CSC301 Tutorial 1

LEGO Scrum Simulation

Tutorial Objectives

1. Introducing the Game and Roles
2. Requirement overview and question session
3. Building the Backlog
4. Estimation
5. Sprints (1-2 Iterations, time permitting)
6. Review / Debrief Session

Introduction (5 min)

Introduction

❖ The Goal of the **LEGO Scrum Simulation** is to provide an understanding of the Agile process

❖ We will not be focusing too long on any single aspect

❖ All teams are members of an enterprise-level project to construct a LEGO city – you are not competing – you work for the same company

❖ The Product Owner will run through the requirements answering any questions

The Goal of the Game

- ❖ Build a city together
- ❖ Main Building Elements are LEGO bricks
- ❖ Building the city represents software development
- ❖ Be creative

Roles

❖ I (the TA) am the Product Owner

❖ There are no Scrum Masters

❖ You are all Developers

Product Backlog   Sprint Backlog   Sprint   Working increment of the software

24 h

30 days
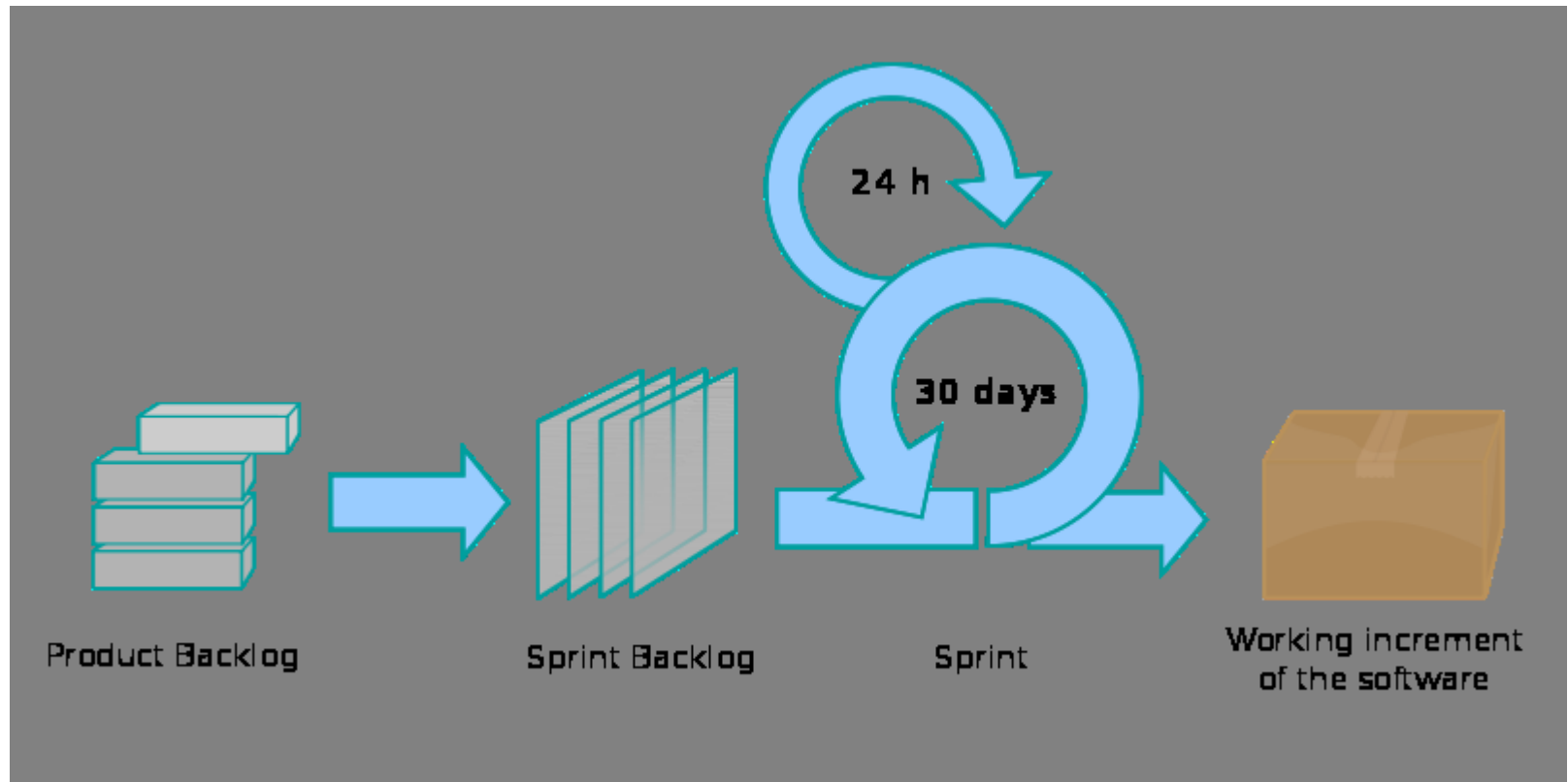
Requirements Overview (10 min)

