MyCity: Glasgow – how can a mobile app based game increase physical activity in the context of a mass spectator sporting event?

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Background

• Huge and growing market in mobile apps to monitor, record, support physical activity

• Some use gamification to try to increase engagement and improve outcomes

• Little evidence of PA apps being deployed and rigorously evaluated at scale
  – Lack of understanding of mechanisms of how to improve user engagement in the wild
Glasgow 2014 Commonwealth Games

- Mass spectator sporting event
- Potential to engage locals and visitors in PA?
MyCity: Glasgow

Aims 1) to increase PA and 2) to increase engagement with Glasgow during 2014 Commonwealth Games

• BCTs
  – self-monitoring of PA,
  – goal setting/review
  – feedback

• Gamification principles
  – self-expression
  – achievement (e.g., quizzes)
  – status
Becoming more active

- Players earn ‘energy points’ (EP) by walking
- Daily EP goal
- Monitor progress
- Instant notification when goal achieved
Energy Points Goal Setting

PA goal setting

Incremental EP goals

Calculated by app, based on last 7 days activity

Player given option to adjust goal at start of each day

Achievement rewarded – 42 buildings
Engaging with Glasgow

- ‘Fact-or-fiction’ quizzes (and rewards)

  Quizzes - Arts and Culture (3/19)
  
  Ashton Lane
  
  Gallery of Modern Art
  
  You can't answer any more questions until tomorrow.
Method

- App freely available from Google Play and Apple App Stores from early summer 2014
- Real time usage data logged June-Sept 2014
- Online user experience survey (N=56)
- Qualitative interviews (N=11)

- Qualitative user interviews (N=11)
  - 7 male; 4 female
  - aged 18–49 years
  - 6 android; 5 iPhone
  - Most said they used MyCity often or a lot
User Characteristics

1096 total downloads – iPhone (423) and Android (673) (Logged data android only)

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<tr>
<th>Gender (N=523)</th>
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<tbody>
<tr>
<td>Male</td>
<td>50.3</td>
<td>(263)</td>
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<tr>
<td>Female</td>
<td>49.5</td>
<td>(259)</td>
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<tr>
<td>Other</td>
<td>0.2</td>
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<tr>
<th>Age (N=500)</th>
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<tr>
<td>12-25 years</td>
<td>44.7</td>
<td>(234)</td>
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<tr>
<td>26-40 years</td>
<td>32.1</td>
<td>(168)</td>
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<td>41-60 years</td>
<td>19.9</td>
<td>(104)</td>
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<tr>
<td>61-80 years</td>
<td>3.3</td>
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<th>Baseline Physical Activity (N=474)</th>
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<tr>
<td>Very inactive</td>
<td>19.9</td>
<td>(104)</td>
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<tr>
<td>Quite inactive</td>
<td>31.2</td>
<td>(163)</td>
</tr>
<tr>
<td>Quite active</td>
<td>42.3</td>
<td>(221)</td>
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<tr>
<td>Very active</td>
<td>6.7</td>
<td>(35)</td>
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Uptake – impact of CWG
Time spent playing MyCity Glasgow: **mean** = 13 days

- Non-starters: Days = 0
- Starters: Days > 0

**median** = 1 day
PA goal achievement

Almost a quarter (24.3%) of daily activity goals achieved - 41-60 year olds most successful
Patterns of user engagement with goal setting
P_04_M: It encouraged me to go a walk at lunchtime at work and I was intrigued to find out how many, sort of, points I had. It was good to, sort of, meet my daily target and such like and at that time I was trying to lose a bit of weight as well so it, kind of, came in quite handy for that as well to make sure I’d done something. I’m not the most active of people.
Other users enjoyed quizzes

**P_08_F**: I loved them. Absolutely loved them. Some of them were challenging, obviously there were degrees of difficulty. But I liked the fact that they were challenging, but I’m not from Glasgow so I really found it interesting. I learned heaps about the place […] I took a friend who was up after the Commonwealth Games and we walked around the Merchant City and I actually knew some of the stuff because I’d been on the app.

**P_03_M**: …the only part I didn’t like about the quizzes […] I feel it’s a bit disappointing when you do lose and you can’t play again [until] the next day

- 3,907 quiz questions were attempted
  - 72% answered correctly
User personas

- Ratio of quiz-versus-goal-setting screen visits
  - 297 users visited quiz and/or goal setting screens
- 6 user personas – most engaged more with quiz than goal setting
Conclusions

• MyCity: Glasgow succeeded in supporting some users to increase PA during the Commonwealth Games period

• Difference between people who downloaded app (more younger) and people who engaged with app (>40 years)

• Problems with logging user data from iPhones

• Quiz feature possible mechanism to promote PA – e.g. accumulate EPs to overcome quiz lock out