# Training evaluation report

**Training session**: Embedded Linux Training
**Training dates**: Apr. 21-24, 2008 (4 days)

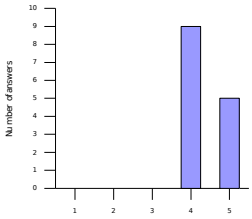
**Number of participants**: 16
**Returned feedback forms**: 14/16

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?

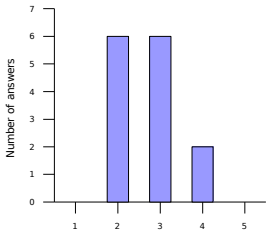
| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | Not met |
| 2 | 0 | |
| 3 | 0 | |
| 4 | 9 | |
| 5 | 5 | Fully met |




4 - Expected a more advanced training.

### 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 | 6 | A little too short |
| 3 | 6 | Just fine |
| 4 | 2 | A little too long |
| 5 | 0 | Definitely too long. The concepts could be learned in much less time. |



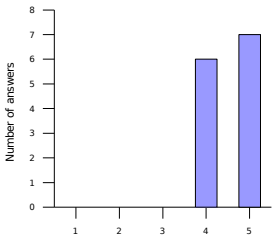

2 - BSP development had to be skipped for example.

2 - The course should be 5 days long. The schedule is a little too tight for 4 days, esp. when all participants don't have the same level of knowledge.

## Lecture materials

### 3. How helpful were the lecture materials?

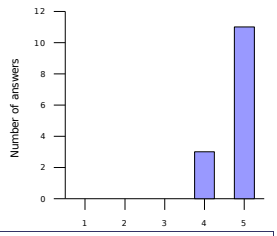
| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | Not helpful. Made things more difficult to learn and understand. |
| 2 | 0 | |
| 3 | 0 | |
| 4 | 6 | |
| 5 | 7 | Really made things easier to understand and learn. |




4 - But too much material
4 - Helpful and well documented
N/A - Can be more explanatory.

### 4. Will you recommend these materials to others?

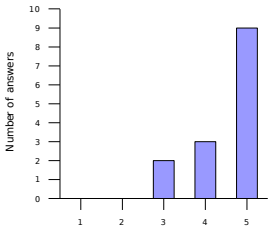
| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | No. Not helpful without following the sessions. |
| 2 | 0 | |
| 3 | 0 | |
| 4 | 3 | |
| 5 | 11 | Definitely |




5 - The best training we got so far.

### 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 | 2 | |
| 4 | 3 | |
| 5 | 9 | Definitely |

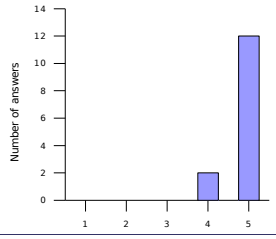



5 - Some updates may be necessary though :)

## Instructor added value

### 6. How knowledgeable was the instructor?

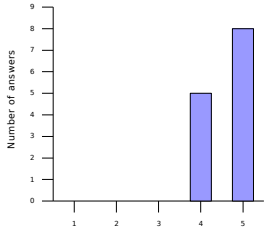
| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | Not enough for my own technical experience. |
| 2 | 0 | |
| 3 | 0 | |
| 4 | 2 | |
| 5 | 12 | More than enough for my own experience. |




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

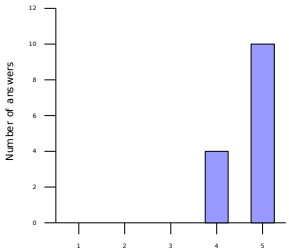
| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | No added value to reading the materials. |
| 2 | 0 | |
| 3 | 0 | |
| 4 | 5 | |
| 5 | 8 | Yes. The instructor really made very useful oral explanations. |

N/A - Helpful especially in lab sections




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

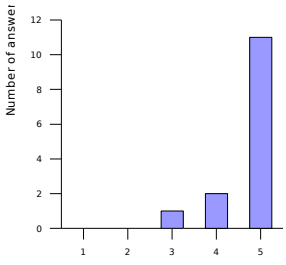
| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | Poorly. Didn't try to understand the questions well or rarely managed to find useful answers. |
| 2 | 0 | |
| 3 | 0 | |
| 4 | 4 | |
| 5 | 10 | Answered very well to questions from the audience |




### 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 | 1 | |
| 4 | 2 | |
| 5 | 11 | Yes. The instructor definitely helped to make labs a learning opportunity. |

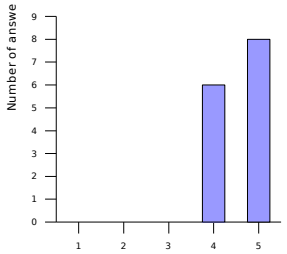
3 - 1 instructor wasn't enough to support ~15 students. Should be at least 2.



## 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 | 6 | |
| 5 | 8 | Very useful. Helped to highlight things not understood and build useful experience. |



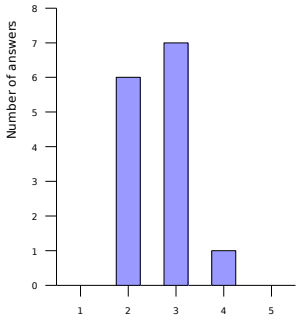

4 - Too much labor work inside the labs (downloading, installing packages, etc.). These kind of files should be ready at the beginning.

