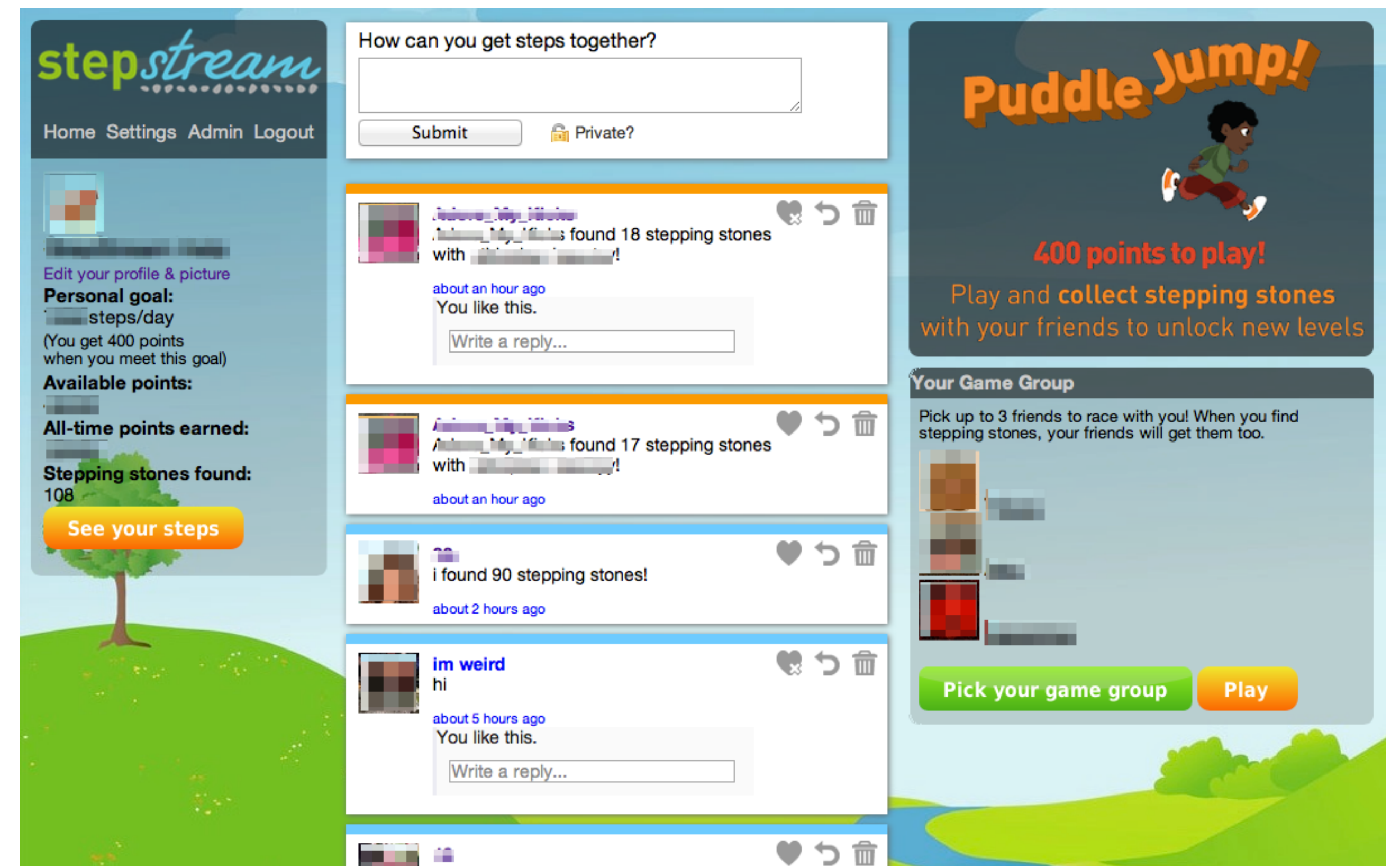


A Social Tool for Everyday Adolescent Health

Overview

Preventing and reducing rates of overweight and obese adolescents has become a key challenge in 21st century America, and social media technologies may be able to play a role in promoting sustained health behavior change in adolescents. To study these issues, we designed StepStream, a social network site for middle school students to share and encourage physical activity throughout the day. In partnership with a local public school district, we have been conducting:

