Sick Building Syndrome, Building Related Illness, and Indoor Air Quality

IPRO 335

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Project Plan

- Background of Sick Building Syndrome
- Organization
  - Methodology
  - Instrumentation
  - Expert System

Methodology Group

- Mold, the big problem
- Moisture Control
- Questionnaire
  - Building Construction
  - Moisture Present
  - Mold Investigation
  - Multizone Airflow Software: CONTAMW [George Walton, NIST]

Instrumentation Group

- Tools used in the analysis and detection of factors that contribute to Sick Building Syndrome

Fungal Sampling Methods

- Viable Aerosol Samplers

- Other Methods
  - Surface Swabs
  - Bulk Samples
  - Microscopy

- Non-viable Aerosol Samplers
  - Zefon Bio-pump

Temperature, Humidity, and Pressure

- Temperature Measurements
  - Infrared Laser Thermometers

- Humidity Measurements
  - Hygrometers
  - Moisture Meters

- Pressure Measurements
  - Manometers

Air Tightness Measurements

- Anemometers
- Flow Hoods
- Blower Doors
- Smoke Pencil

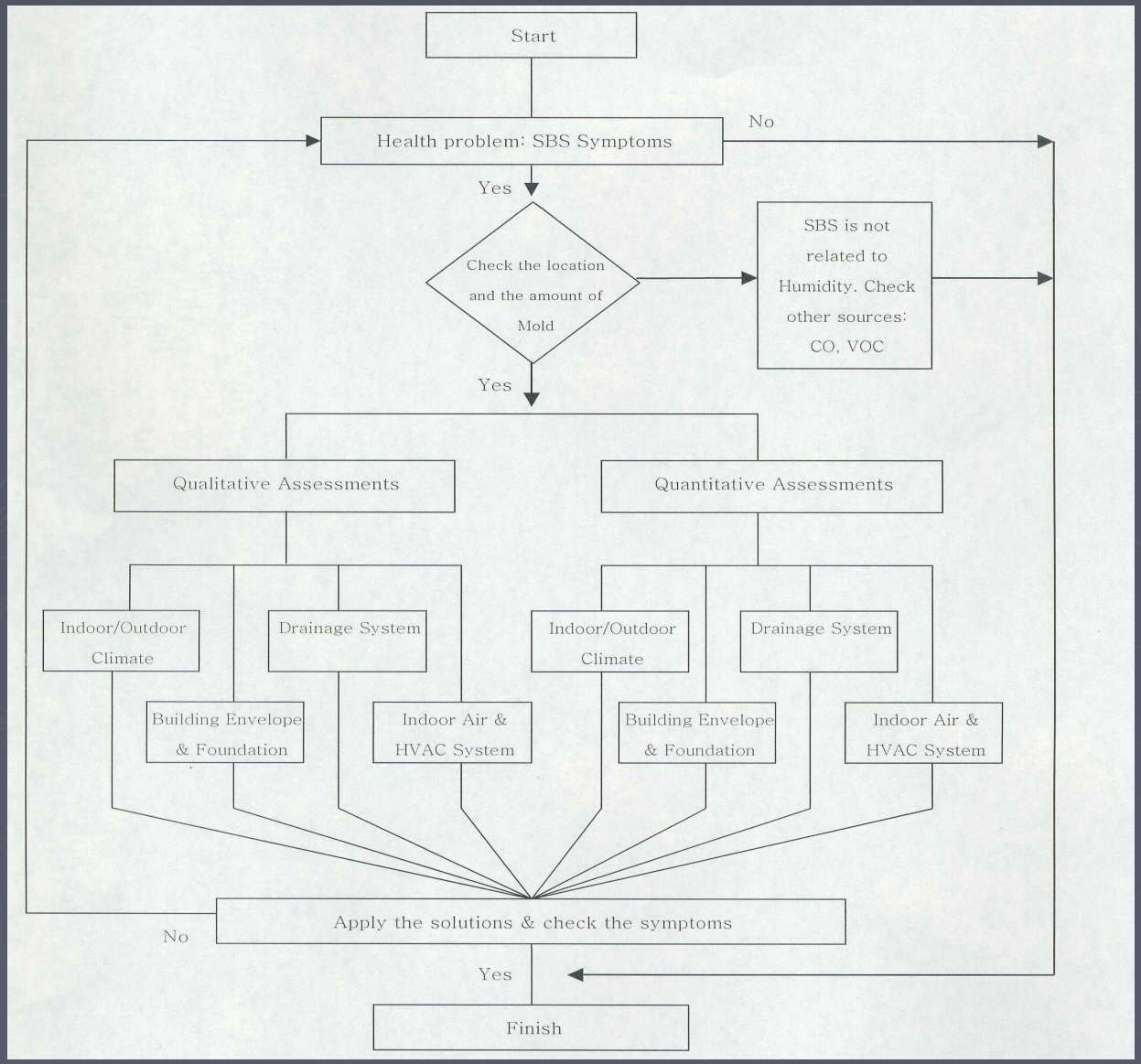
Expert System Group
Objectives

- Solution related to
  - Building Illness
  - Sick Building Syndrome

Expert System

- If/Then Statements
- Recursive loops
- Rely on computer to organize problem

Diagram of Expert System



Problem Solving Process

- Call from building owner
- Questionnaire
  - Visual Inspection
  - Measurements
  - Simulations
- Analysis of problem using Expert System
- Apply solutions from Expert System
- Check if problem is solved

Future Plans

- Survey an actual building
- Improve
  - Questionnaire
  - Expert System
- Ultimate Goal: Universal system of diagnosing sick buildings

Any Questions?