Training Kit

- According to the URD:
  - UR 2.1.2 The Geant4 Training Kit shall consist of a set of reusable training modules
  - UR 2.1.3 It should be possible to assemble a variety of Training Programmes from the material of the Geant4 Training Kit
- The Training Kit consists of a modular set of training units
  - *e.g. Detector Description Module, Hadronic Physics Module etc.*
- Every unit is modular itself
  - e.g. *Basic Geometry, Extended Geometry, Advanced Geometry etc.*
- More details in the URD

Priorities for year 2000

The TSB decided to focus resources on the following items as a priority for the first version of the Training Kit (Milestone 2000):

- short course of 1 day
- course suitable for a School
  - *about 5 one hour lectures plus hands-on exercises*
- academic style of series of lectures
  - *approximately 3-5 hours*

A first set of Modules for the Training Kit

- *This first choice of modules is motivated by the need to*

  achieve a first concrete deliverable

  within the short time scale of the Workshop, so focusing on a relatively small number of basic modules
- *Further extensions of the number of modules and their scope may be foreseen in the future*

General	*Introduction, General topics*
Kernel	*Run, Event, Tracking, Track, Particles, Global*
Detector description	*Geometry, Materials, Hits&Digi*
Electromagnetic Physics	*Electromagnetic Physics*
Hadronic Physics	*Hadronic Physics*
Fast simulation	*Fast Simulation, Parameterisation*
UI&Vis	*UI, Visualisation*
Persistency	*Persistency*
Exercises	*Hands-on exercises*

General, Kernel

- First drafts for kit-1 (1 day introduction) and kit-2 (CSC style lecture + hand-on exercise) completed
- The material is in PowerPoint form.
  - will be put on Web for collaboration's examination.
- An exercise used at CSC will be reused as the hand-on exercise.

Detector Description

- Collected and assembled existing material available from courses and schools
- Extended existing material where needed
- 1st version of the module for academic-style lectures theory completed (>30 slides)
- To be done still
  - Refine and complement with code excerpts
  - Implement simple modular exercises to associate to theory
  - Extract and assemble material to use for basic and intermediate (School) courses

EM Physics

- Electromagnetic Physics Module developed jointly by Standard and Low Energy e.m. WGs
- 1st version of basic and extended module assembled
- To be refined and complemented with code excerpts, material from the Gallery and a physics tutorial submodule

Hadronic Physics

- Material needs to be collected and examined
- Volunteers need to be appointed

Fast Simulation

- Slides for theory in preparation
  - first skeleton available
  - will be completed by next week
  - example code for training will be available in two weeks
- Examples: novice example N05 will be reused as starting point
  - revision and cleanup required
  - single EM shower parameterisation will be provided

UI/GUI

- Intermediate (School) course is completed
- Detailed course for academic-style lectures is completed
- Examples: material available from novice example N03 will be reused
  - revision and cleanup required

UI/GUI - 2

- Part 1: Quick Tour
  - Basic Concepts of Vis/GUI
  - How to Perform Visualization
  - Available Graphics Software
  - Visualization of Detector
  - Visualization of Hits and Trajectories
  - Sample visualization
  - Select (G)UI
  - Useful Vis/GUI tools Released by Geant4 Developers
  - Environmental Variables

UI/GUI - 3

- Part 2: How to perform visualization
  - Introduction
  - Visualizable Objects
  - Visualization Attributes
  - Polyline and Marker
  - Visualization Drivers
  - Main() Function
  - Interactive Commands
  - How to Visualize from C++ Codes
  - Information

Persistency

- Plans of materials preparation
  - One day seminar
    - 5 or so pages of PowerPoint file: will re-cycle old ones
  - Academic Lecture
    - 20 or so pages of PowerPoint file: will re-cycle old ones
    - documentation
  - Intensive Course
    - Hands-on experiences of the following
      - writing G4 default persistent objects / reading them back
      - design and implementation of user-own hits