

Life cycle Global HyperText

Using WWW to improve software development and maintenance

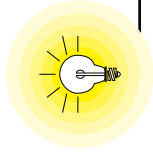
Application of the LIGHT system to ALEPH programs.

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Programming Techniques Group



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CHEP'95 - Sept. 95



The Authors

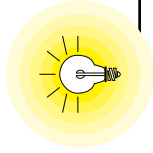
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- Alberto Aimar
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- Paolo Palazzi
- Bertrand Rousseau
- Mario Ruggier

CERN/PPE, ALEPH Group

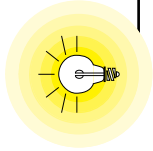
- Pere Comas-Illas
- Marco Cattaneo



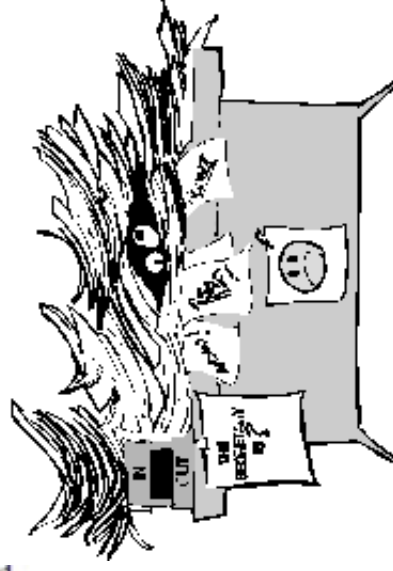


Contents

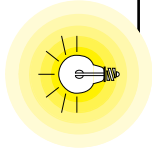
- **Documentation for Software Development**
- **The LIGHT Solution**
- **A Demonstration**
- **Requirements and Technology**
- **Status and Future Projects**



