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UpAlarm

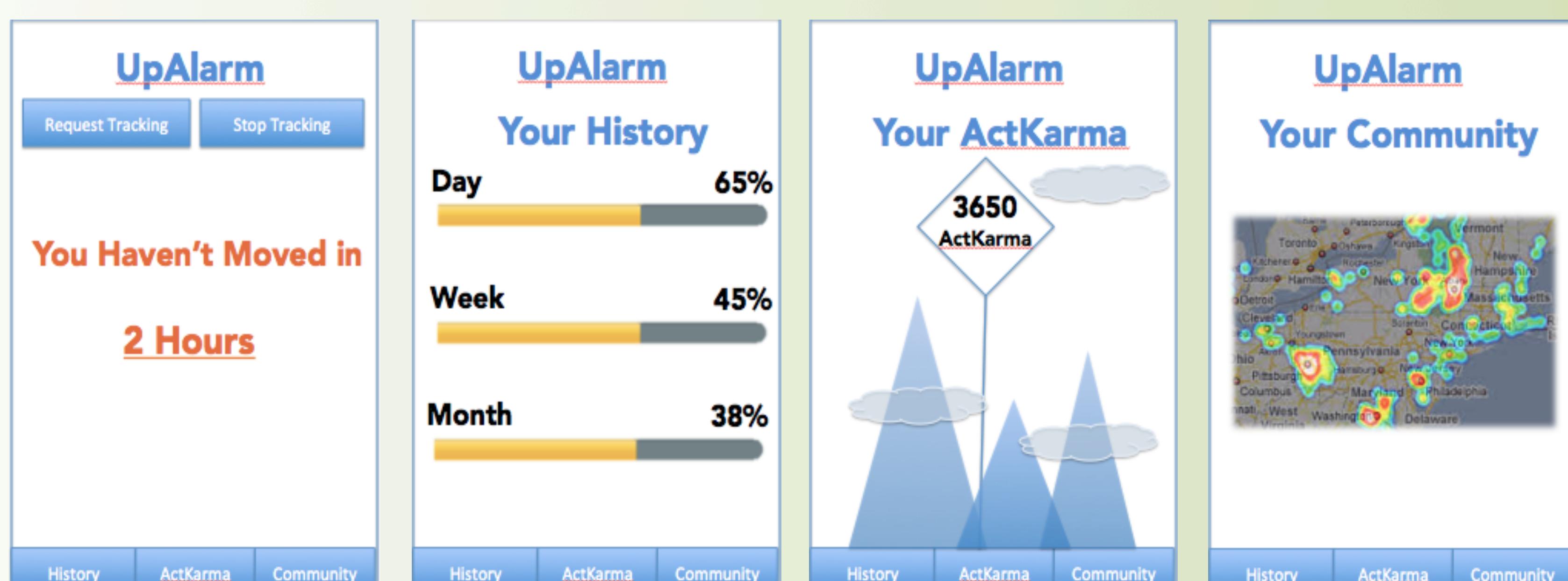
Ubiquitous Computing Spring 2015

Motivation & Goals

- The average American spends more than 3/4 of their workday sitting (LUMO, 2013).
- The Silicon Valley Syndrome (SVS) is characterized by adverse health symptoms as a result of people's use of technology or sitting at a desk.
- A sedentary lifestyle has become more prevalent nowadays because many jobs have moved indoors and improvements in technology provide entertainment and utility within easy reach. However, this sedentary lifestyle can be very harmful to our health.
- Human beings are not meant to sit all day long, yet the average computer worker could easily spend 48,360 hours sitting at work over a 30-year career (LUMO, 2013).
- We hope to raise awareness of the growing sedentary lifestyle in our community by implementing UpAlarm, an Android app.
- We aim to help people get up and move around more so that they can stay away from the health risks that are originated from sitting too much.

What is UpAlarm?

- UpAlarm is an inexpensive mobile solution to Silicon Valley Syndrome.
- Our ActKarma solution aims to positively reinforce user's desirable behavior as the user can score higher points by moving around more.
- In addition to individualized ActKarma and alerts to encourage user to get up and move about more, there is also a real-time heat map that allows the user to check out how sedentary his/her local area or community is. By incorporating the heat map, we aim to motivate a community-level initiative to encourage the entire community to become less sedentary in their lifestyles.
- The platform combines individual and community-level solution and aims to successfully persuade users to abandon their sedentary lifestyle.

