Software Systems Verification and Validation

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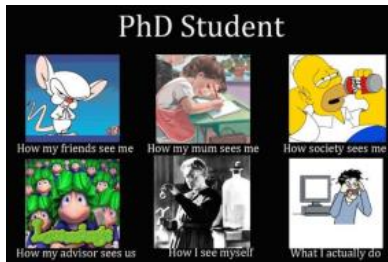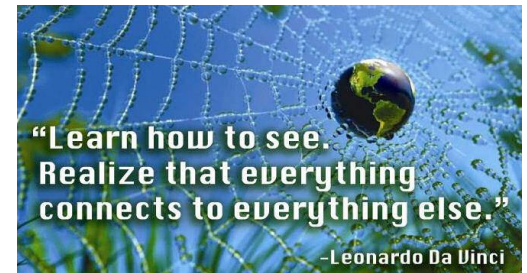
Cluj-Napoca

2018-2019

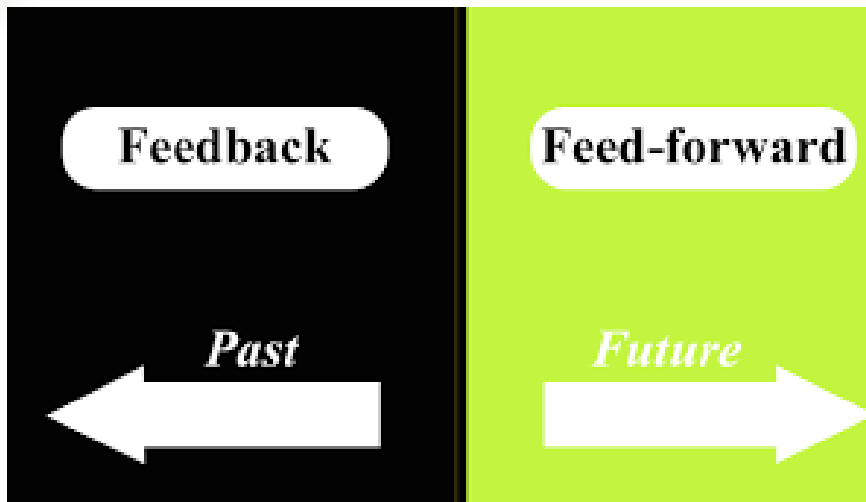# Outline

- **Surprises!**
- Class schedule
- Grading
  - Seminar activity
  - Laboratory activity
- Surprises!

Surprise!

Feedforward!

1. Plan to Attend – how many?
    1.1. Lectures (12)
    1.2. Laboratories (6)
    1.3. Seminar (6)
2. Expect/want to learn/do
    2.1. Lectures
    2.2. Laboratories
    2.2. Seminars
3. Lectures/Laboratories/Seminars – how
    3.1. given/individual/team study
    3.2. assignment – in class/ home
    3.3. Lecture – By Students For Students
4. Grading
    3.1. Normal/retake session
    3.2. Activities to be evaluated
5. Other remarks

Outline

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Class schedule (tentative)

Week	Date	Lecture	Seminar	Laboratory
		Software Systems Verification and Validation (TENTATIVE)		
1	1March	Intro+Inspection	1. Inspection	1. Inspection
2	8March	Testing. BBT		
3	15March	WBT	2. BBT	2. BBT
4	22March	IT firm – Altom (different hours)		
5	29March	Levels of testing	3. WBT	3. WBT
6	5April	Symbolic execution		
7	12Apr	IT firm – EVOZON (different hours)	4. Levels	4. Levels
8	19April	Correctness		
9	26April 29Apr-5May	Model checking Holiday	5. Web	5. Web
10	10May	It firm – Endava (different hours)		
11	17May	Presentations + Security	6. Agile	6. Agile
12	24May	Presentations + Agile		

Sales paradigm

- Sales revolves around two fundamental objectives.

Motivate the buyer

(Make him WANT to buy.)

Overcome objections

Get past his excuses and reasons for not buying.

