

Training evaluation report

Training session: Embedded Linux Training **Number of participants**: 8 **Training date**: May 9-13, 2005 **Returned feedback forms**: 6 / 8

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

Learning objectives

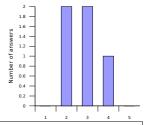
1. How well did the course meet your learning objectives?

| Rating | Answers | Description | 5 — 45 — | | | | | |
|--------|---------|-------------|-----------------|---|---|---|---|---|
| 1 | 0 | Not met | 35 — | | | | | |
| 2 | 0 | | 3 - 25 - | | | | | |
| 3 | 0 | | 9 2 — N 15 — | | | | | |
| 4 | 5 | | 0.5 — | | | | | |
| 5 | 1 | Fully met | 0 — | 1 | 2 | 3 | 4 | 5 |

- 4. Personally the class covered many interesting topics and met many of my objectives.
- 4. I would have liked to have a more advanced course on: block and network device drivers, more notions and practise on real-time Linux (threads, semaphores, synchronization...).
- 4. I learnt what I wanted to learn: how to compile a kernel, to make a driver, and understand better the world of Linux and free software.
- 4. Would have liked to have more time to spend on the linux scheduler, on interrupts and device drivers on embedded systems.

2. How was the duration of the course?

| Rating | Answers | Description | 1.8 | |
|--------|---------|---|------------------------|---|
| 1 | 0 | Too short. Couldn't learn enough in such a short time. | 1.6 — SL U 1.4 — | |
| 2 | 2 | A little too short | 5 1.2 — 5 1 — | |
| 3 | 2 | Just fine | 0.8 — | |
| 4 | 1 | A little too long | 0.4 — | |
| 5 | 0 | Definitely too long. The concepts could be learned in much less time. | 0 - | 1 |

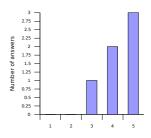


- 2. I think we wasted time to set up our board but I would have liked to cover all the interesting topics from the materials.
- 3. The labs could indeed be done in less time. I would have preferred to have the solutions fasters when I am stuck (for the sake of saving time).
- 2. Maybe my knowledge was not good enough to fully complete all the labs according to the lectures.
- 3. Just fine, difficult to cut something and cannot spend more that 1 week in a training.

Lecture materials

3. How helpful did you find the lecture materials?

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



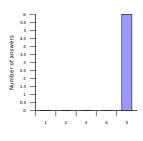




- 3. Need a more overall description. The materials is basically a set of command but I miss some global foils to explain how each piece fits together
- 5. Very Good, video projector, PC under linux, development board.
- 4. I really appreciated the materials, especially the free CD-RW with KernelKit. I can train again at home. The training materials available online is also a very good initiative.

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 | 0 | |
| 5 | 6 | Definitely |



- 5. Depends on the starting skills of the student.
- 5. It is a really interesting training to learn more about Linux and embedded OS on other platforms. I took the liberty to send the link to trainings to friends.

5. Will you use these materials again in the future, for command or resource references?

| Rati | ng | Answers | Description | 6 — 5.5 — | | |
|------|----|---------|---|-----------------------------|---------|---|
| | 1 | 0 | No. I will look for other sources of information. | 5 — 9 4.5 — 9 4 — | | |
| | 2 | 0 | | 3.5 — | | |
| | 3 | 0 | | 9 2.5 — W 2 — N 1.5 — | | |
| | 4 | 0 | | 1 — | | |
| | 5 | 6 | Definitely | 0 — | 1 2 3 4 | 5 |

- 5. When I need it, I will use it as reference. Website is very good.
- 5. First for personal use, and hopefully for a project.

Instructor added value

6. How knowledgeable was the instructor?

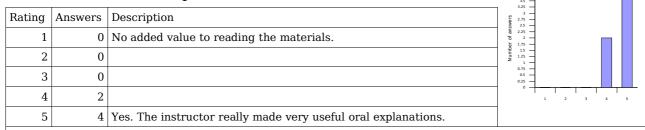
| Rating | Answers | Description | 4.5 | | | |
|--------|---------|---|-------------------|-----|-----|---|
| 1 | 0 | Not enough for my own technical experience. | 4 — Sign 3.5 — | | | |
| 2 | 0 | | 3 — 2.5 — | | | |
| 3 | 0 | | 2 — E 1.5 — | | | |
| 4 | 1 | | 0.5 | | | |
| 5 | 5 | More than enough for my own experience. | 0 - | 1 2 | 3 4 | 5 |

- 5. Very open minded and ready to help during and after the class. Very honest as well
- 5. It is very pleasant to have an instructor with such an experience in this field, and moreover was a former employee of the company and so knew how we work and how to orient the course in relation with our platforms.