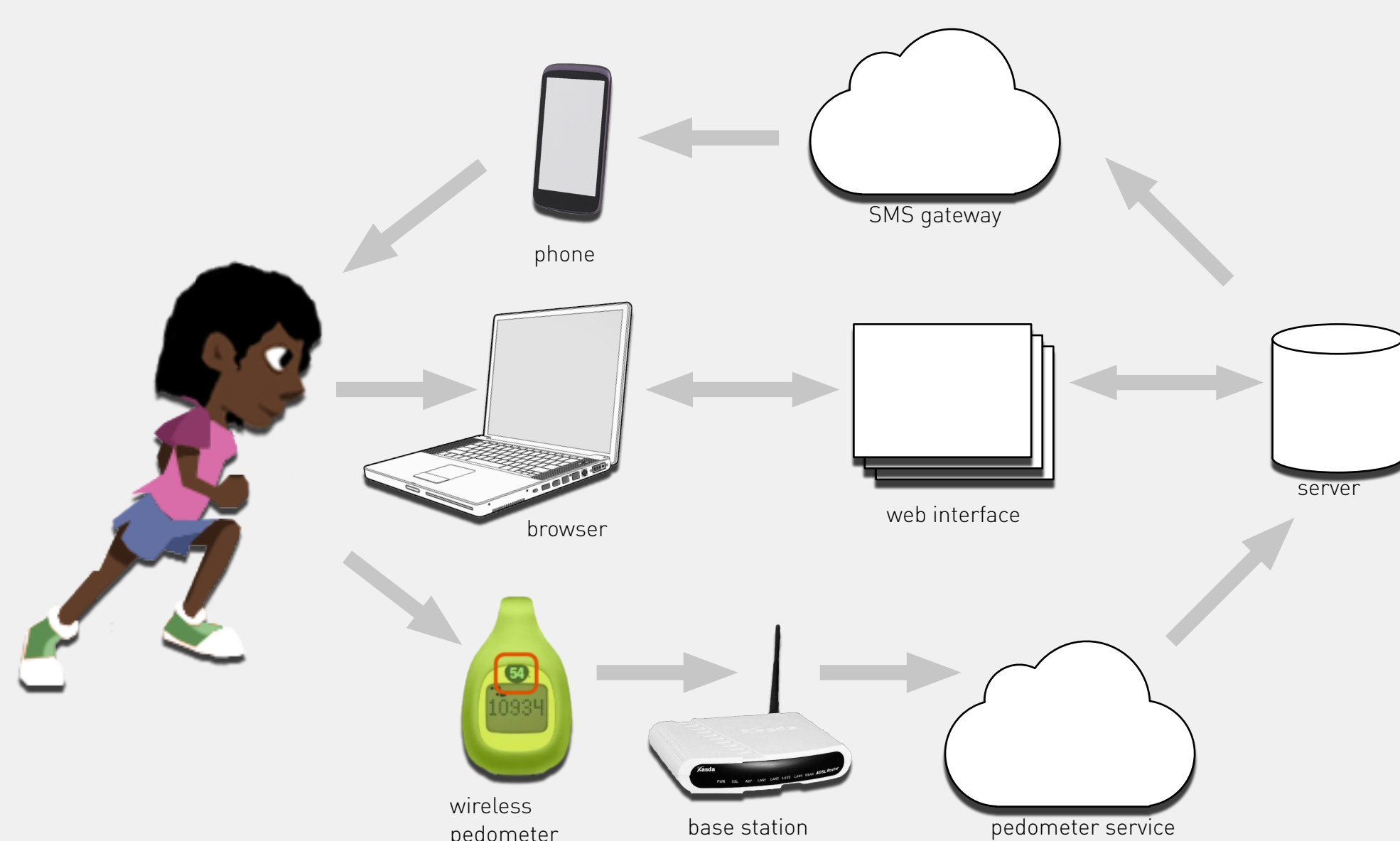
- formative studies with middle school students
- participatory design exercises in which students created game designs for StepStream
- a month-long deployment with 42 students



StepStream, with personal stats on the left, the social stream in the middle, game info on the right [Spring 2013]

System Design

StepStream is designed to help us study how social media can help adolescents form identities around healthy activities and connect online incentives to offline behaviors. We want to better understand how to use **awareness and social support** as a core foundation for reflecting physical activity in an online community. We also integrate **collaboration in an online game** to incentivize physical activity.

