs!

5 – The “hardware approach” is very interesting, though it lacked interaction with devices on the target.

5 – Very good idea to work on a board we can get home and work on the practical labs again by ourselves.

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	7	Just fine. Prompted me to look for answers, get my own experience and find my own solutions.
4	1	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.

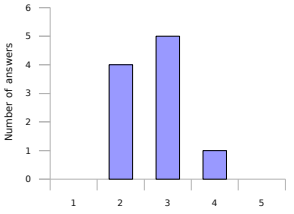


3 – The balance between instructor help and letting students looking solutions by themselves is not easy to find ; need to have a correct level of Linux knowledge.

3 – In the Buildroot practical lab, adding a component is not directive enough.

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	5	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

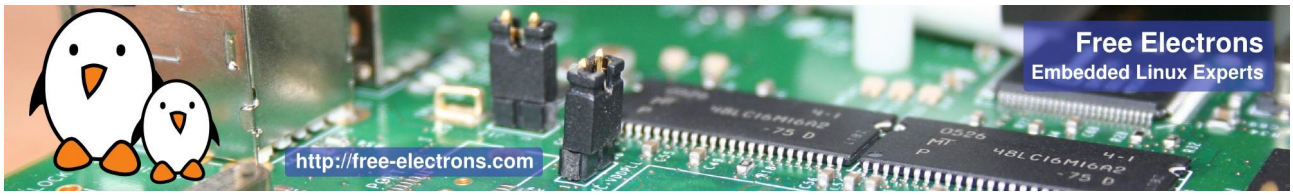


3 – Due to the difference of knowledge between students, we were late in the training agenda. A prerequisite should be to check that students have a minimum level of Linux knowledge to do the practical labs.
Free Electrons note: we already highlight this in the first page of the training agenda. Actually checking the student skills ahead of time would be difficult.

3 – May be add an example of hardware usage (led or I/O...) using a driver even if the code is already done and we have just to compile it...

3 – Good compromise between lectures and practical labs.

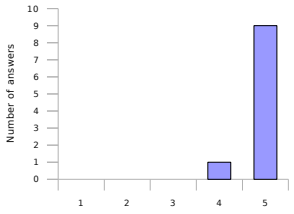
3 – The balance between the lecture and the practical labs is fine. Some people could need more time to do the practical labs. It could be nice to have the labs completely independent in order to not be penalized.



Training conditions

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

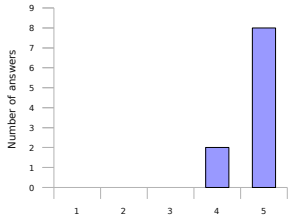
Rating	Answers	Description
1	0	Poor.
2	0	
3	0	
4	1	
5	9	Very good.



5 – The training conditions at the Pullman hotel are excellent.
5 – The environment is simply perfect! (Pullman Hotel)

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

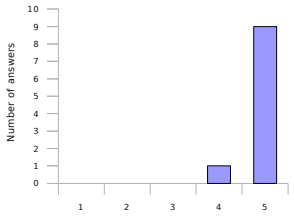
Rating	Answers	Description
1	0	Poor. Not powerful enough to execute practical labs.
2	0	
3	0	
4	2	
5	8	Very good. Very little time waiting, more time learning.

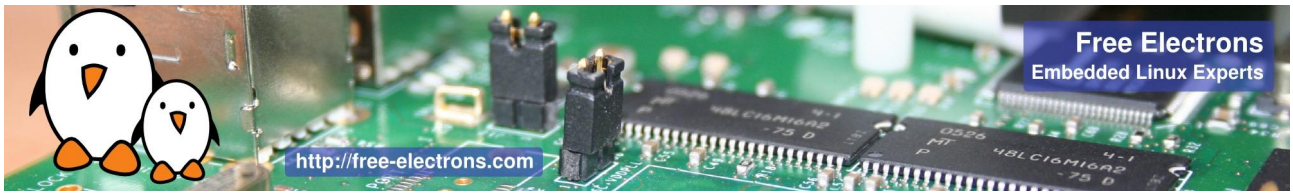


5 – Complete equipment and board material provided
5 – Work environment very well prepared. The added value of this training is really the usage of a real development board
5 – Just a remark for next PC generation: think about numerical keyboards.

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

Rating	Answers	Description
1	0	Not well
2	0	
3	0	
4	1	
5	9	Very well

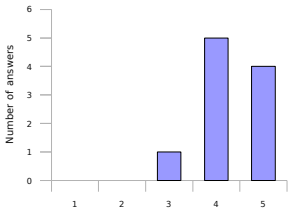




Overall rating

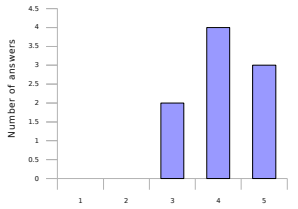
16. How much did you learn?

