SNS COLLEGE OF TECHNOLOGY

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DEPARTMENT OF AGRICULTURE ENGINEERING

## 19AGT203 – AUTOMATION TECHNIQUES IN AGRICULTURE ENGINEERING

II – YEAR IV SEMESTER

UNIT 4 – VARIABLE RATE TECHNOLOGY

TOPIC 2– Design Concepts - Interface Analysis

5/22/2023

DESIGN CONCEPTS - INTERFACE ANALYSIS/19AGT203 – AUTOMATION TECHNIQUES IN AGRICULTURE ENGINEERING/
Ms.R.MUTHUMINAL , AP/AGRI/SNSCT

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Last Class Review

Food Process Engineering

Sensors

Variable Rate Technology
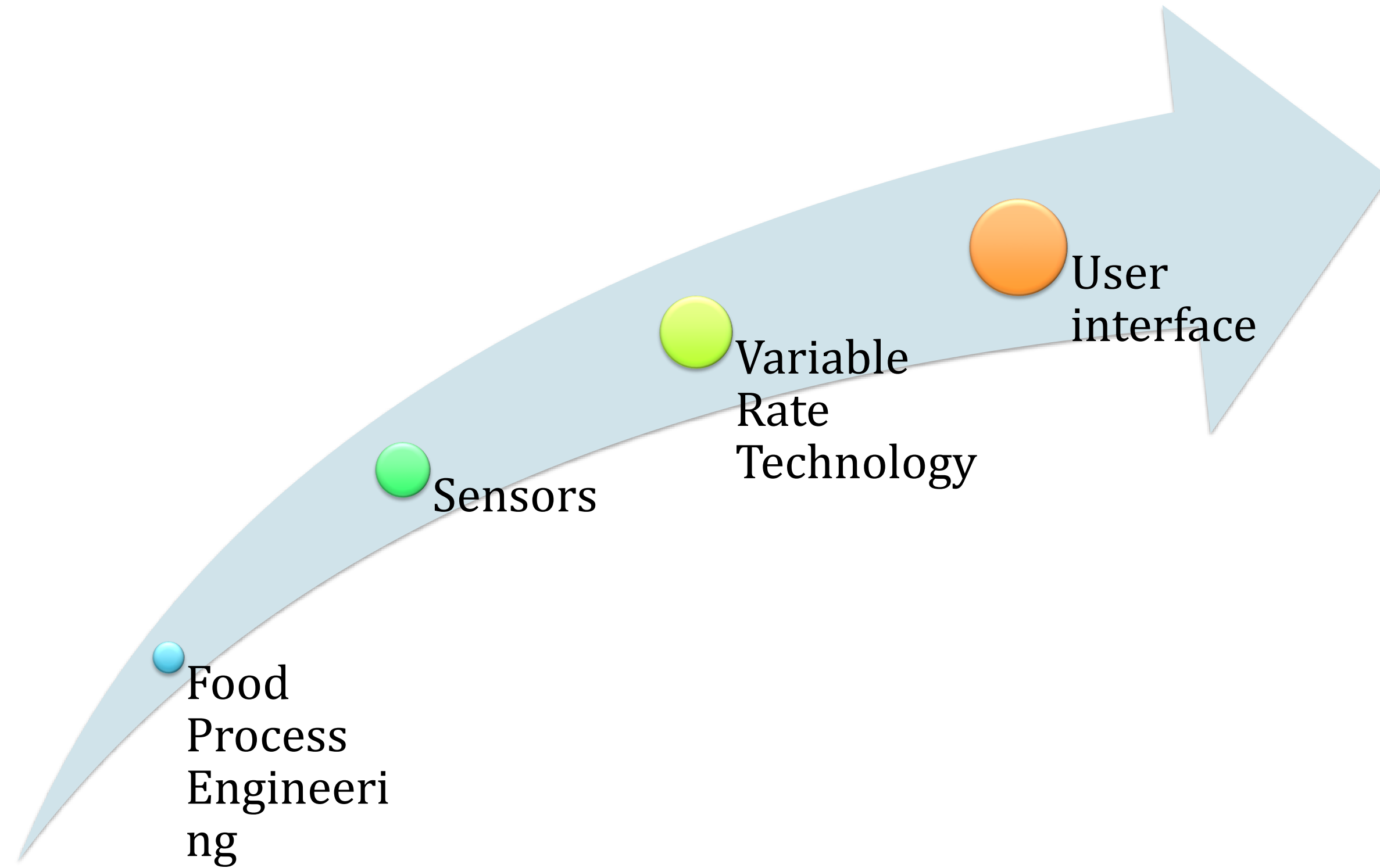
User interface

USER INTERFACE ANALYSIS AND DESIGN!!!

❖ The overall process for analyzing and designing a user interface begins with the creation of different models of system function.

❖ Tools are used to prototype and ultimately implement the design model, and the result is evaluated by end users for quality.

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Interface Analysis and Design Models!!!