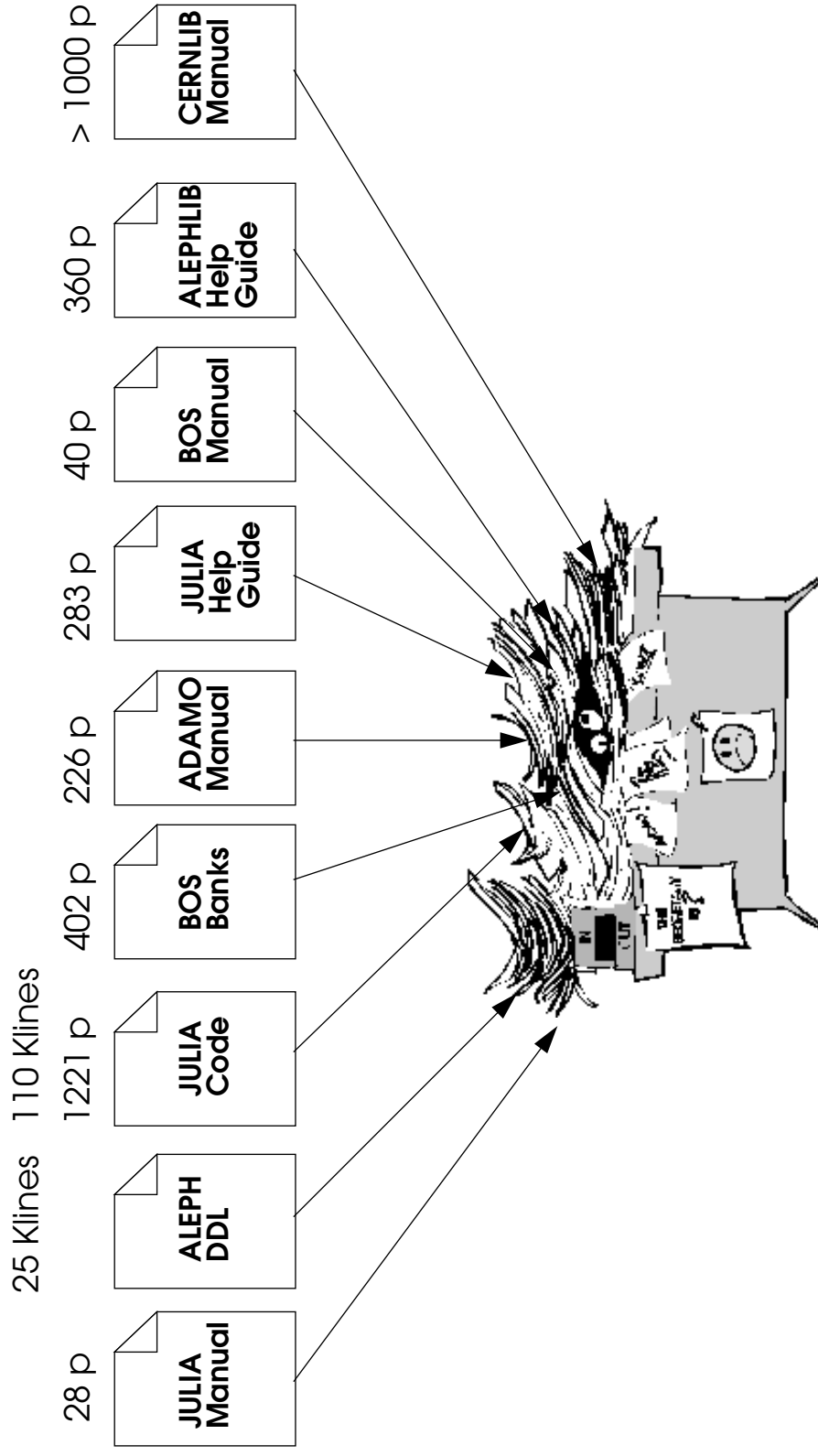
The Problem

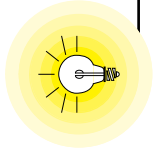


- **Size**