Free software for



7. Did instructor oral explanations add value to the lecture materials? 5



- 4. Oral explanation is better than online course. Especially thanks to Q/A sessions.
- 5. Good English presentation.

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

| Rating | Answers | Description | 3.75 = 3.5 = 3.25 = | | | | | |
|--------|---------|---|--|---|---|---|---|---|
| 1 | 0 | Poorly. Didn't try to understand the questions well or rarely managed to find useful answers. | 3 - 2.75 - 2.5 - 2.25 - | | | | | |
| 2 | 0 | | Jo 1.75 - | | | | | |
| 3 | 0 | | 2 1.25 - 1 - 0.75 - | | | | | |
| 4 | 4 | | 0.5 = | | | | | |
| 5 | 2 | Answered very well to questions from the audience | | 1 | 2 | 3 | 4 | 5 |

- 4. Good knowledge, and try to find out an answer even when he doesn't know the response on the moment (takes notes...).
- 5. He did his best to do it!

9. Was the instructor helpful with practical labs?

| Rating | Answers | Description | 5 - | | |
|--------|---------|--|-------------|-------|---|
| 1 | 0 | No, not enough available and helpful during the labs. | 4 — 4 — 3.5 | | |
| 2 | 0 | | 9 3 — | | |
| 3 | 0 | | g 2.5 — | | |
| 4 | 1 | | 1.5 | | |
| 5 | 5 | Yes. The instructor definitely helped to make labs a learning opportunity. | 0.5 — 0 — 1 | 2 3 4 | 5 |

^{4.} Instructor tried to spend a lot of time with each of us. Gave good advises and practical tips to complete the labs.

Training labs

10. How useful did you find the training labs?

| Rating | Answers | Description | 4 → 3.75 → 2 3.5 → | | | |
|--------|---------|---|-------------------------------|-----|-----|---|
| 1 | 0 | Not useful. Didn't add significant value to the lectures. | 9 3.25 — S 3 — B 2.75 — | | | |
| 2 | 0 | | 5 2.5 — 19 2.25 — 2 2 — | | | |
| 3 | 0 | | 1.75 — Z 1.5 — 1.25 — | | | |
| 4 | 2 | | 0.75 — 0.5 — | | | |
| 5 | 4 | Very useful. Helped to highlight things not understood and build useful experience. | 0.25 — | 1 2 | 3 4 | 5 |

- 5. Best part of the training, could be improved by speed up labs. We spend often too much time to find solutions by ourselves, I 'd prefer to get solutions by the instrutor more quickly.
- 5. Labs helped me to better understand the lectures. Would have appreciated the solution at the end of the labs.





11. How difficult were the training labs?

| Rating | Answers | Description | 5 7 | | | | |
|--------|---------|---|-----------------|---|---|----------|---|
| 1 | 0 | Too difficult. Didn't help or even discouraged a beginner to get more familiar with the tools and concepts. | 4.5 — answers | | | | |
| 2 | 1 | A bit too difficult. Would be better if the lab instructions gave a bit more details about explanations. | Number of 2.5 — | | | | |
| 3 | 5 | Just fine. Prompted me to look for answers, get my own experience and find my own solutions. | 1.5 — | | | | |
| 4 | 0 | Too easy for my own technical level. | 0 — | | | — | _ |
| 5 | 0 | Too easy for everyone. Should challenge participants more and help everyone to practice on real issues. | | 1 | 2 | 3 | 4 |

- 2. Between 2 and 3.
- 3. First labs were OK, last ones were a little bit more complex and I was even not able to finish the last one. I had a lack of knowledge I think.
- 3. The lab instructions were sometimes too brief/general, so that there was room for misinterpretation of the expected route forward. Lost some little time due to confusion. Maybe this is due to my lack of experience too.

12. Was enough time dedicated to the practical labs?

| Rating | Answers | Description | 3.75 — 3.5 — 3.25 — | | | |
|--------|---------|---|-------------------------------|-----|-----|---|
| 1 | 0 | No. More practice is needed | s. 3 — 9 2.75 — 8 2.5 — | | | |
| 2 | 1 | A little bit more time would help. | 6 2.25 — 5 2 — | | | |
| 3 | 4 | Just fine | 9 1.5 — E 1.25 — | | | |
| 4 | 1 | A little bit less time would be enough. | 0.75 — 0.5 — 0.25 — | | | |
| 5 | 0 | Don't need to spend so much time on labs. On-the-job practice is best anyway. | 0 + | 1 2 | 3 4 | 5 |

^{3.} The last lab was too tough for me... I'm not sure to be able to redo it in only 20 minutes, but at least I know now what it is possible to do with Linux.

