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<http://www.engr.uvic.ca/~seng321/>
<https://courses1.csc.uvic.ca/courses/201/spring/seng/321>

Announcements

- New class room as of Wed
 - MAC 288 (original one)
- Midterm rescheduled due to lab clash
 - Fri, Feb 26 in class **confirmed !!**
- Website
 - **Due yesterday**
 - Submission: send link to hausimuller@gmail.com with Subject: SENG 321 Website
- Assignments/Deliverables
 - S0, C0, S1, C1 specs posted
 - Group website spec posted
- Projects
 - Original RFP posted again
 - **Check for project websites**

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Projects

- [Car Wash - RFP](#)
- [RFP Football Team Schedule RFP - RFP](#)
- [Meal for the Month - RFP](#)
- [Library Management System - RFP](#)
- [Course Schedule Creator - RFP](#)
- [Speed Breacher Wake up timer - RFP](#)
- [SERVEitudel - RFP](#)
- [Location & Time Based Restaurant Specials - RFP](#)
- [Parking Time Based Queueing System - RFP](#)
- [Laptop - RFP](#)
- [RFP Locker Reservation System - RFP](#)
- [Abstrakode - RFP](#)
- [Appointment App - RFP](#)
- [Smart Business Queueing System - RFP](#)
- [Mobile Lighting Control System - RFP](#)

Missing Project Websites

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Course Objective

- Learn how to produce a software requirements specification (SRS) for a project, as part of a team, such that the SRS is:
 - Clear, concise and understandable
 - Unambiguous
 - Checkable—complete, consistent
 - Testable / verifiable / measurable
 - Traceable
- The SRS should act as a useful and useable reference

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Requirements Specification

- Is clear/communicable—readable, communicates effectively
- Specifies what the system is supposed to do
- Is unambiguous, single interpretation, no misunderstanding
- Is checkable, precise enough to reveal errors with respect to inconsistency and completeness
- Is testable, quantifiable—can we tell if the system satisfies this requirement.
 - Difficult to satisfy properties: The system shall be user-friendly and secure.
- Is traceable—requirements are clearly identified and relationships are captured; from business rules and rationales to code and back.
- Is a useful reference—not a book to be read from front to back, but a reference in which is easy to use to look up a fact
- Is “correct”—does not contradict “real” world

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Requirement Errors


- Requirements errors are the most common class of errors—coding represent a small fraction comparatively
- Requirements errors are the most expensive to fix—consume ~25-40% of a project's budget
 - Re-specification
 - Re-design
 - Re-coding
 - Re-testing
 - Re-training
 - Re-distributing
 - Recall, legal, warranty, service (re-install) costs



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Role of Requirements Analyst


- Articulates and defines the business needs with the customer
 - Why are we undertaking the project
- Identifies project stakeholders and user classes
- Elicits requirements
- Analyzes requirements
 - Derives new requirements
 - Investigates and documents implicit requirements
 - Resolves ambiguity and confusion
 - Points out conflicting requirements
- Writes requirements in an SRS (software requirements specification)
- Models requirements using graphs, tables, prototypes
- Validates that requirements satisfy customer needs and are clear, complete, correct, feasible, necessary, traceable, unambiguous, and verifiable
- Facilitates prioritization of requirements
- Manages requirements
- Interface between the customers and the designers



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Requirements analyst may discover better ways to do things


- Clients notion may be limited to past experience
- Requirements analyst may know better approaches and solutions
- Ask and understand why documented requirements are desired
- For example, consider whether the system should give the user more creative control over his or her transactions
- Brainstorm to elicit undreamt-of requirements



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Discover better ways to do things

- Past experience of manual system or another's system.
 - Business process reengineering
 - Central repository, networks
- Ask why – is their a more fundamental goal than the stated requirement?
- Consider a customer that uses an ATM to withdraw cash. *Why does (s)he want cash?*
 - Is it to buy something?
 - If so, then why not extend the ATM card to act as a debit card in retail outlets so that (s)he doesn't have to go to the ATM in the first place.
 - Is it to pay her electricity bill on her way to work?
 - If so, the why not offer the opportunity to pay bills at the ATM.
 - Does (s)he just want to see his or her account balance?
 - If so, then why not give her the facility to do this over the phone or on the Internet?



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Discover better ways to do things




- Consider giving the user more creative control over his/her transactions
 - Layout
 - End-user programmability
- People would rather do some of the work themselves, if they think they would do a better or faster job.
 - CAD software allows users to design their own furniture, houses.
 - Investors trade stock over the Internet without the advice or intervention from a broker or trader.
 - Shoppers are using self-scanners to scan and pay for groceries, rather than queuing for the checkout.



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Requirements Analyst Needs Soft Skills


- Listening
 - Must read between the lines
 - Should not impose his or her own ideas
 - Watches out for underlying assumption
- Interviewing and Questioning
 - Clarifies uncertainties, disagreements, assumptions and unstated expectations
- Analytical
 - Reconciles conflicts
 - Separates user wants from needs
 - Distinguishes *How (solution)* vs. *What (requirements)*



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Requirements Analyst Needs Soft Skills

- Facilitation
 - Acts as a neutral facilitator and negotiator in requirements elicitation workshops
- Observation
 - Detects subtleties and unstated requirements by watching users
- Writing
 - Strives for clarity and avoid ambiguous words
- Organization
 - Can rapidly structure *changing* information into a well written document



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Requirements Analyst Needs Soft Skills



- Modeling
 - Uses Models (e.g., UML, flowcharts) to communicate between stakeholders
 - Teaches stakeholders how to read models
- Interpersonal
 - Needs to work with people with varying interests, experience, and skills
- Creativity
 - Finds creative ways to satisfy needs that users did not even know they had

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