- **Complexity**
- **Distribution**

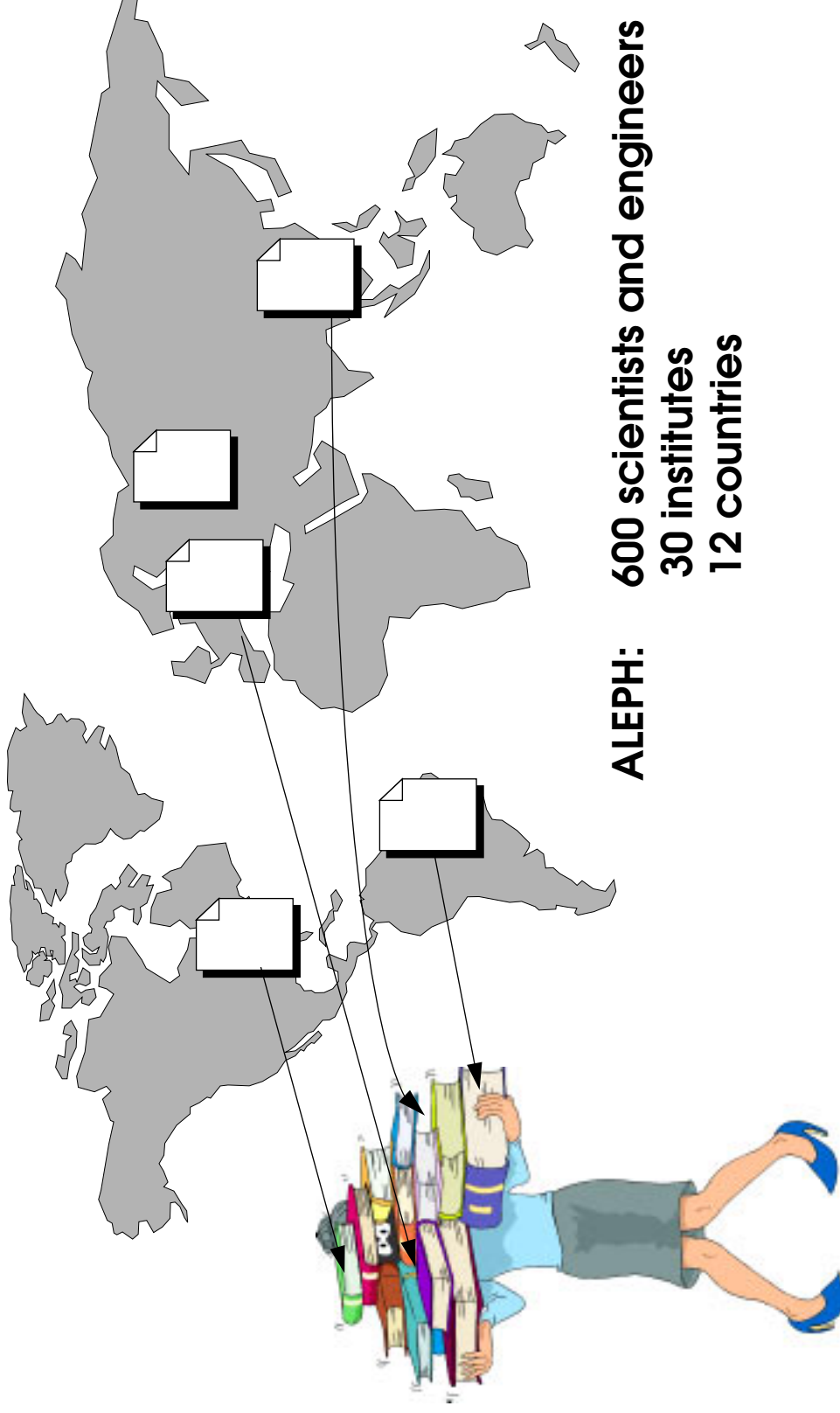


Handling the Size





