IMPROVING THE SOFTWARE ERGONOMY OF TMF
Introduction

I. METHODOLOGY
II. DATA GATHERING
III. ANALYSIS
IV. PROPOSALS
V. CONCLUSION
I. METHODOLOGY

4 majors steps:

✓ Discovery of the tool
  - Goals,
  - Features,
  - Target Users.
✓ Collect data from the users,
✓ Analyse this data
  to identify focus points,
✓ Propose solutions.

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II. DATA GATHERING

How to collect data?

Data collected in 3 different ways:

✓ Analysis of the software,
✓ User feedback,
✓ User observation.
II. DATA GATHERING

Analysis of the software:

- Bastien & Scapin criteria,
  Set of 8 theme to structure the analysis

- Personnas & Cognitive walkthrough.
  Simulation to anticipate user’s difficulties
II. DATA GATHERING

User Feedback:

- **Questionnaire,**
  [https://docs.google.com/forms/d/1062AXpphKCWSQtzkgqWB65iJG5l4rzkNHuLYzzPBgpU/viewform](https://docs.google.com/forms/d/1062AXpphKCWSQtzkgqWB65iJG5l4rzkNHuLYzzPBgpU/viewform)

- **Interview.**
II. DATA GATHERING

Users observations:

• Students
  From a kernel tutorial class,

• Professionals
  CIENA’s employees.
III. ANALYSIS

- Limited quantity of data.

+ Good diversity of users and/or usecases,

+ Similarities in data collected.

Similarities -> Points to focus in priority
III. ANALYSIS

- First use is difficult and with not enough guidance,
- Difficulties in manipulation
  - Mistakes,
  - Needlessly long manipulations.
- Lack of visual feedback.
III. PROPOSALS

The Welcome tab:

- What the software can do and how to do it,
  - Majors features,
- Guide new users during their first uses,
  - Create a new trace &/or analysis,
  - Open an existing trace.
III. PROPOSALS

The Welcome tab mock-up (not completed)

Welcome to LTTng/Trace Compass

The LTTng project aims at providing highly efficient tracing tools for Linux. Its tracers help tracking down performance issues and debugging problems involving multiple concurrent processes and threads. Tracing across multiple systems is also possible.

Apart from LTTng’s kernel tracer and userspace tracer, viewing and analysis tools are part of the project. TMF permits to analyze and show traces, both in text format and graphically.

LTTng’s performance relies on techniques such as Userspace RCU, lockless algorithms, per-cpu data structures and cache impact minimization.

Getting started

In order to start using Trace Compass, you have to select what you want to do. You can also directly access the workbench by clicking on the icon on the top right.

- Open A Trace Directory...
- Create a new trace...
- Quick Start Guide
- User Guide
III. PROPOSALS

The Welcome tab mock-up (not completed)
III. PROPOSALS

The Welcome tab mock-up (not completed)

Create a new Trace
To generate a Lttng Trace, you can use Lttng command line. You can find detailed instruction here.

Here are all analysis which can be done by the software. Click on one to get more details:

Control Flow
Resources
Statistics
UST Memory Usage
Call Stack
Critical Path

Description

Statistics

Presentation
What this view is about?

How to get this view
Instruction and/or link

Illustration
III. PROPOSALS

- Modification in the controls
  - For the selection,
  - For the navigation.

![Image of selection controls with data]
III. PROPOSALS

- Bring information to the user
  - Tab specific controls,
  - Tab specific functionalities,
III. PROPOSALS

Add Feedback :
- When a view is updated,
- Which analysis is available and why,
- Why the view cannot be generated,
- If there are lost events...
III. CONCLUSION

TMF is a powerful tool

Need modifications:
- To improve the experience,
- To improve the users’ efficiency,
- To attract more user.
Thank you for your attention.

QUESTION ?