About CS1101S

Learning by playing, playing by learning
Basic principles

- CS approach: Programming Methodology (Sem 1) + Datastructures & Algorithms (Sem 2+3)
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- At the moment in CS at SoC:
  - Programming Methodology (Sem 1): CS1010 or CS1101S
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- **At the moment in CS at SoC:**
  - Programming Methodology (Sem 1): CS1010 or CS1101S
  - Datastructures & Algorithms (Sem 2+3): CS1020/CS2010 or CS2020
Background of CS1101S

About CS1101S

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Introduction of CS1101S

Introduced in SoC (with variations) 16 years ago

Follows didactic approach by Abelson and Sussman (MIT)

Textbook: Structure & Interpretation of Computer Programs

SoC adopted the material in 1997 and further developed it over the years

Exciting practical elements such as robotics, computer graphics, digital sound processing and encryption

In 2011, CS1101S turned into a game: assignments became missions, TAs became Avengers and students became apprentices in the magic arts of programming

...and in 2016, we will continue the story of CS1101S

Martin Henz and Low Kok Lim

CS1101S: Programming Methodology
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Central ideas

- Naming
- Functional abstraction
- Composition
- State
- Objects
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- We actually prefer if students have no background in programming.
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- We actually *prefer* if students have no background in programming.
- Recommendation: If you do have programming experience, come with an open mind, and not with the attitude: “I know this already.”
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- We actually *prefer* if students have no background in programming.
- Recommendation: If you do have programming experience, come with an open mind, and not with the attitude: “I know this already.” We promise that you will learn something new right in the first lecture already.
You will spend *a lot of time* with CS1101S.
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Completing your missions allows you to level up.
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Missions, trainings, side quests and contests are woven into a semester-long game.
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Don’t worry, everyone will win in this game: concepts, skills, experience, passion for computing, new friends.
What is computer science?

Students usually have only a hazy idea of the field and equate computer science with IT. CS1101S touches upon many areas of computer science, including computer graphics, digital sound processing, computer security, robotics, computer games, algorithms, and programming languages. Look around you after CS1101S, we hope you have an idea what computer science is all about and can look into specializations, minors and special programmes.
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CS1101S touches upon many areas of computer science:
- computer graphics,
- digital sound processing,
- computer security,
- robotics,
- computer games,
- algorithms,
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CS1101S—A playful introduction to computer science

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The team

Avengers: your seniors, recruited to help you realize your potential

Lecturers: Dr Low Kok Lim and A/Prof Martin Henz

Creative and technical teams: Preparing your CS1101S experience under the direction of Ng Tse Pei and Evan Sebastian
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Modular credits

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In addition, the more ambitious students can choose *sidequests* that complement the material and can be quite challenging.

If you manage to complete most of the sidequests, you get one additional MC through a special module called CS1010R. CS1010R is offered in Sem 2, but does not carry any workload. We will use the module to get to know future avengers and prepare improvements for 2017.
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So should you take CS1101S instead of CS1010?

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So should you take CS1101S instead of CS1010?

- Do you want to go for a unique learning experience, using a semester-long game?
- Do you not mind spending more time on this module than what’s reflected by the 5+1 modular credits?
- Still undecided?
  - Talk to the lecturers and avengers after this presentation
  - Read the FAQ “CS1010 and CS1101S”
  - Talk to seniors
  - Email Martin Henz and Low Kok Lim (lowkl@comp.nus.edu.sg, henz@comp.nus.edu.sg)

...and: http://www.comp.nus.edu.sg/~cs1101s