



## 3<sup>rd</sup> workshop – Games and tools for programming

### Session 2: Learning programming with games and stories

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#### Expected Learning Outcomes

1. Understand the meaning of Computational Thinking (concepts, practices, perspective) development
2. Understand the role of Scratch community
3. Understanding the process of creation in the Scratch community
  - a. Find, analyse and compare different examples of games and digital stories in Scratch
  - b. Change and remix a story/game

#### Teaching Methods/Approaches

1. Teacher presentation and instructions
2. Participant self-directed/individual activity
3. Working in pairs

#### Sources of training materials

1. ScratchEd teaching resources: <http://scratched.gse.harvard.edu/resources/all> (4.1.2019.)
2. Computational Thinking with Scratch- developing fluency with computational concepts, practices and perspectives: <http://scratched.gse.harvard.edu/ct/defining.html> (4.1.2019.)
3. Brennan, K. A. (2013). Best of both worlds: Issues of structure and agency in computational creation, in and out of school (Doctoral dissertation, Massachusetts Institute of Technology), <http://hdl.handle.net/1721.1/79157> (4.1.2019.)
4. Brennan, K., Balch, C., Chung, M. (2014). *Creative Computing*. Harvard Graduate School of Education. Retrieved from <http://scratched.gse.harvard.edu/guide/files/CreativeComputing20140806.pdf> (4.1.2019.)
5. Brennan, K. (2015). Beyond right or wrong: Challenges of including creative design activities in the classroom. *Journal of Technology and Teacher Education*, 23(3), 279-299. Waynesville, NC USA: Society for Information Technology & Teacher Education, <https://www.learntechlib.org/primary/p/151249/> (4.1.2019.)
6. CS First, <https://csfirst.withgoogle.com/en/home> (4.1.2019.)

**Duration:** 90 minutes



Topic/Sub-topics	Learning Objectives	Evaluation
<b>1. COMPUTATIONAL THINKING (CONCEPTS, PRACTICES, PERSPECTIVE)</b>	1. Understand the meaning of Computational Thinking development	1. Learners give examples of computational thinking development from their practice and describe the computational thinking dimensions: concepts, practices, and perspective
<b>2. SCRATCH FOR CREATING GAMES AND STORIES</b>	1. Understand the role of Scratch community 2. Understand the development of computational thinking with games and stories in Scratch	1. Learners will search projects (games and stories) with own keywords (e.g. maze, escape room), “run” the game and explain some functionalities, remix games and stories by adding functionalities and credit-giving. 2. Learners will create a studio and add a project and think how to unstuck with the support of community. 3. Learners could explore and analyse others’ projects of stories/games in Scratch and develop strategy how to “unstuck” while developing Scratch projects.
<b>3. WORKSHOPS FOR DEVELOPING GAMES AND STORIES (DEMONSTRATION)</b>	1. Explore existing digital stories and games in Scratch community for different didactic purposes 2. Understanding the presence of computational thinking concepts in the Scratch projects (stories and games)	