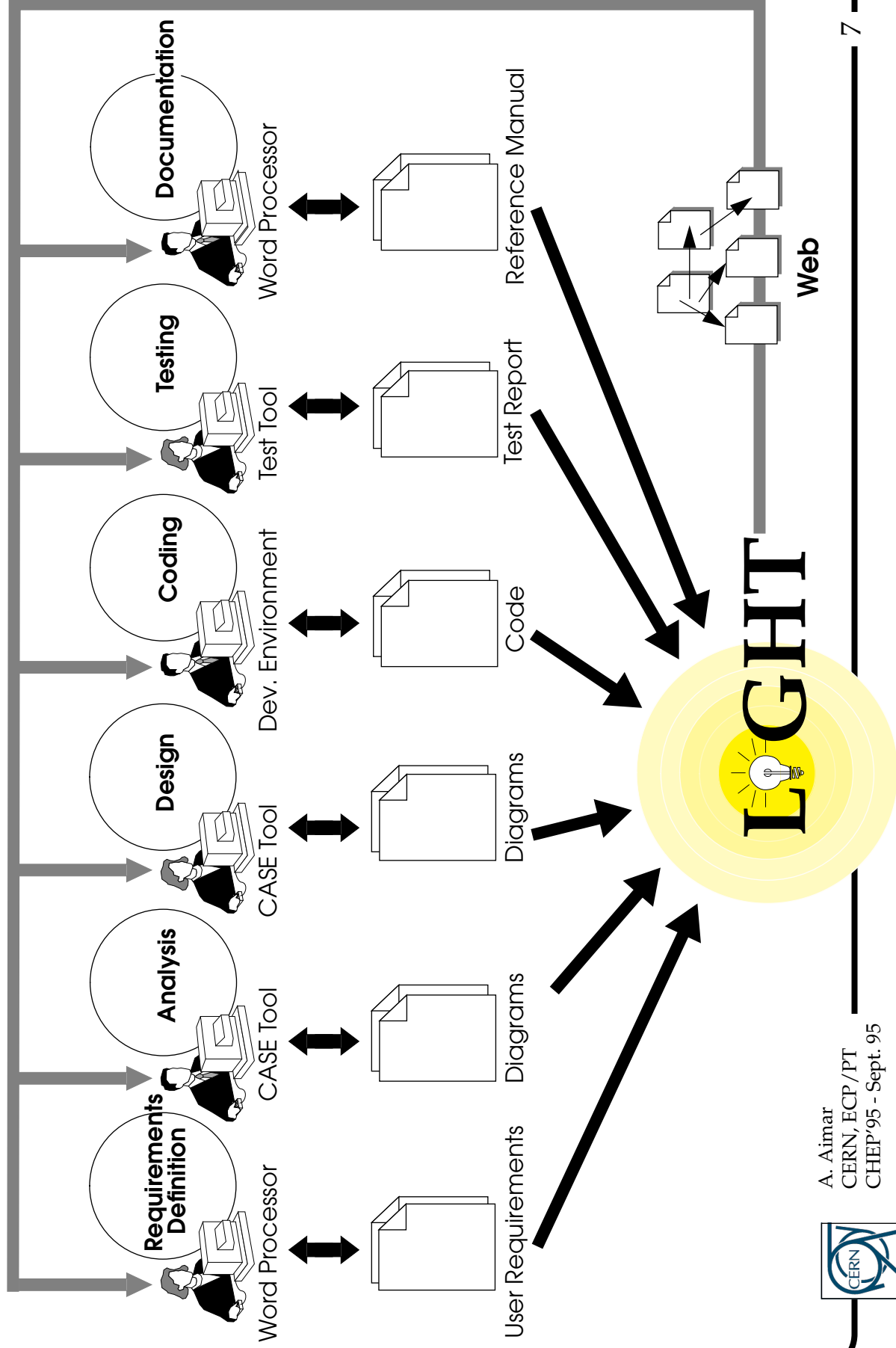
Handling the Distribution



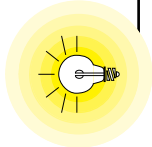
