Agile Lego Activity – Facilitator Guide

\*\*Please read through the full guide prior to your lab session. If you have any issues or questions contact Sarah Rodenbeck (srodenb@purdue.edu)\*\*

Full lab schedule:

* Introductions, project logistic information, etc. (15 mins) – TA leads
* Agile crash course and activity introduction/setup (10 minutes) – TDM staff leads
* Agile activity (1 hour)
* Final presentation of product (10 minutes)
* Tear down and clean up (15 minutes)

Logistics:

* A TA and at least one TDM staff member will be present to facilitate this activity
* At the beginning of lab, share the Week 1 Lab PowerPoint.
* TAs should begin the lab and facilitate introductions/share any project information
* TDM staff member can then take over and go through the Agile crash course. This should take no more than 3 minutes – we really are just trying to give students a little bit of context before they start the activity so don’t feel you need to explain everything in depth.
* Continue on to explain the activity.
* Let the students split into equally sized groups (most labs will only have one TA and one staff member, so you will need 2 groups). Distribute a Lego set to each group and make sure they also have one of the project boards.
* Ask if there are any questions before beginning.
* Give teams a minute at the beginning to read all the tasks on the backlog.
* During the activity make sure you time each stage of the sprint cycle and transition quickly. Give time updates occasionally. Timing is tight, so it is important to stay on schedule ☺
  + Sprint planning: 4 minutes
    - Choosing what tasks to do during the sprint, estimating time/allocating tasks to people, and working with the product owner to clarify/prioritize tasks.
  + Sprint: 8 minutes
    - Product owner is not actively involved in work
  + Sprint review: 3 minutes
    - Present work from the sprint to the product owner and get feedback
  + Retrospective: 2 minutes
    - Discuss what went right, what went wrong, and how the team can fix it in the next sprint (e.g. collaboration, estimating the number of tasks, etc.)
  + Repeat 3 times (each sprint cycle should be 17 minutes)
* After the 3rd (last) sprint, the sprint review should be used to both present the work done in that sprint as well as prepare what will be presented during the final product presentation.
* The final retrospective should be used to do a final review of what worked and didn’t during the activity, and what they learned. Remind students that these learnings can be applied to their work with the company as they will be working in an Agile methodology.
* Allow each team to present their final product to everyone and have them explain key features.
* Finally, reset the lab. Students should take apart all of the Legos and put them back in the box and the project board should be restored to its initial state where all of the user stories are placed in the backlog.
* If there is extra time, facilitate a larger group discussion about Agile and what they learned.
* Take pictures along the way and pass them along to the Data Mine staff. ☺

Additional notes:

* Most students will not have previous experience with Agile – your job as the facilitator/PO is to help them learn by guiding them through how an agile cycle works. You will likely need to remind them of many of the things listed below.
  + You may need to be a little more hand-on with your guidance for the first sprint, then try to ease up to take on more of standard PO role.
* *Sprint planning*:
  + Remind teams that they should strive to perfectly estimate (not over or underestimate) the number of tasks they can take on during the sprint. They will likely need to adjust their expectations as they go.
  + Teams should get verbal confirmation of acceptance of the user story from the PO before moving tasks to the done category (remember, you don’t have to accept everything as fulfilling a user story!)
  + The PO should be involved in the conversation during sprint planning – as teams are brainstorming remind them they should be asking the PO if their idea would satisfy the requirement
  + There may not be enough time or resources to complete everything. Remind teams that they should be consulting with the PO on what they want to prioritize.
* *Sprints*:
  + If teams run out of tasks to do, stress that they can take on extra tasks in the backlog or improve previously completed tasks (e.g. adding on another safety feature, adding more support to the foundation, etc.).
  + Product owners should generally not consult with team during sprints besides basic questions
  + If there is an issue with resources or similar, teams can take things apart and reallocate resources, but make sure they explain that and move the corresponding user stories back out of the done category if they do so.
* *Sprint Review*:
  + Sprint review should be grounded with the user stories (what features did they add and how do they satisfy the user stories)
  + Remind teams that PO is not technically privy to conversations during sprint, so make sure to fully explain all features
  + As PO it is encouraged to occasionally push back a little – don’t just accept everything that the teams put together (e.g. “I like that but want it in a different color”; “I am concerned about the safety of the structure”, “That doesn’t satisfy what I had in mind for that user story”, etc.). This should spark further conversation later with the PO about how to remedy the issue.
* *Retrospective*:
  + Guide students as necessary to be critical about what worked and didn’t work.
* Remember, this activity should be fun and creativity is encouraged! A Lego can represent anything as long as it is explained (and communication is a key part of Agile!). POs are encouraged to buy into this as well even if some of the things are a bit silly ☺