Creating a Massive open online Course (MooC)

Simon Holmbacka
How does it work?
Task: Create online course

• Course: Development of real-time systems
• Lecturer: Me
• Who is can take this course?: Everyone
Course structure

• 5 Modules
  • 5-7 Lessons per module
  • Each lesson 7-10 min video
  • Total 28 videos ~ 250 min
Video format

• Coursera recommends clear **learning goals**
• Each video should comply with learning goals
• How fit a whole lecture (45min) into a 7 min video?
  • Answer: Use script!
How is production done?
What is in one video?
- Power point slides
- Script (what you shall say)
- In-video quiz

**Lesson Objectives:** The student will learn about situations where the EDF is not giving a good result even if the task set is in its favour.

<table>
<thead>
<tr>
<th>Content text:</th>
<th>Suggested video material</th>
</tr>
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<tbody>
<tr>
<td>Since the EDF is such an important scheduler in real-time system, we will take some extra time to look at some <strong>more examples.</strong> It is important also to understand the limitations of EDF to understand where it can be used, and where it is better with some other type of scheduler.</td>
<td>EDF slide with only matrix 0 Animations</td>
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<td>Let's say we have only 2 tasks T1 and T2 with periods 2 and 5, execution times 0.9 and 2.3, and deadlines 2 and 5 respectively. We want to schedule the tasks in the interval 0 to 10 and then see if the tasks met the deadlines or not.</td>
<td>EDF slide with timeline 3 Animations</td>
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<tr>
<td>The tasks are then scheduled according to the EDF rules presented in last lesson. ###First we start with T1 because its deadline is 2 and T2's deadline is 5. ###After this we take T2, and schedule this for a while and the switch back to T1 and so on until the timeline is filled. ###We clearly see at this point that T2 is sometimes pre-empted by T1 because it has most of the time a closer deadline. All deadlines are kept and everyone is happy!</td>
<td>Second EDF slide with just matrix 0 Animations</td>
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<tr>
<td>Now consider the same setup, but with a non-pre-emptive scheduler. We want to schedule the same tasks in the interval 0 to 10, and again check if the tasks meet the deadlines.</td>
<td>Second EDF slide with timeline 4 Animations</td>
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<tr>
<td>###As last time we start with T1 because its deadline is the closest. ###Then T2 is selected because this is the only ready task. At time 2, however, we cannot switch back to T1 because the system is non-pre-emptive. ###We must therefore execute T2 until it is completed at time 3.2 even if a new T1 job is released at time 2.</td>
<td></td>
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How to make content interesting?

• The first 10 seconds are extremely important!
• Did not use the normal

“Welcome to this course, I am Simon Holmbacka and a will teach this course....”
How to act?

• Virtually no body movement!
  • Hands and head can move a bit
• Over-act and over-stress important parts
  • (Especially for Finnish people)
• Talk more clearly that what you otherwise do
  • (It will increase your native accent)
• Smile!
För och nackdelar

• + Kursen är autonom (även övningsuppgiftena)
• + Kan göras helt på distans
• + Roligt att göra en MooC
• - Tidskrävande (ca 450h)
• - Dyrt (med vårt produktionsteam)
• - Mycket oklart första gången (bra med ett projekt om man vill göra för Coursera)