Internet lectures

- 1. The Internet, the world cup and Africa, see http://www.slac.stanford.edu/grp/scs/net/talk10/helwan10.pptx Thursday 30th September, 10:15-10:45am Grid Day
 - Methodology
 - Current State
 - What is happening?
 - Impact
 - Next Steps
- Internet History, trends and futures, see http://www.slac.stanford.edu/grp/scs/net/talk10/internet-history.pptx Sunday 26th September 9:00-9:45am
 - Brief history
 - Design goals
 - Growth & Success
 - Current challenges
 - Internet NG
 - What is driving the changes
- 3. How is the Internet performing, see http://www.slac.stanford.edu/grp/scs/net/talk10/perform.pptx
 - Sunday 26th September 9:45-10:30am
 - Internet characteristics
 - · Users, capacities, satellites, packet sizes, protocols, routing, flows
 - How is it used apps etc.
 - How the Internet worldwide is performing as seen by various measurements and metrics
 - Application requirements

4. Cell Phones, see http://www.slac.stanford.edu/grp/scs/net/talk10/cellphone-work.pptx

- Monday 27th September, 9:00 9:45am
 - Not covering Cordless phones, CB radios, pagers, car phones, Iridium etc.
 - How they work
 - History
 - Cell phone components
 - Power
 - Carriers
 - Coverage
 - Bars
 - Growth
 - Concerns
- Smart phones & other Mobile computing, see http://www.slac.stanford.edu/grp/scs/net/talk10/smartphones.pptx Monday 27th September, 9:45 - 10:30am
 - Wireless
 - What is a smartphone and their growth
 - Why are they important
 - How are they used
 - What's coming
 - · Bandwidth impact
 - Not for everybody yet
 - Laptops & Netbooks
 - Smartbooks
 - Tablets
 - WiFi
 - How it works
 - Protocols
 - WiFi and smartphones
- 6. Diagnosing network problems for non-networkers, see http://www.slac.stanford.edu/grp/scs/net/talk10/diagnosis.pptx Wednesday 29th September, 16:00 - 17:30pm
 - Goal: provide a practical guide to debugging common problems
 - Why is diagnosis difficult yet important?
 - Local host
 - Ping, Traceroute, PingRoute
 - Looking at time series
 - Where is a node
 - Who do you tell, what do you say?
 - Case studies and More Information
- 7. Network Measurements, see http://www.slac.stanford.edu/grp/scs/net/talk10/internet-measure.pptx
 - Wednesday 29th September, 17:30-19:00pm
 - Why is measurement important?
 - LAN vs WAN
 - Passive
 - SNMP, Netflow
 - Effects of measurement interval
 - Active
 - Tools various
 - Ping, traceroute
 - Available bandwidth, achievable bandwidth
 - PingER

Probably we will not cover the items below due to lack of time.

- 1. Geolocation, see http://www.slac.stanford.edu/grp/scs/net/talk10/geolocation.pptx
 - ImportanceHow is it done
 - Dynamic method
 RTT => distance
 Geometrical methods of finding location from circles

 - ApplicationChallenges
- 2. Internet case studies
 - Digital Divide and Africa (some of this will be covered in the Grid Day presentation)
 Cable cuts

 - Impact of TEIN3
 - Pakistan
- 3. How does the Internet work, see http://www.slac.stanford.edu/grp/scs/net/talk09/ictp-tcpip.ppt