Some Building Rules

- ❖ Three LEGO block levels represents a building story
- ❖ Windows must be created the 2nd LEGO block level of each building story
- ❖ Doors must be created with the 1st and 2nd LEGO block levels of each building story
- ❖ Below is an example of a 2-story building with a door and two windows.
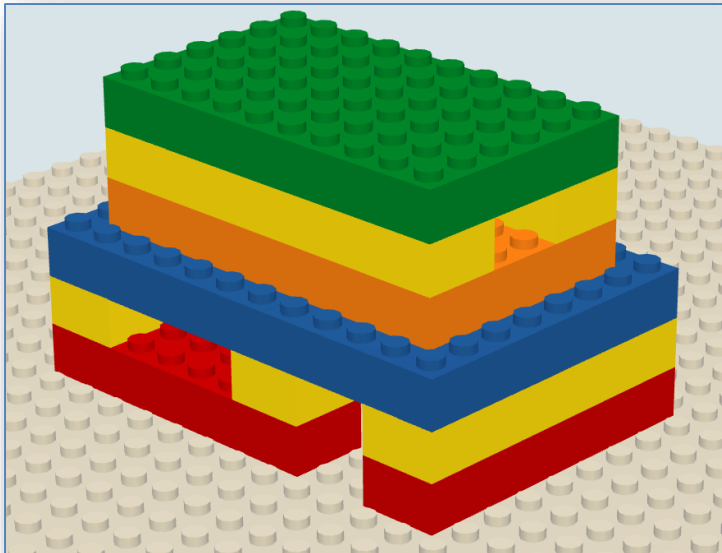
User Stories 1 to 5

1. As the mayor, I would like to be able to travel around the city **without my car**, so that there will be no extra smog in the summer.
2. As the mayor, I need a place to work and hold meetings, so that all of the people know where to go when they need to communicate with our city's government.
3. As the mayor, I would like to have houses where **older citizens** can live together, so that they can support each other and live independently.
4. As the mayor, I would like have a **power station**, so that the people of our city will be able to power their homes and places of work.
5. As the mayor, I would like to have a **stadium** where we can organize the Champions League Final, so that people all over the world will see my lovely city.

User Stories 6 to 10

6. As the mayor, I would like a place where people can **play sports** and **exercise**, so that they stay healthy and the city can save on health care.

7. As the mayor, I would like to have a **fire station** in my city where the fire brigade can practice and store the materials.

8. As the mayor, I would like to have an **office building** where citizen can do office work.

9. As the mayor, I would like to have buildings that look **medieval** or **futuristic**, so that people will visit my city as tourists.

10. As the mayor, I would like to have place where people can have **picnics**, so that citizens and tourists can enjoy the weather

User Stories 11 to 15

11. As the mayor, I would like to have a **factory** where citizens can work to manufacture goods.

12. As the mayor, I would like to have a **shopping mall** where citizens can do their shopping after work.

13. As the mayor, I would like to have a **school** so that the children of the city can become smarter.

14. As the mayor, I would like citizens to be able to **go out in the evenings**, so they will be energized and happy to live in my town.

15. As the mayor, I would like to be able to impress other mayors with **art** or **special buildings**, so they will see that my city is well educated and civilized.

User Stories 16 to 20

16. As the mayor, I would like to have some **small houses** or **buildings** where bachelors can live.

17. As the mayor, I would like to have a **place** where bachelors can meet so they can build relationships.

18. As the mayor, I would like to have a **bus stop** where citizen can get on or off the bus.

19. As the mayor, I would like to have a building where a citizen can gather to organize **spiritual events**.

20. As the mayor, I would like to have **roads**, so that citizen know where to drive and people are not killed in traffic.

User Stories 21 to 25

21. As the mayor, I would like to have nice houses where the citizens of my city can live safely.

22. As the mayor, I would like to have a **police station**, so the police force has an office and location to keep the crooks of the street.

23. As the mayor, I would like to have a place where citizens can **relax** so that they are more productive.

24. As the mayor, I would like to have **parking places** in the city, so that I can easily find a place to park my vehicle when I go to work.

25. As the mayor, I would like to have **houses** where young families can live and where their children can grow up safely.

