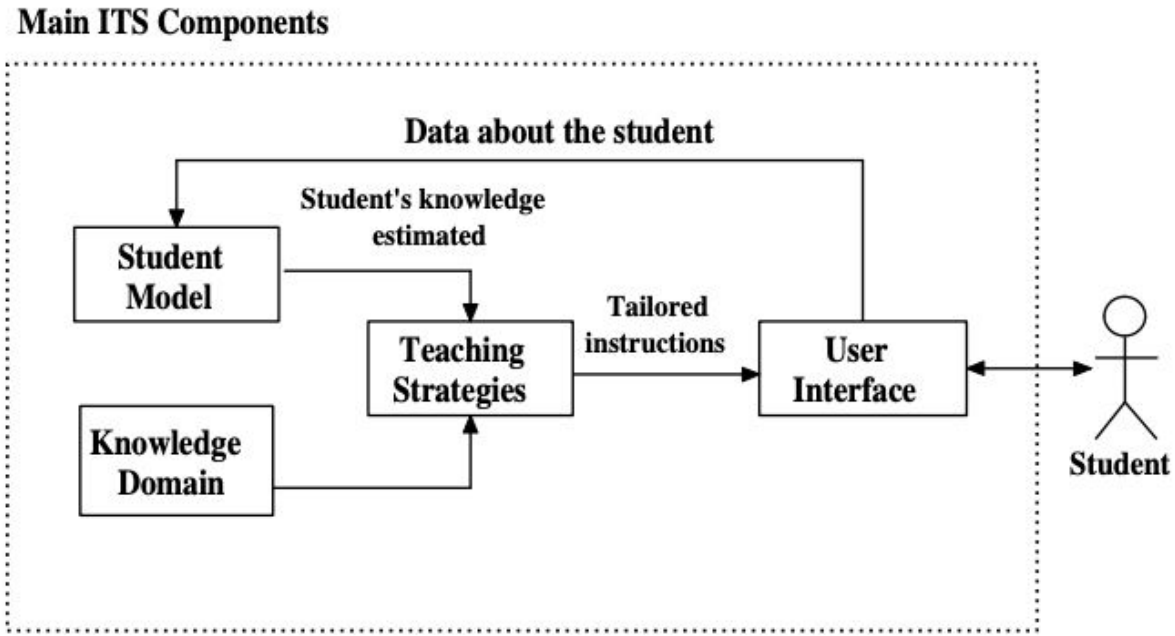
CIS*3750 - System Analysis and Design in Applications

Luiza Antonie, Fall 2025, University of Guelph

Project: Building an intelligent tutoring system

- Personalized learning with AI and ML



Project

- A detailed project outline won’t be provided, it is the responsibility of each group to define the project

- The learning goals for this course focus on the processes around software development.

Project

- Each of you has already demonstrated proficiency at writing code to get to this point
- So your energy needs to be directed toward the entire software development process
- Special emphasis on requirements gathering, design and planning

Project

- Think about each team member's role
- Assign responsibilities based on skills and strengths
- Don’t have too many cooks in the kitchen
- Back-up everything all the time

Project

- Select which language, libraries and solutions you plan to use
- Trello, Slack, Google Docs, Git private repository
- My advice: the best choices are usually the ones that the developers are most familiar with. You can still choose to experiment, but new tools have a higher cost

Project

Requirements

- What are requirements?
  - A set of operations the software must perform
  - Clear and concise description of what the client needs

- Why are requirements important?

Requirements Gathering

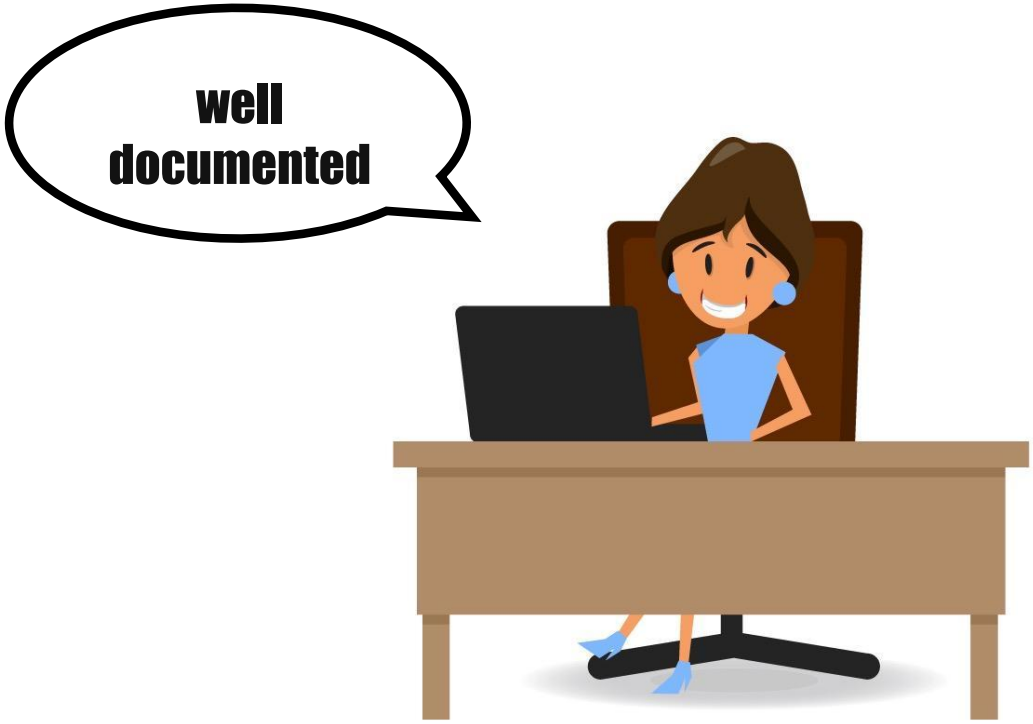
- Understand the problem that the software product should solve
- Understand the users’ needs

- **Foundation** for all subsequent stages of the software development lifecycle.

Requirements Gathering

- Process of establishing what a client requires from a system and the constraints under which it operates and is developed.

General Requirements


well
documented

well documented

readable

well documented

modifiable

readable


testable
well documented
modifiable
readable


testable
well documented
modifiable
readable
easy to use

Who are the stakeholders when building an intelligent tutoring system

Specific Requirements

meet the client needs!

meet the User needs!

RESEARCH
RESEARCH
RESEARCH!

- Who are the users?
- And how might they interact with the system?

What are User Stories?

A short story (1-3 sentences) about **1 thing** a **user** will do, and why they want to do it.

User Stories?

- About the system.
- About implementation.
- A set of instructions.


About the system.
About implementation.
A set of instructions.

User Stories

- **As a** <user type>,
  I want <some action/function>,
  so that <some reason>.

User Stories

As a student I want to be able to see the course announcements on the landing page of the course website so that I have easy access to them when checking the course website.

User Stories

- As an instructor I want to be able to create and update announcements on the course website so that students can see those announcements.

User Stories

- As an instructor I want to be able to create ~~and update~~ announcements on the course website so that students can see those announcements.

User Stories Activity (15-20 min)

- Get together in small groups of 4-5 and come up with 15 user stories for a course management software like Courselink

User Stories Activity (15-20 min)

- First, brainstorm and discuss who the users of the system would be and think of some possible ideas of features you would like the software to do
- Next, take those ideas and write them using the user story template