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Matriculation number: 42021

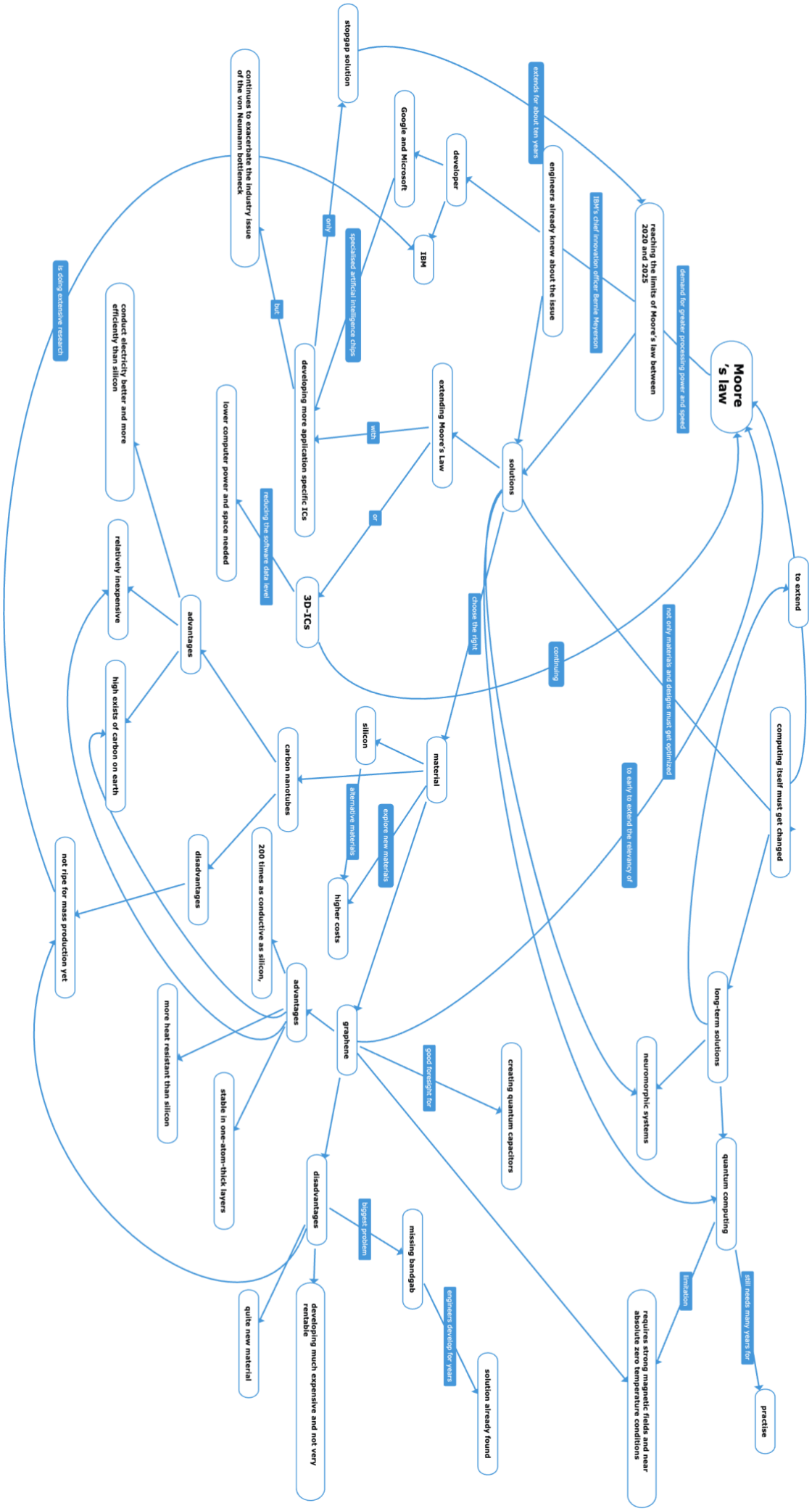
Course name: AEE/INF/ITA Englisch 2.FS B2/C1 SoSe 2020

English level: C1

Course time: Thursday, from 10:00 am to 11:30 am

Lecturer: Christine Röll

Task 1) Concept map



Task 2)
Similarities of both texts:

- **Moore's law will end in the next 10 years, if nothing gets innovated**
- **Silicon reaches its limit because the size of transistors almost equals the size of the atoms**
- **Quantum computing could be a good solution to keep Moore's law alive, but needs many years of testing it into practice**
- **Both texts say that the codes of programmers are a problem, but in the text of the assignment, that's not the only problem why Moore's law will end**

Differences of both texts:
Assignment text:

- **Moore's law can only stay, if the material selection, chip design and computing are getting innovated**
- **Newer, more and better hardware is needed for more complex calculations and not only for bloated codes**

Comparative text:

- **Another approach: use multi-core architectures to get more computer power**
- **Programmers use more computer power than actually needed because they got lazy and write bloated and inefficient codes**
- **If Moore's law will reach the end, there are only two options:**
  - **"moderate our ambitions (...)**
  - **go back to writing leaner, more efficient code"**[1]

[1] We're approaching the limits of computer power – we need new programmers now, John Naughton, https://www.theguardian.com/commentisfree/2020/jan/11/we-are-approaching-the-limits-of-computer-power-we-need-new-programmers-n-ow, last paragraph

Task 3)

- "minimizing the footprint of chips": means to reduce the space requirements of 3D-ICs
- "further extend the viability of existing computing methods,": means to extend the correctness of technology rules, like Moore's law
- "mitigating the limitations": means to downsize the restrictions from old laws, so that they continue
- "has presented roadblocks": means that money difficulties have occurred for the design engineers while searching for other suitable materials
- "degradation": means that carbon nanotube fibres are immune to the reduction of radiation
- "mature": means here that CNTs are not even ready for assembly-line production
- "commercially viable": means here that it needs many years before the companies can earn money with CNT chips
- "on the precipice": means here that the bell has rung for Moore's law and it won't be usable anymore
- "tweaking designs": means here that only optimizing computer architectures is not enough change anything

Eigenständigkeitserklärung

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