❖ Four different models come into play when a user interface is to be analyzed and designed.

❖ To build an effective user interface, "all design should begin with an understanding of the intended users, including profiles of their age, gender, physical abilities, education, cultural or ethnic background, motivation, goals and personality

❖ In addition, users can be categorized as:

▪ Novices

▪ Knowledgeable, intermittent users

▪ Knowledgeable, frequent users

Process

❖ The analysis and design process for user interfaces is iterative and can be represented using a spiral model
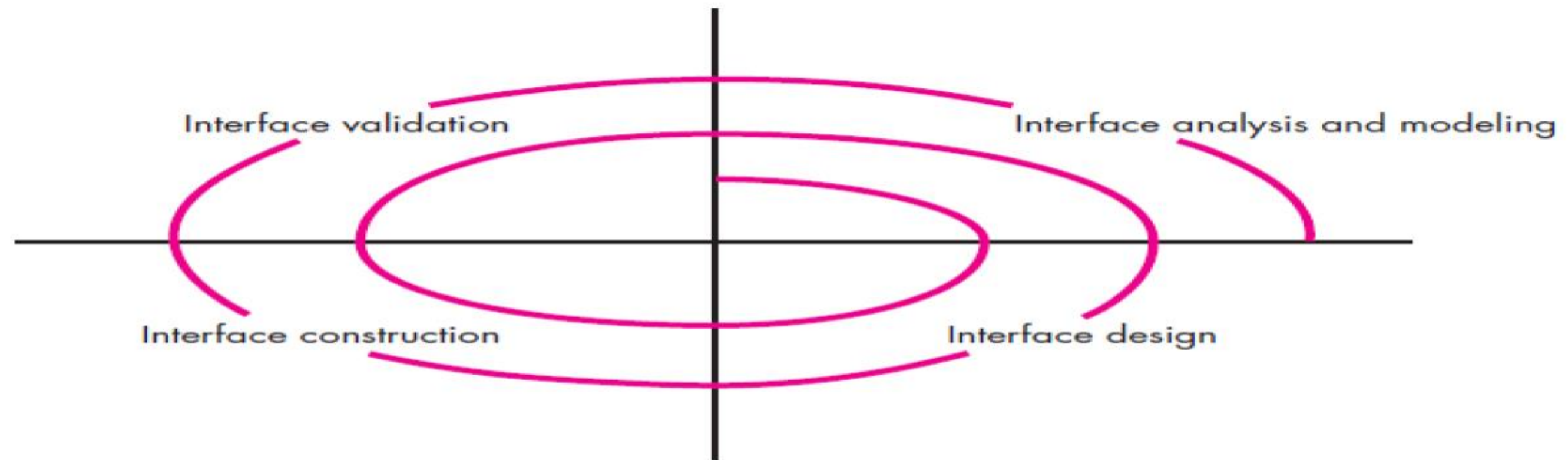
**Fig 11.1: The user interface design process**

Analysis

❖ Analysis of the user environment focuses on the physical work environment

▪ Where will the interface be located physically?

▪ Will the user be sitting, standing, or performing other tasks unrelated to the interface?

▪ Does the interface hardware accommodate space, light, or noise constraints?