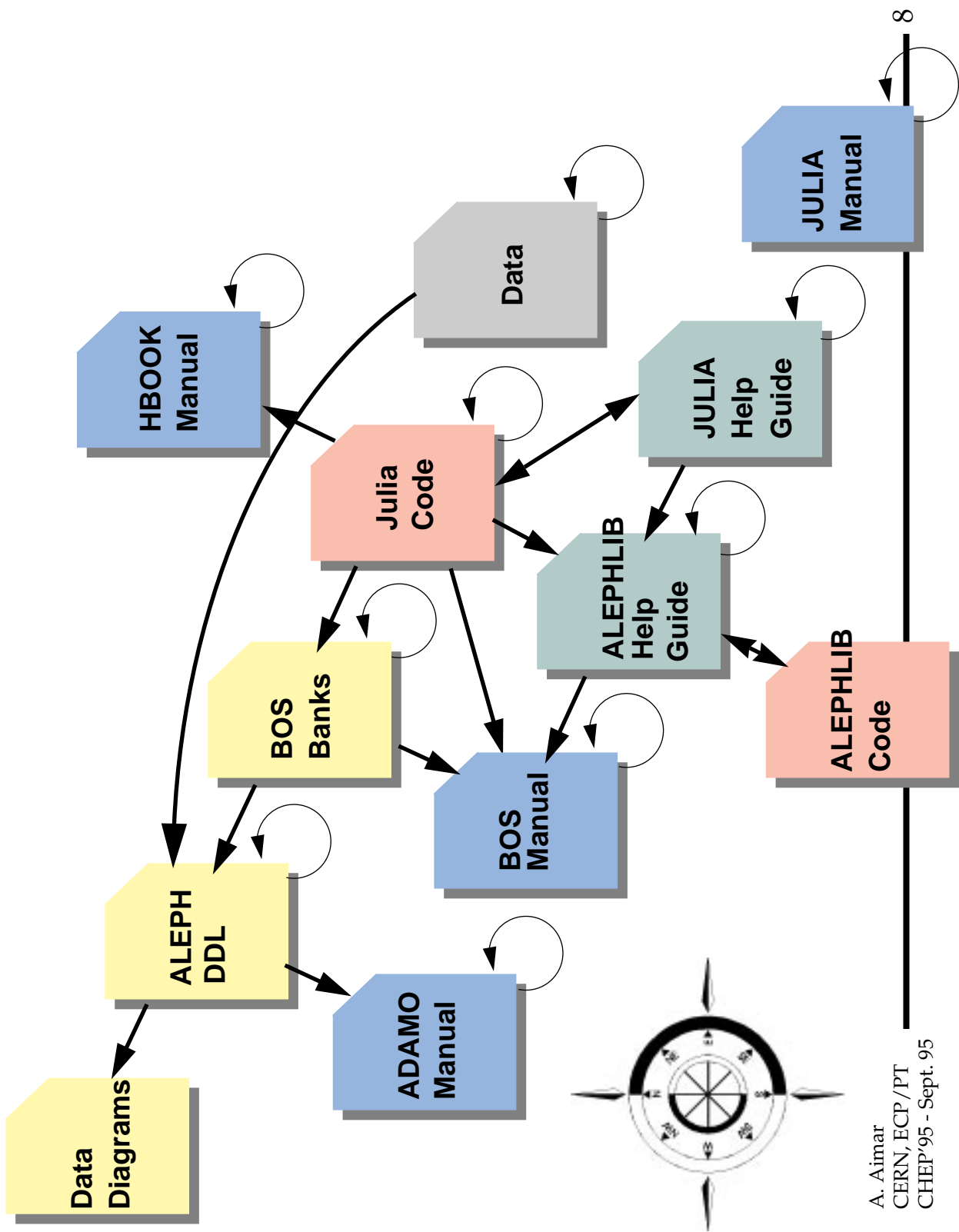
**ALEPH: 600 scientists and engineers
30 institutes
12 countries**