Backlog Estimation (10 min)

What is Complexity

❖ Which item is more complex?

- A 50-piece jigsaw puzzle
- A 1000-piece jigsaw puzzle

❖ Which task is more complex?

- I want to drive to Montreal
- I want to fly to the moon

❖ Which Story is more complex?

- As a user I want a system to remember my login information, so that I can log in faster.
- As a user I want the system to learn my preferences, so that I can work faster.

What is Complexity? (continued)

❖ Working definition:

 ▪ The more complex thing is the thing with more parts!

❖ Something to remember:

  ▪ It often takes about the same number of words to describe a simple thing as it does to describe a complex thing.

Estimation Problems

❖ Excessive Detail

❖ Estimation turns into design / solutioning

❖ Attempting to achieve precision

❖ Reluctance to commit

❖ **Remember:** Estimates are just best guesses based on current information – you'll have more information later.

Quantifying Complexity

❖ Saying how much more simple or complex than other Stories a particular Story is

❖ For this simulation we will be using the Fibonacci sequence

  ▪ 1, 2, 3, 5, 8, 13, etc.

❖ Team members will create columns of user Stories based on their relative complexity
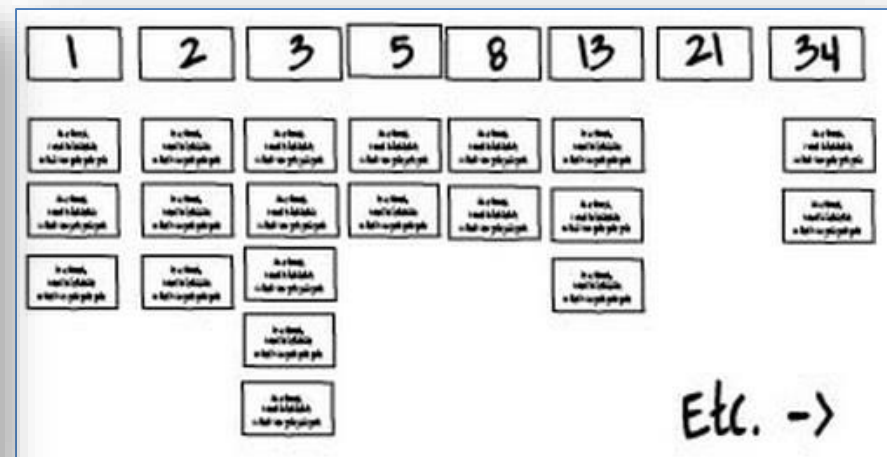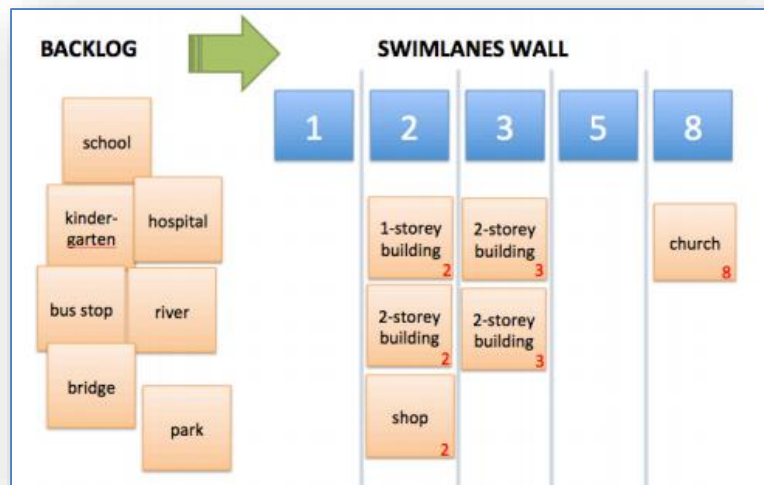
How much can I get done in one 7-minute Sprint?

❖ Once all items have been estimated, each team guesses how much they can get done in one 7-minute Sprint.

❖ Each user Story adds to the initial Velocity

❖ Each section of stories is a Sprint

Release Burndown Chart

❖ On a Scrum project, the team tracks its progress against plan by updating a release burndown chart at the end of each sprint.

❖ The Horizontal axis of the release burndown charts shows the sprints; the vertical axis shows the amount of work remaining at the start of each sprint.