5 - Better than lecturing! Let's do more labs

5 - Some points were actually cleared up during the labs.

### 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 | 6 | 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. |

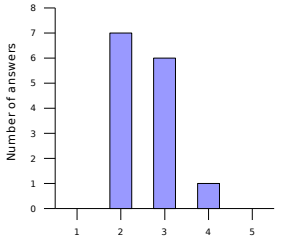



3 - I find it great that the labs also required knowledge from previous chapters.

2 - But it would be better with more explanations.

### 12. Was enough time dedicated to the practical labs?

| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | No. More practice is needed |
| 2 | 7 | A little bit more time would help. |
| 3 | 6 | 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 |

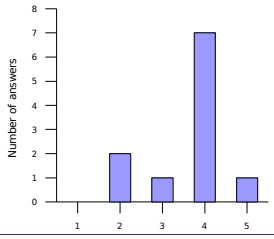



2 - We had to skip some labs because of the 4 days limit.

## Training conditions

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

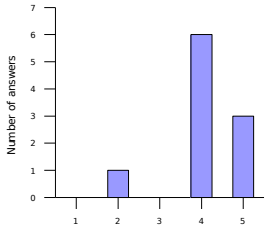
| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | Poor. |
| 2 | 2 | |
| 3 | 1 | |
| 4 | 7 | |
| 5 | 1 | Very good. |




4 - It was hot
2 - OK - Rooms were not chosen very well.
N/A

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

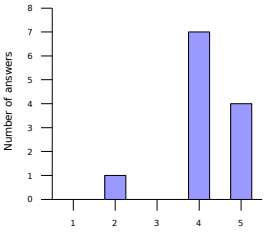
| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | Poor. Not powerful enough to execute practical labs. |
| 2 | 1 | |
| 3 | 0 | |
| 4 | 6 | |
| 5 | 3 | Very good. Very little time waiting, more time learning. |




2 - OK - We used our own notebooks, so the equipments were OK.
N/A
4 - We have needed PCs for realtime lectures *(note: real PCs instead of virtual machines for real-time benchmarks)*

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

| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | Not well |
| 2 | 1 | |
| 3 | 0 | |
| 4 | 7 | |
| 5 | 4 | Very well |

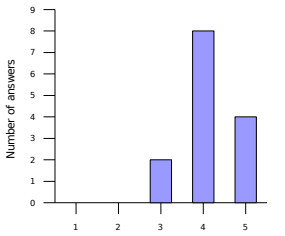



2 - Planned agenda could not be completed.
4 - Well - In general the course was much better than I expected
4 - Problem in meeting the schedule

## Overall rating

### 16. How much did you learn?

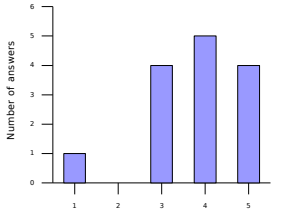
| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | Definitely not much |
| 2 | 0 | |
| 3 | 2 | |
| 4 | 8 | |
| 5 | 4 | Definitely more than I expected. |




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

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

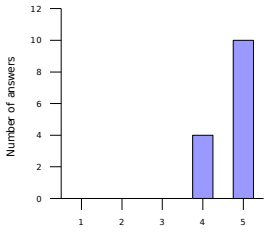
3 - Maybe in future projects
4 - Useful - Depending on the projects, I believe it will be quite useful.




### 18. Would you recommend this course to others?

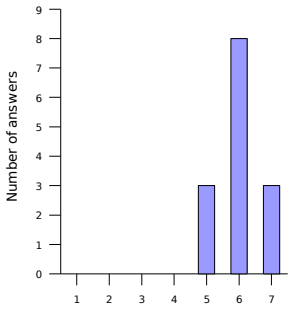
| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | No. |
| 2 | 0 | |
| 3 | 0 | |
| 4 | 4 | |
| 5 | 10 | Yes, definitely |

4 - Very good for newbies



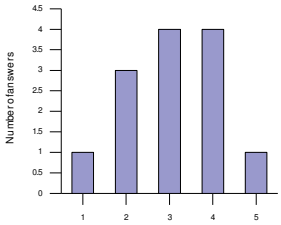
## 19. Overall rating

| Rating | Answers | Description |
|---|---|---|
| 1 | 0 | Very disappointing |
| 2 | 0 | Disappointing |
| 3 | 0 | A little bit disappointing |
| 4 | 0 | OK |
| 5 | 3 | Pretty good |
| 6 | 8 | Very good |
| 7 | 3 | Excellent |




## 20. An extra session?

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




2 - Not needed as of now.
3 - Not in the near future, but may be later.
3- It can be after our own projects on embedded Linux.
4 - Yes, if needed.

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

## Free Electrons comments

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

- By proposing a less dense agenda, perhaps not skipping topics asked by the customer, but by skipping less important details.
- By giving more lab solutions.

## 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: we can organize custom training sessions or workshops on specific topics. Examples: USB device drivers, developing multimedia systems, uClinux, BSP development...
- 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.