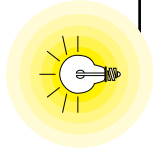


The LIGHT Solution



JULIA/LIGHT Navigation Map

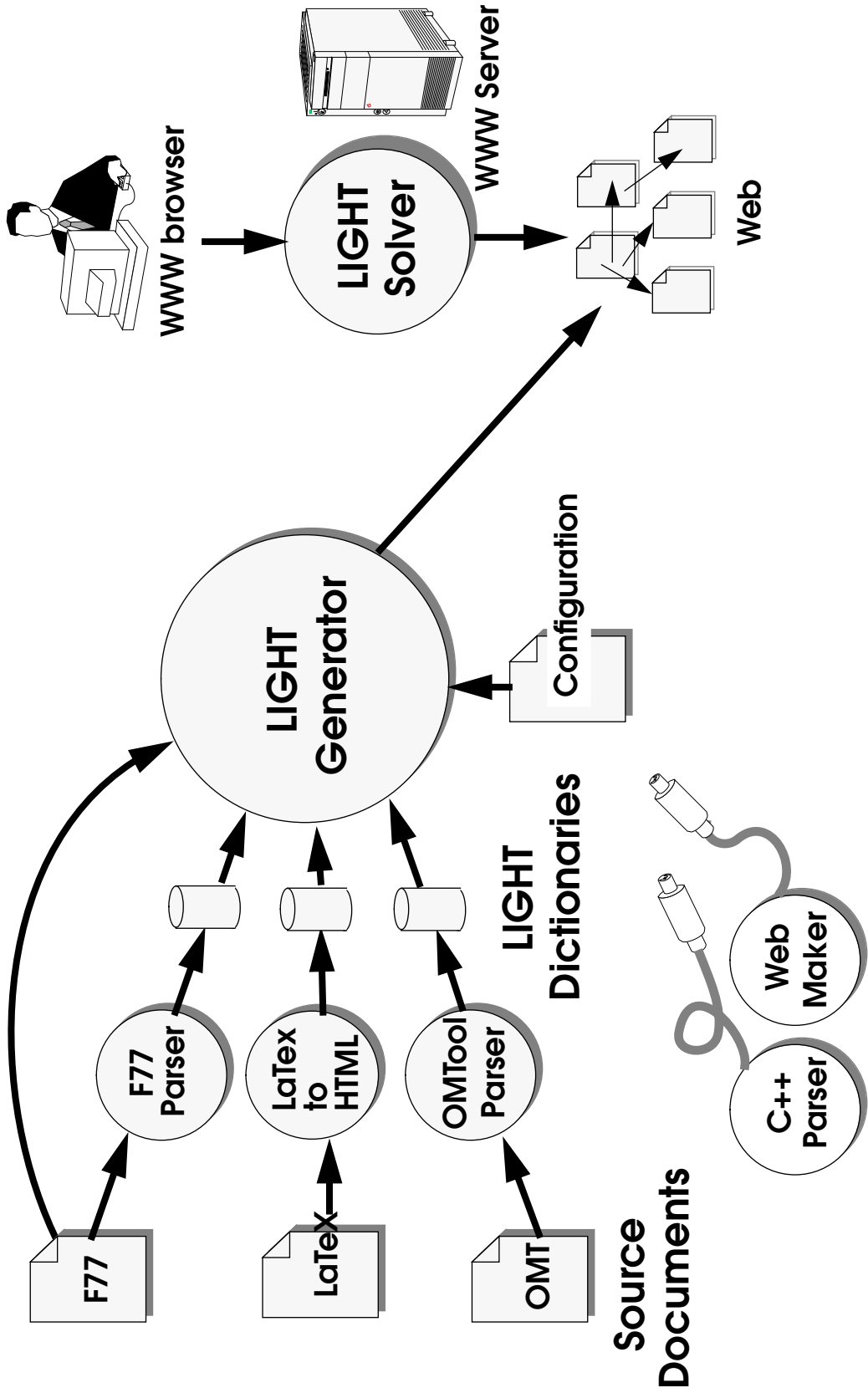
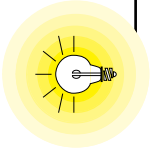