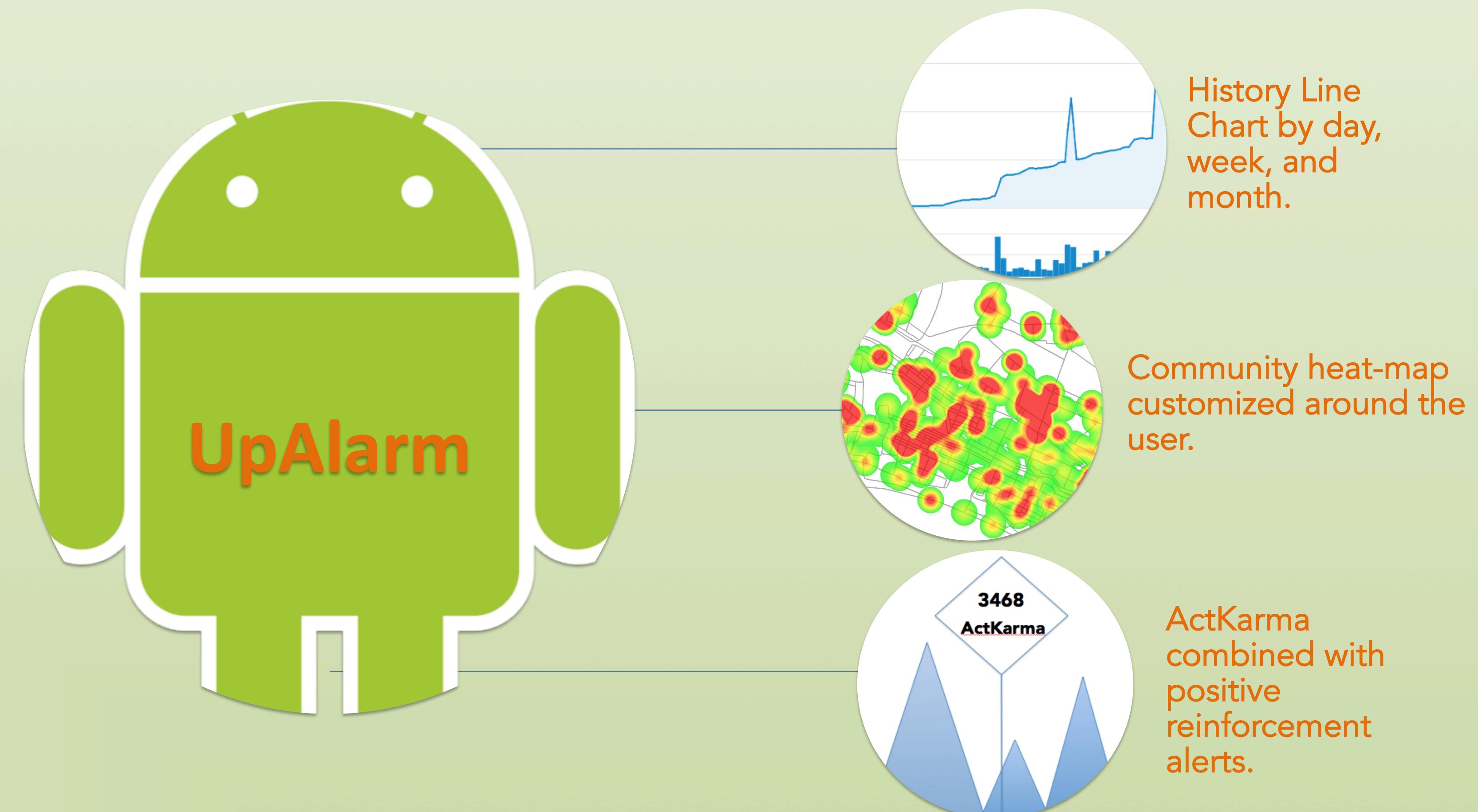


Features

- Push notifications alert the user to excessive sedentary behavior.
- ActKarma encourage users to be more active, with rewards for consistent activity.
- Activity history allows users to see their progress and adjust their behaviors accordingly.
- Heatmap of users' activity in community fuels social and competitive inclinations.
- User-opted pausing allows them to rest without being prompted to move.

Data Collection

- We will ask 20 students, staff, and faculty members aged from 18 to 65 years old to install UpAlarm for a week so that we can track if they have improved behaviors using our app.
- We will collect labels on still and moving. The labels will be sent to processing every 30s.
- We will also send out a final survey to ask the users if they feel their activity level has improved and if they consciously made an effort to be more active.



Evaluation & Results

- We will collect data on stillness and movement from each user. Using this data, we can observe if the user's activity level has improved upon using UpAlarm.
- We will include graphs on each user's stillness and movement on a daily, weekly, and monthly basis. We can then try to observe a trend.
- We will also evaluate the effectiveness of UpAlarm based on user survey at the end of the user study. We will learn directly from the user whether they find the app helpful and in what ways they want to see improvements.
- We encounter negative results as persuading users to move away from a sedentary lifestyle takes time and a multi-prong approach. Nevertheless, we remain hopeful that UpAlarm is a promising step towards a feasible solution.

Future Work

- Train more precise activity classifiers and provide specific recommendations
- Integrate tracking and notifications with popular fitness bands
 - Accommodates users who do not leave phones in their pockets

References

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