Sales paradigm - SSVV
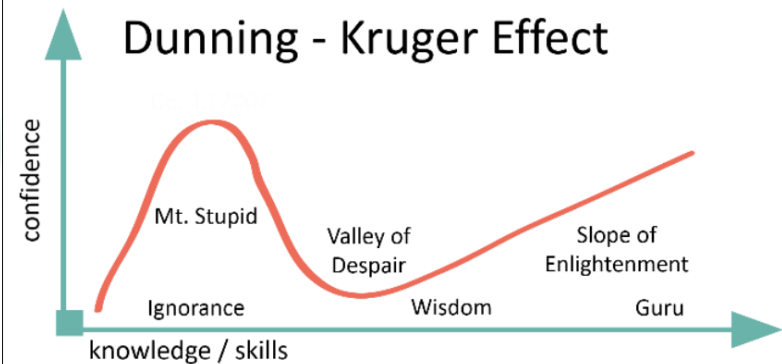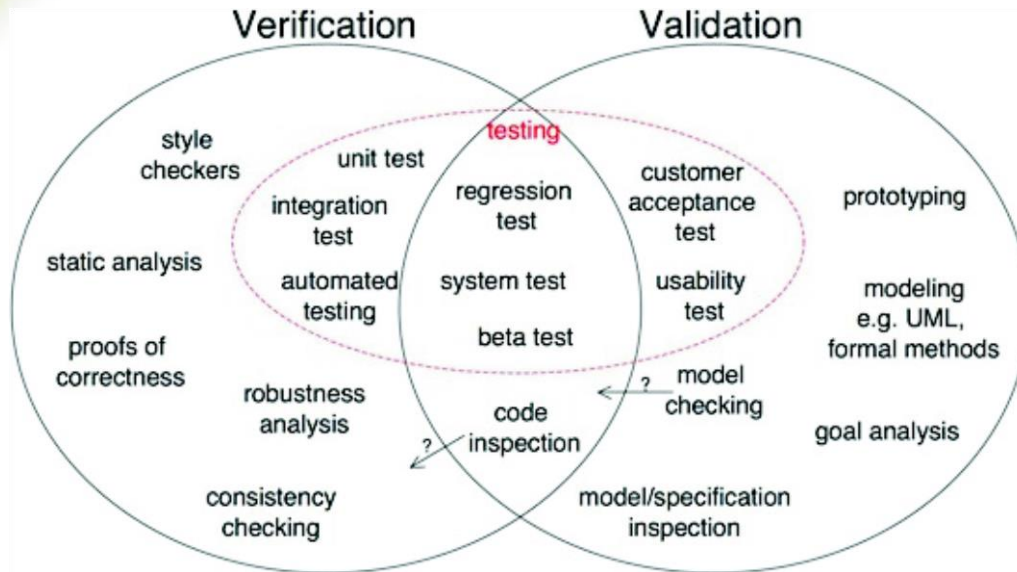
Motivate the STUDENT

Make him WANT to learn/participate.

Overcome objections

Get past his excuses and reasons for not participating in class.

Sales paradigm - SSVV

- Motivate the STUDENT - what you will learn!

- http://www.easterbrook.ca/steve/2010/11/the-difference-between-verification-and-validation/

Sales paradigm - SSVV

- Overcome STUDENTS's objections

skills

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Grading

Grading (Tentative) – will be modified – Lecture 01

- F = 20% L +20% S + +10% Q + 50% E
  - L=lab; S=Seminar; Q=Quizzes; E=Written;
  - Bonus points! See the homepage of the course!
- Conditions to participate at the final exam
  - There is no restriction regarding the participation at the written examination regarding obtained marks at L, S, Q.
  - Laboratory activity: 3 out of 6 laboratories must be delivered.
  - Attendance lab (5 out of 6) -90%
  - Attendance sem (4 out of 6) – 75%
  - Motivations
    - http://www.cs.ubbcluj.ro/hotarare-privind-motivarea-absentelor-studentilor-nivel-licenta/
    - Students will present the documents to motivate absences from the seminar/laboratory within one week from the date of absence.