▪ Are there special human factors considerations driven by environmental factors?

Goal?
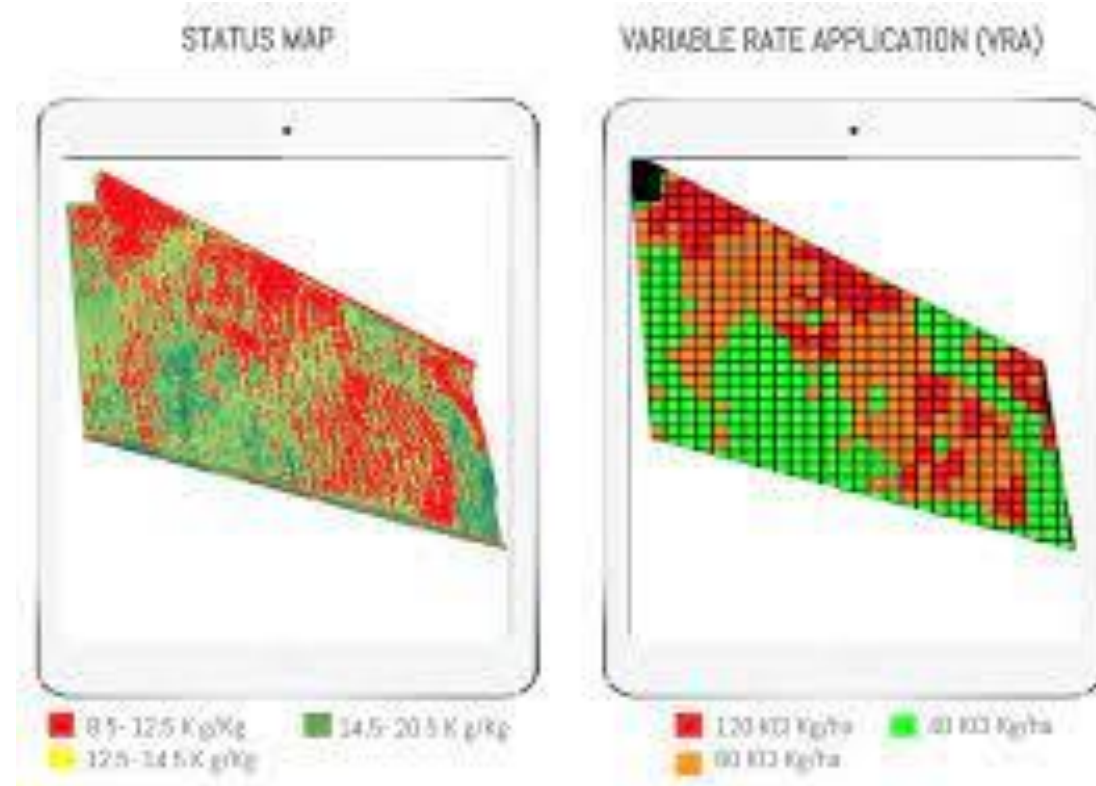
❖ The goal of interface design is to define a set of interface objects and actions (and their screen representations) that enable a user to perform all defined tasks in a manner that meets every usability goal defined for the system.

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Steps….

❖ User interface design begins with the identification of user, task, and environmental requirements.

❖ Once user tasks have been identified, user scenarios are created and analyzed to define a set of interface objects and actions.

❖ These form the basis for the creation of screen layout that depicts graphical design and placement of icons, definition of descriptive screen text, specification and titling for windows, and specification of major and minor menu items.

❖ Tools are used to prototype and ultimately implement the design model, and the result is evaluated for quality.

INTERFACE ANALYSIS !!!

❖A key tenet of all software engineering process models is: understand the problem before you attempt to design a solution.

❖In the case of user interface design, understanding the problem means understanding (1) the people (end users) who will interact with the system through the interface, (2) the tasks that end users must perform to do their work, (3) the content that is presented as part of the interface, and (4) the environment in which these tasks will be conducted.

❖We examine these elements of interface analysis with the intent of establishing a solid foundation for the design tasks that follow.

See You at Next Class!!!!