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



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

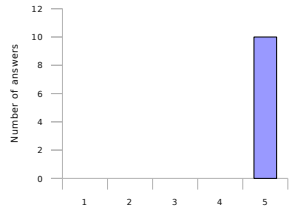
Rating	Answers	Description
1	0	Not useful.
2	0	
3	2	
4	4	
5	3	Very useful. Will make my job easier and more productive.

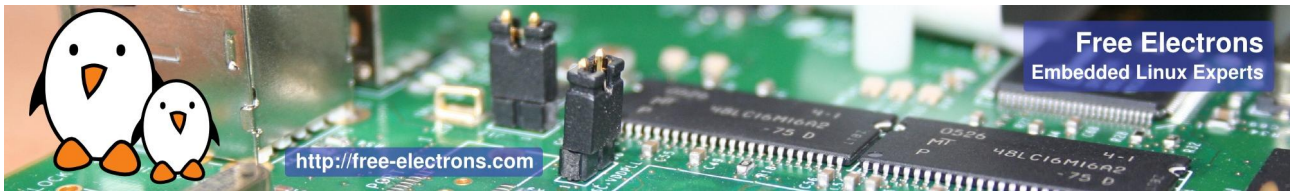


3 – Not now, but should be useful in a couple of months.
4 – I plan to work in the future on projects using Linux.
3 – Very useful in the future, I hope

18. Would you recommend this course to others?

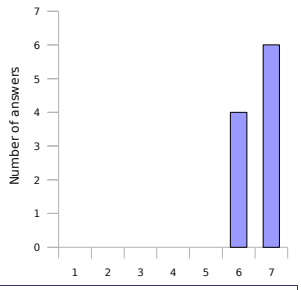
Rating	Answers	Description
1	0	No.
2	0	
3	0	
4	0	
5	10	Yes, definitely





19. Overall rating

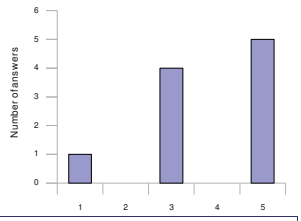
Rating	Answers	Description
1	0	Very disappointing
2	0	Disappointing
3	0	A little bit disappointing
4	0	OK
5	0	Pretty good
6	4	Very good
7	6	Excellent



7 – May be spend less time on the available tools and more on the file system/material choices, on the optimizations and real time.

20. An extra session?

Rating	Answers	Description
1	1	No
2	0	
3	4	Why not?
4	0	
5	5	Yes, definitely



5 – Linux kernel ; Real time.

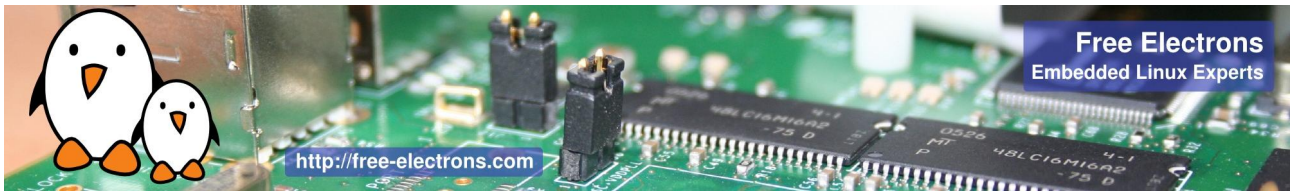
Number of votes for topics in an extra session

Understanding the Linux kernel		Linux device driver development		Linux board support packages		Embedded system development		Miscellaneous needs	
Process management	2	USB device drivers	4	Processor specific code		Lightweight tools	1	Java	
Filesystem implementation	1	USB host drivers	4	Board specific code		Embedded system development tools		Real-time	3
Memory management	2	PCI drivers	3	Board specific interrupt support code		Cross-compiling toolchains		Audio	
Scheduling implementation	1	Network drivers	3	DMA support		Debugging solutions		Video	
Bootstrap code	1	Block drivers	4	Bootloader development		Software development tools		uClinux	
		Flash drivers	4			Programming with graphical libraries		Voice over IP	
		I2S drivers	3			POSIX API	1		
		Input drivers	3			System optimization	1		
		Sound drivers	3			Root filesystem creation			
		Video drivers	3						

Free Electrons comments

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

- By adding more interaction with hardware devices
- When a lab depends on a previous one, by providing previous lab results to that who didn't have time to complete these earlier labs. We already do this, but not for all labs yet.



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.