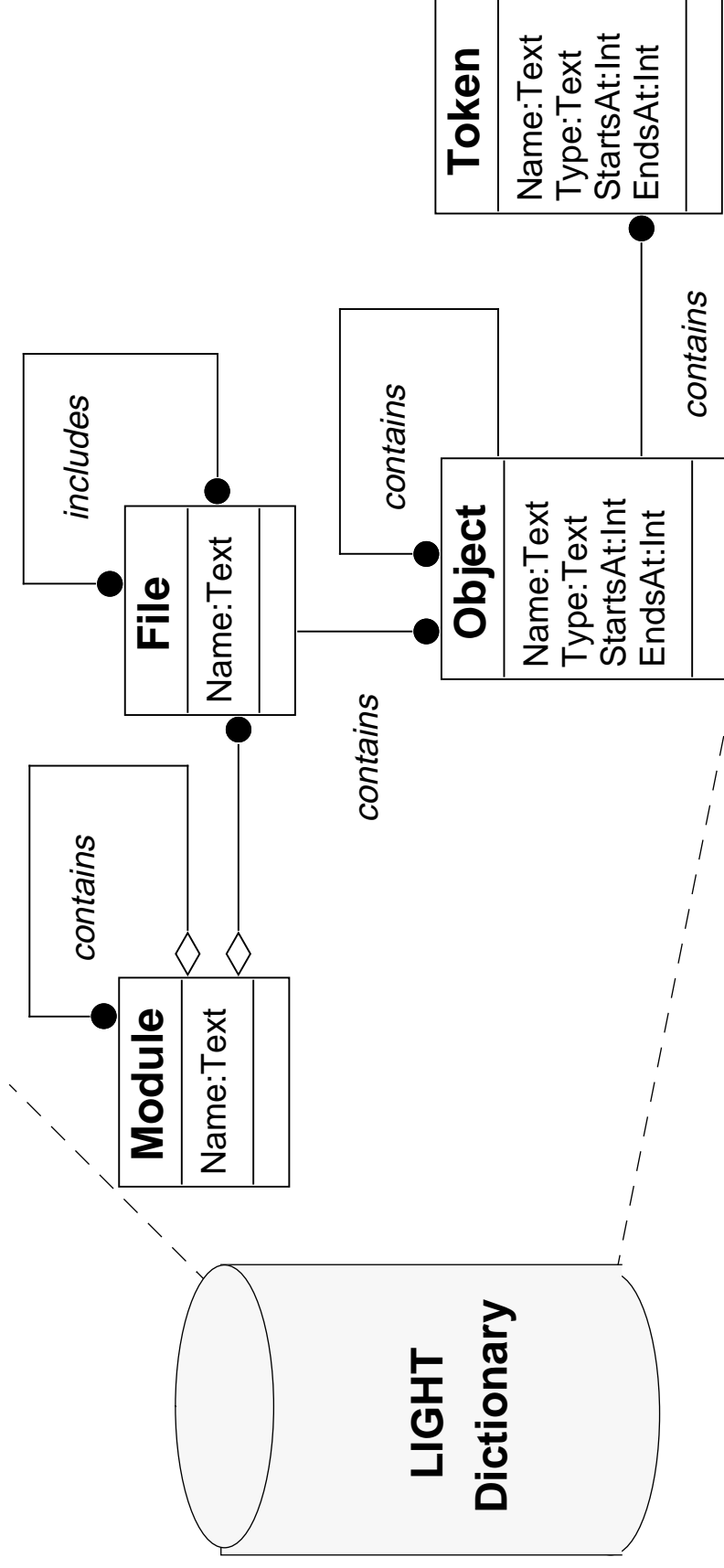
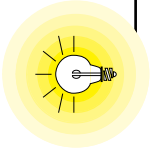
Requirements and Technology

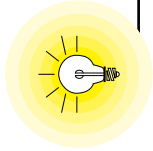
- **Conversion to HTML**
Ability to convert source code, text and graphics
- **Genericity**
Ability to easily add new converters
- **Automatic Cross-Connection**
Ability to connect several documents with hypertext links
- **Configurability**
Ability to configure the connectivity, depending on the kind of application
- **Incremental Update**
Easy update of a document, without needing a reconversion of all other documents

