What Fundamental is the Most Important in Software Engineering?

- Let us learn from successful enterprises

An Interesting Exercise

- Mr George Soros
- Mrs Soros
- Me
- Mrs Tse

I will drive

Who will sit next to me?

You are invited to conduct ***systems analysis*** and ***systems design*** .

An Interesting Exercise

- Mr George Soros
- Mrs Tse
- Mrs Soros
- Mr Soros or Mrs Soros or Mrs Tse
- "I don't know"
- "I am not in the position to answer hypothetical questions"
- "What's the model answer?" .

An Interesting Exercise

- "**Process**" is the most important aspect in software engineering
- ***Systems Analysis*** based on user requirements
  - **Mr Soros or Mrs Soros or Mrs Tse**
  - **End of analysis**
- ***Systems Design*** using software engineering principles
  - **Portray working class image: Mr Soros**
  - **Portray middle class image: Mrs Tse**
  - **Portray old rich image: Mrs Soros .**

What is Software Engineering?

- The application of a ***systematic, disciplined, quantifiable approach*** to the development, operation, and maintenance of software [IEEE 1990]

Why is it engineering?

What is Software Engineering?

- The establishment and use of sound ***engineering principles*** (***methods***) in order to obtain economically software that is reliable and works on real machines [Bauer 1972]

What is engineering?

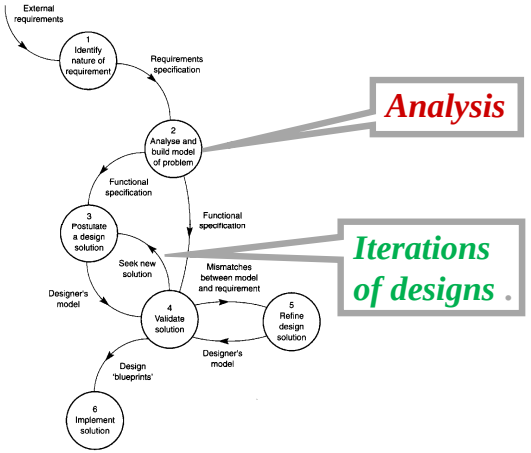
What is Software Engineering?

- Software engineering is that form of engineering that ***applies the principles of computer science and mathematics*** to achieving ***cost-effective solutions*** to software problems [CMU/SEI-90-TR-003]

Science

Engineering

Software Engineering is the Application of a Scientific Approach



Analysis

Iterations of designs