- L/S/Q work may not be redone in the retake session.
- Students from Previous Years to 2018-2019 - All the above rules apply to students from previous years.
- Conditions to pass/complete the SSVV discipline:
  - F >= 5 final grade.

Seminar

- Attendance: 4 out of 6 required
  - 20% of the final grade

- **Required readings before seminars!**

- Seminar structure
  - **Assignment 1** - 10-minutes – discussion on a given topic (the teacher is an observer!)
  - **Assignment 2 -** 60-80 minutes – assignments on a given topic
  - **Assignment 3** – 10 minutes – quiz about required reading and seminar discussions.

Laboratory

- Attendance: 5 out of 6 required

- 20% of the final grade

- Lab structure

  - **First hour of each lab** - current lab discussion, problem assignment and **in-class** problem solving.

  - **The second our of each lab** - delivery of previous lab (exception first laboratory).

- Work in teams – exactly 2 member per team.

- Lab grading for each laboratory (except the last one)

  - **In class** assignments! (3 points)

  - **Take-home** (Homework) assignments! (7 points)

- No more than two lab problems will be delivered in one lab meeting. An extra lab problem is delivered **only if time allowed**.

- Delay in lab submissions –2p from that lab grade.

- Maximum 2 weeks delay in submission of the homework assignment.

- **Remark**:

  - At the end of the semester all laboratory homework assignments must be saved on CD and given to the teacher.

  - Each time you deliver a laboratory - the Deliverables of the in-class and take-home assignments must be uploaded in canvas.

Grading
Gamifying Education

	Heroic Quests (quizzes)	Side Quests (Lab projects)	Social Quests (Seminars +Video Presentation)	Epic Quests (Final exam)
Normal session	300 XP	600XP Each Lab 100 XP (in-class 25XP+ take-home 75XP)	600 XP Each Sem 100XP (in-class 25XP + Quiz 75 XP)	Up to 1500 XP
Retake session	0 XP	O XP	0 XP	Up to 1500XP

XP intervals	Grade
[1400,1500]	5
[1501,1800]	6
[1801,2100]	7
[2101,2400]	8
[2401,2700]	9
Over 2700	10

- **Final exam – you must come (be present) to final exam in order to compute the grade!**

- Bonus points = 300 XP (1p)
  - 200 XP – activities during lectures
  - 100 XP – Lecture 11 and Lecture 12 – Presentations
- Bonus points = 300 XP (1p)
  - Research paper only if you (will) have 300 XP for Labs
  - Topic by teacher + 2 members/team + deliverables
  - Paper submitted to journal for review

Software System Verification and Validation Lectures/Lab assignments/Sem topics

- https://canvas2.cs.ubbcluj.ro/login/canvas
- You will receive an invitation - scs email
  - At the first login you have to go to the branch "I forgot password "and then the system sends an email to your scs address and then you can add your password and login.