Design of LIGHT



The LIGHT Dictionary

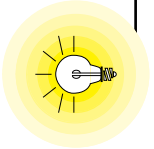




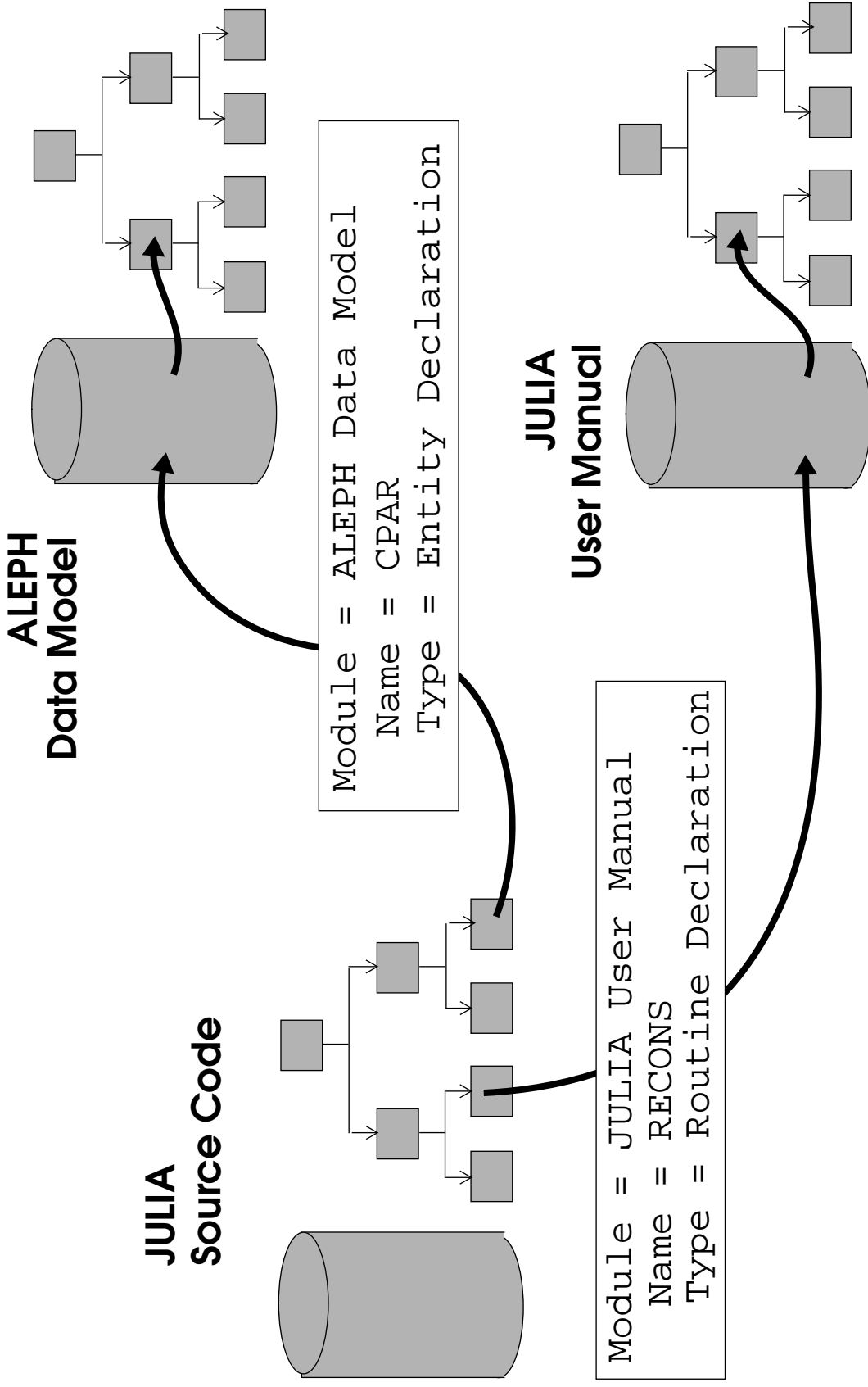
The LIGHT Generator

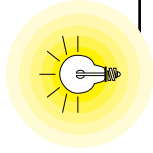
- Takes as input the LIGHT Dictionaries and the Source Documents
- Splits the Original Documents into smaller pieces
- Generates HTML Markup and Hypertext Links
- Is Driven by a Configuration Program

```
IN MODULE "JULIA source Code", link
TOKENS of NAME $1 and of TYPE "Routine Call" to
TOKENS of NAME $1 and of TYPE "Routine Description"
in MODULE "HBOOK Reference Manual"
```



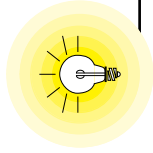
The LIGHT Solver





Further Projects

- **Extend LIGHT to Interactive Access to Physics data**
- **Develop new LIGHT Parsers (e.g. C++)**
- **Allow HTML Generation “on the fly”**
- **Couple LIGHT with Software Development Tools**
 - *Source Code Managers (e.g. CVS),*
 - *Programming Environments (e.g. SNIFF),*
 - *CASE Tools (e.g. Rational ROSE) ...*
- **Work towards Collaborative Software Development**



Conclusion

- **LIGHT improves reading and navigation in JULIA**
- **The LIGHT architecture is applicable to other software projects**
- **LIGHT can be coupled with software tools**