Training conditions

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

| Rating | Answers | Description | 3 — 2.75 — | | | |
|--------|---------|-------------|-----------------------------|-----|-----|---|
| 1 | 0 | Poor. | 2.5 — 5 2.25 — 8 2 — | | | |
| 2 | 1 | | 5 1.75 — 5 1.5 — | | | |
| 3 | 1 | | 9 1.25 — E 1 — 0.75 — | | | |
| 4 | 1 | | 0.5 — 0.25 — | - | | |
| 5 | 3 | Very good. | 0 - | 1 2 | 3 4 | 5 |

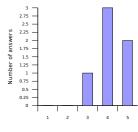
- 2. (temperature!)
- 5. Room size: OK. Equipment: OK, however air conditioner not working properly.... Environment: OK, students friendly.
- 5. Apart from the classroom temperature day 1 and 2, which is our company's fault.
- 4. PCs, lab setup ok. Very hot room, in particular on the first 2 days.

^{3.} It is tempting to say (2) but time is 'always too short' during workshop labs.

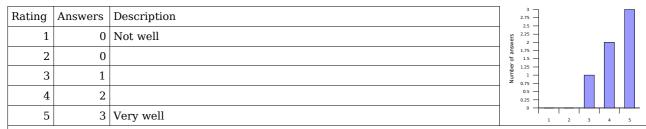


14. How do you rate the training equipment (mainly computers)?

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



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



^{3. (}schedule not met)

Overall rating

16. How much did you learn?

| Rating | Answers | Description | 2.75 — 2.5 — | |
|--------|---------|----------------------------------|---------------------------------|-----------|
| 1 | 0 | Definitely not much | ∑ 2.25 — | |
| 2 | 0 | | 5 1.75 — | |
| 3 | 0 | | iii 1.25 — Q 1 — U 0.75 — | |
| 4 | 3 | | 0.5 — 0.25 — | |
| 5 | 3 | Definitely more than I expected. | 0 — | 1 2 3 4 5 |

^{5.} I know what is a MUTEX now.

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

| Rating | Answers | Description | 3.75 — 3.5 — | | | | |
|--------|---------|---|---|---|-----|---|---|
| 1 | 0 | Not useful. | 325 — 20 3 — 20 2.75 — | | | | |
| 2 | 0 | | Su 2.5 — to 2.25 — to 2 — 1.75 — | | | | |
| 3 | 1 | | 9 1.5 — 1.5 — 1.25 — 1 — | | | _ | |
| 4 | 1 | | 0.75 — 0.5 — 0.25 — | | | | |
| 5 | 4 | Very useful. Will make my job easier and more productive. | 0 1 | 2 | 3 4 | 4 | 5 |

^{3.} Not used for the moment, but maybe (hopefully) in a near future. I use the course for my personal culture and personal use (at home) and try to import that in my daily work with free software.

18. Would you recommend this course to others?



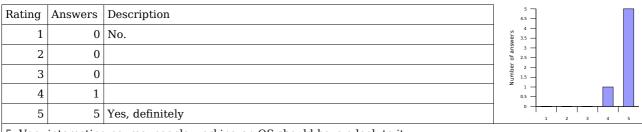
^{4.} Quite OK. No reboot needed.

^{4.} Organization quite flexible, especially for the labs. The time spent for the labs was maybe too short at the end. I would have appreciated to try compiling and flashing a U-Boot on the board as well.

^{4.} It's difficult to be completely satisfied, you need a lot of practice before beign really operative. The training gave me the good introduction and starting points on where to find informations.







5. Very interesting course, people working on OS should have a look to it.

19. Overall rating

| Rating | Answers | Description | 4 — 3.75 — 3.55 — 3.55 — 3.25 — 2.75 — 8 2.25 — 6 2 — 1.55 — 1.55 — 1.5 — 1.5 — 1.5 — 0.55 — | | | | |
|--------|---------|----------------------------|---|-----|-----|-----|---|
| 1 | 0 | Very disappointing | | | | | |
| 2 | 0 | Disappointing | | | | | |
| 3 | 0 | A little bit disappointing | | | | | |
| 4 | 0 | OK | | | | | |
| 5 | 1 | Pretty good | | | | Щ | 4 |
| 6 | 4 | Very good | | 1 2 | 3 4 | 5 6 | 7 |
| 7 | 1 | Excellent | | | | | |

- 5. Thanks for the good training!
- 6. I didn't rate "excellent" to force the trainer to improve himself. An idea for the next trainings on Linux: bring the Tux penguin and give one to each student.
- 7. It could be an idea to make "Knoppix environment configuration saving" work to speed up recovery after reboot, just to save a little time. (Mounting local HDD partition and network proxy setup for instance).
- 6. On some topics like device drivers, events, scheduler, it would be nice to have a general introduction before getting into details. The course uses often a kind of "bottom-up" approach, that let you understand some concepts only at the end.