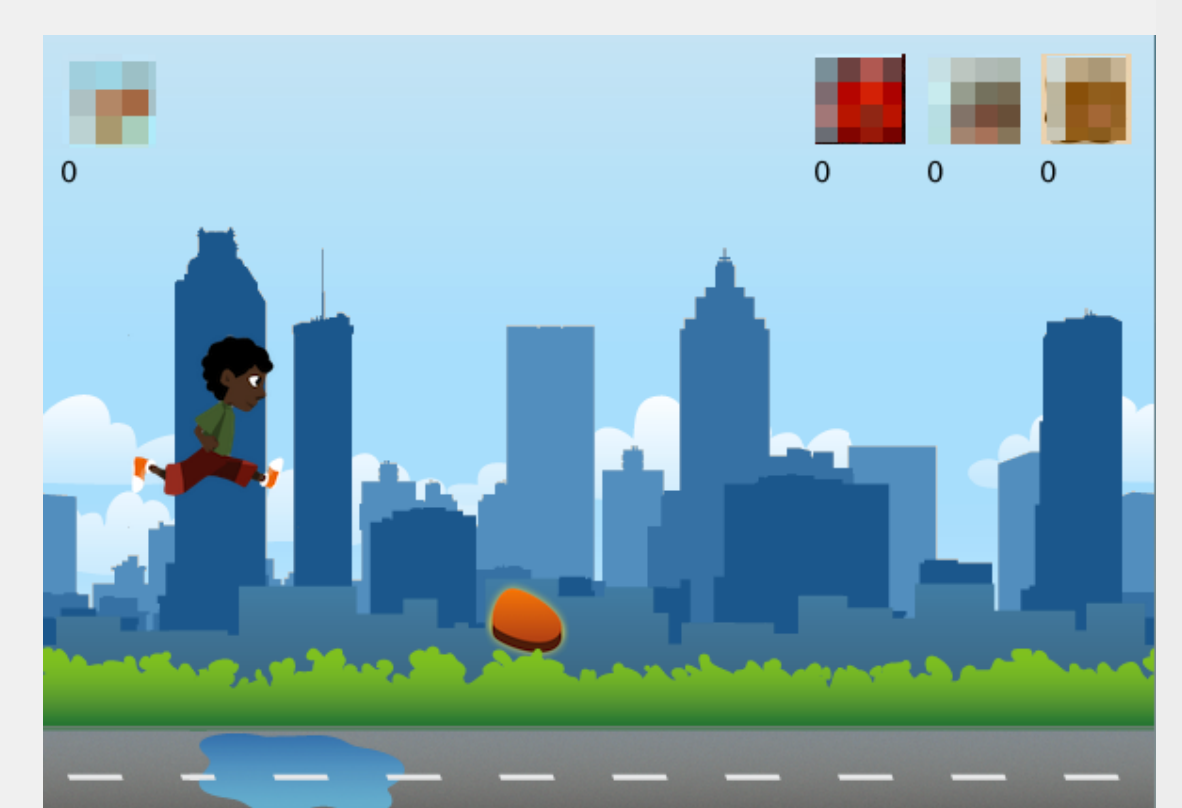


Key elements:

- Pedometer wirelessly uploads steps
- Users see others' activity "points" instead of steps
- No leaderboard, little built-in competition
- As they play the game, students collectively unlock new levels (forest, Mars, underwater)



A student uses StepStream [Spring 2012]



The first level of PuddleJump [Spring 2013]

Findings

StepStream users improved their **attitudes** about fitness and increased their sense of **social support** for fitness. The least-active students also increased their daily activity. Our school-based social fitness approach to everyday adolescent health shows the potential for social computing systems to positively influence offline health behaviors in real-world settings.

Surveys & interviews:

- Greater encouragement for physical activity from friends
- Increased sense of fitness expertise
- More and more positive conversations about fitness

System use:

- Website: even mix of social discussion, physical activity posts, and gameplay reports
- Pedometers: increased step counts for least active, no significant overall increase

Methods

To understand how social media and everyday adolescent fitness might interact, we have employed **iterative design & evaluation, in-the-wild deployments**, and a **participatory design approach**, working with students as informants throughout.

Measures:

- Social support & physical fitness attitudes survey (pre/post)
- System log data analysis (qualitative & quantitative)
- Physical activity analysis
- Interviews & focus groups
- Design exercises