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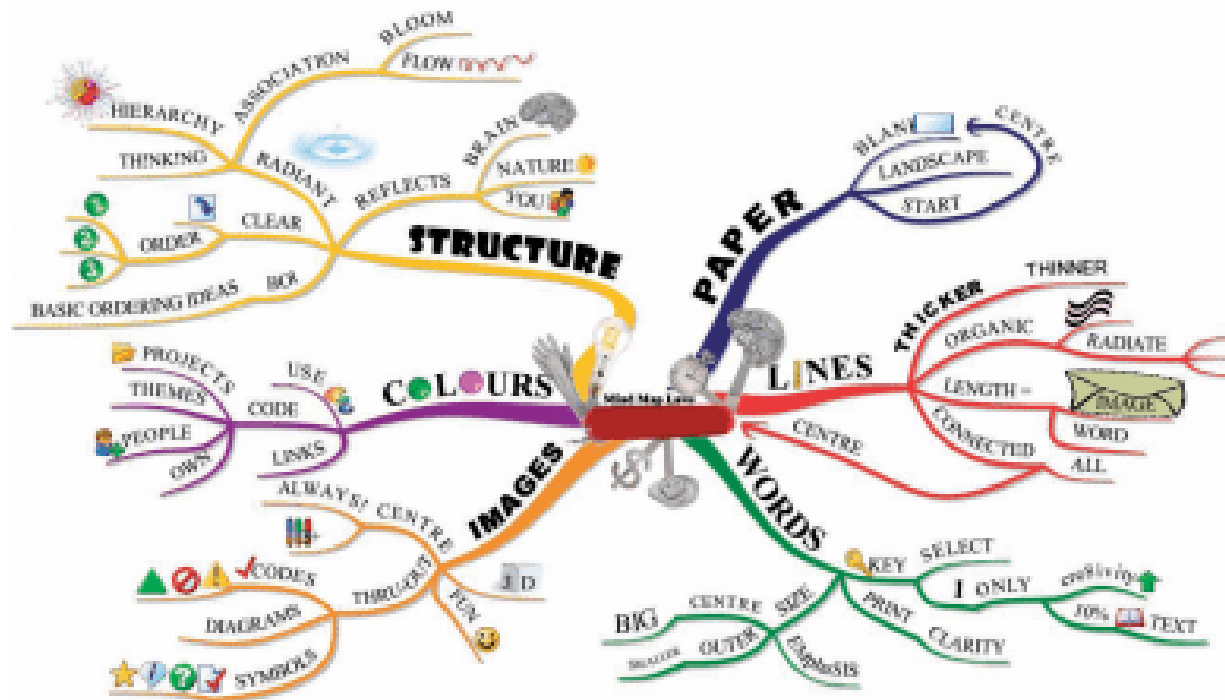 - Seminar activity
  - Laboratory activity
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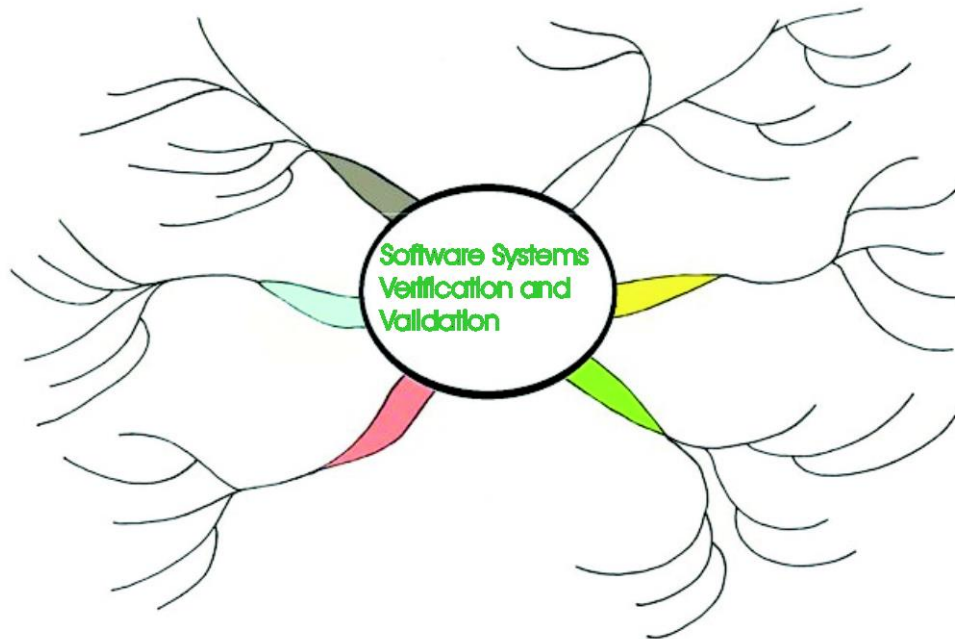
Surprise!

Surprises!

- Experiment: Mindmaping

Surprises!

- Experiment: Mindmaping
  "Software System Verification and Validation" in the next 5 minutes!

Software Systems Verification and Validation

© Paul Foreman http://www.mindmapinspiration.com

- Earn: 25 XP in Lecture 12
(if the second mindmap is created)

Questions

- Thank You For Your Attention!