❖ Work remaining can be shown in whatever unit the team prefers – story points, ideal days, team days, etc.
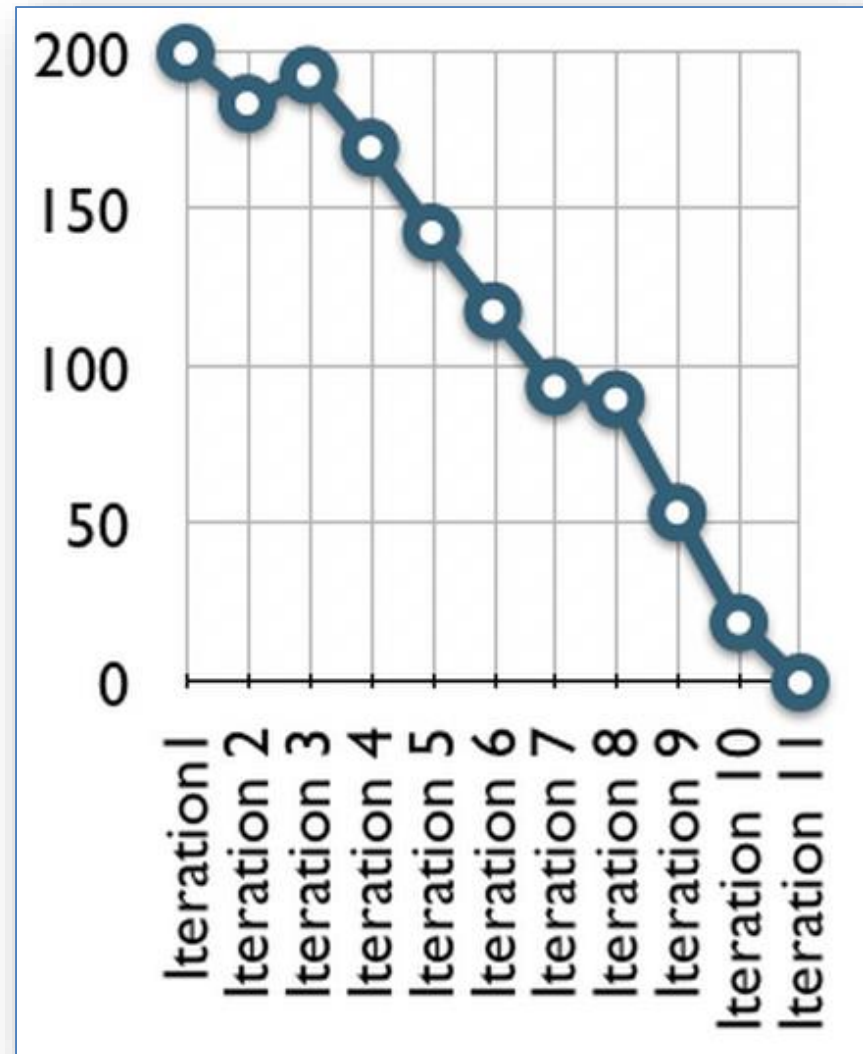
Sprint Iteration (15 min)

Sprint Planning (3 minutes)

❖ The team negotiate with the product owner which stories they will tackle that sprint.

❖ The team decides which stories to move from the **product backlog** to the **sprint backlog**.

❖ This is usually decided by story priority.

❖ Sign up for a free account at **easybacklog.com** and develop your backlog for your sprints

Sprinting (7 minutes)

❖ Build your LEGO models according to the user stories you have selected for this sprint.

❖ You can use https://mecabricks.com/en/workshop to design your buildings before if you wish – but keep in mind that you need to adhere to the timeframe

❖ **Remember:** Only finished models will be accepted

Sprint Reviewing (5 min)

❖ Present **finished work** to the Product Owner

❖ Unfinished items are brought back to the **Product Backlog** from the Planning Wall.

❖ The Product Owner checks the work against the **acceptance criteria** to determine if the work is satisfactory or not.

❖ Remaining work can be re-estimated, although we rarely update estimates.

❖ Once stories are accepted, the **Release Burndown chart** is updated

Retrospective (team members only)

❖ **Question:** "how can we improve the next sprint?"

- What should we stop doing?
- What should we start doing?
- What should we continue doing?

Debriefing

Debriefing / Lessons Learned

❖ What did you observe?

❖ How did it feel being on a Scrum team?

❖ How did the short iterations go?

❖ How accurate were the estimations?

❖ What would we have done differently from the beginning, if we had another chance to play the game?

❖ What was the job of the Product Owner?

❖ How did it feel after the first sprint when almost all items required re-work?

❖ How will your strategy change, if you know the Product Owner is unavailable during sprints?

❖ How did inter-team communication go? Were there any dependencies? How were they resolved?