Caitlin K. Martin, Denise Nacu,
Nichole Pinkard, Sheena Erete
*Digital Youth Network &
DePaul University*

Supporting self-directed learning & identity development in online communities

DIGITAL YOUTH DIVAS

The Digital Youth Divas platform is part of an out-of-school time program to engage middle school girls, especially those from underrepresented communities, with computational projects. The platform connects learners to both content and people during and outside of the face-to-face program.

We highlight features designed to support youth **self-directed learning** and **identity development** through learner-driven community alongside guided support-mechanisms and embedded mentorship.

Learning pathways to structure projects and orient progress. The homepage visualizes learning pathways the user has been assigned, highlighting the work they have completed and the work they have to do. Points and badges reflect progress. Pathways are composed of a series of scaffolded project activities. A "more practice" section suggests self-paced challenges to go deeper into content and continue interest-driven projects on their own time. (*Vygotsky, 1978; Salen, 2007*)

Individual profiles and portfolios of work to encourage reflection on identity and highlight the evolution of work over time. Each learner's public portfolio space includes an *about me* section as well as an archive of badges and projects, linked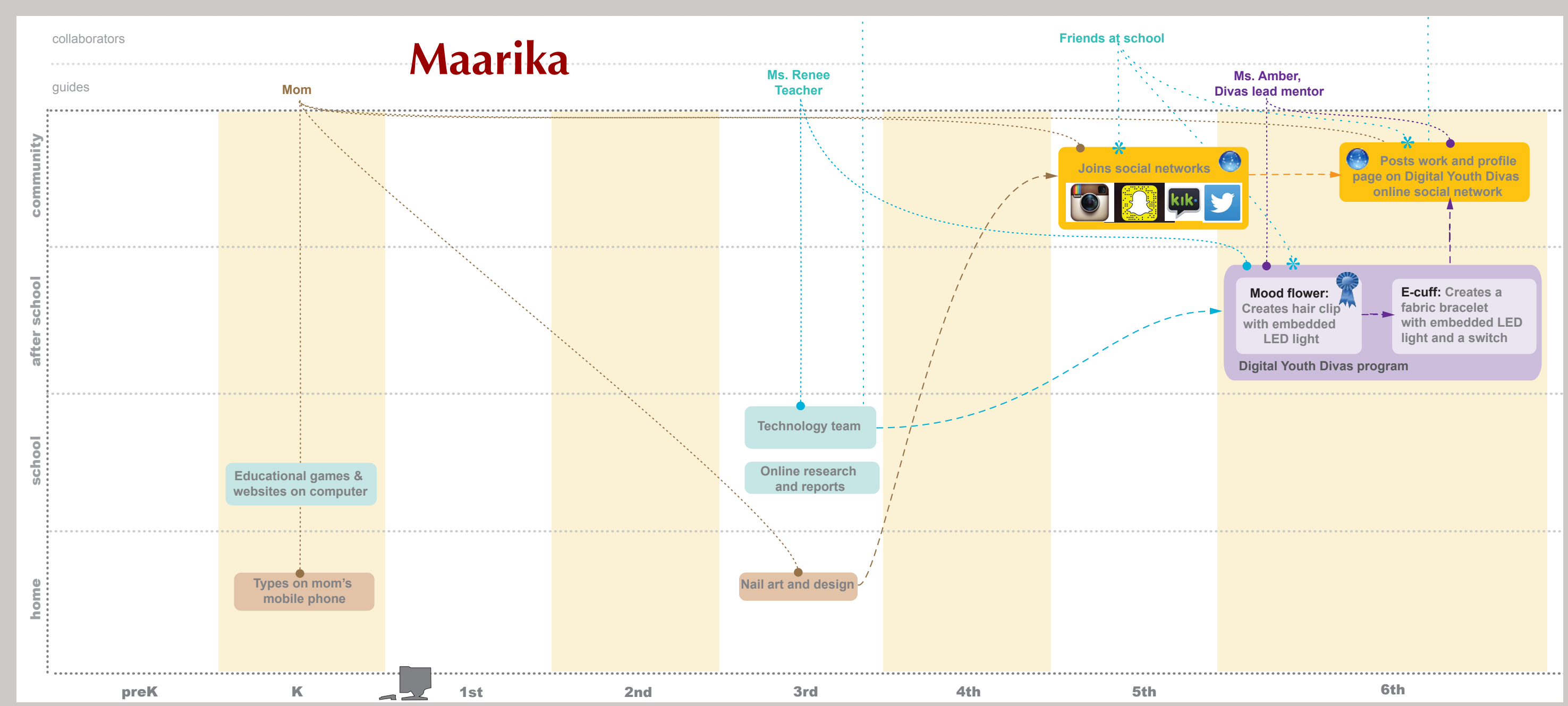 directly to submitted work. The automated and updated portfolio is tied to the editable profile, emphasizing practice-linked identities (*Nasir & Cooks, 2009*). This space enables girls to exhibit their work to those outside of the program.

A currated showcase space for mentors to position individual girls as valuable contributors. Each unlocked project includes examples of youth work selected by adult educators, allowing educators to highlight learners and their work to the wider community. (*Holland & Leander, 2004; Nasir & Cooks, 2009*)

Activity feed to reveal individual contributions on the system in real time. Public posts, submitted artifacts, comments, and other activity by the community is visible on the platform home page, allowing girls to see their own work in the public sphere and view the work and contributions of others. (*Gee, 2005; Jenkins, 2009*)

Opportunities for formative feedback and communication on work to support community, build a culture of critique and revision, and highlight bidirectional learning. Each submitted artifact allows comments and custom reaction tags to share and receive feedback. Reactions and comments are public on the system. Users can also send private messages to individuals. (*Nacu, Martin, Pinkard, Gray, 2014*)

Bundled instructions and resources to support initiation of and persistence through project work. Curricular supports include an activity tab that houses a project summary and step-by-step instructions, a resource tab with additional guidance, starter materials, and troubleshooting guides (e.g. text, images, video, external links). Each activity is launched through an ongoing narrative story shared through video and text. (*Barron et al., 1998*)

Redundant mechanisms to contribute work and ideas. Girls can post formal or informal work and ideas in various media formats (text, video, image) directly to the activity feed, and pathway submissions occur within the project activity tab. Upon submission, girls can identify if they want the work to be public (pushed to the activity feed) or private on the site, viewed only by online mentors. (*Barron, Gomez, Pinkard, & Martin, 2014*)

Visible critique and prompts to seek guidance connect girls to knowledgeable adults. Submissions allow girls to ask questions of online mentors. The mentors score work according to established criteria, leading girls to progress or revise.

To understand how the young girls in the Digital Youth Divas program are using this platform over time, we are looking both at log data across the community and for individual learners, grounding these quantitative metrics in qualitative biographical case portraits (*Barron, Gomez, Pinkard & Martin*).

5th grade: "My role [online], I would describe it as the explorer."

6th grade: "I show [my work online to] my friends or my teacher, so she could know, because she is very interested in what we're doing.... [And] she know I can do certain things because it's on the website. So she say, 'Oh you did something like this before?'"

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