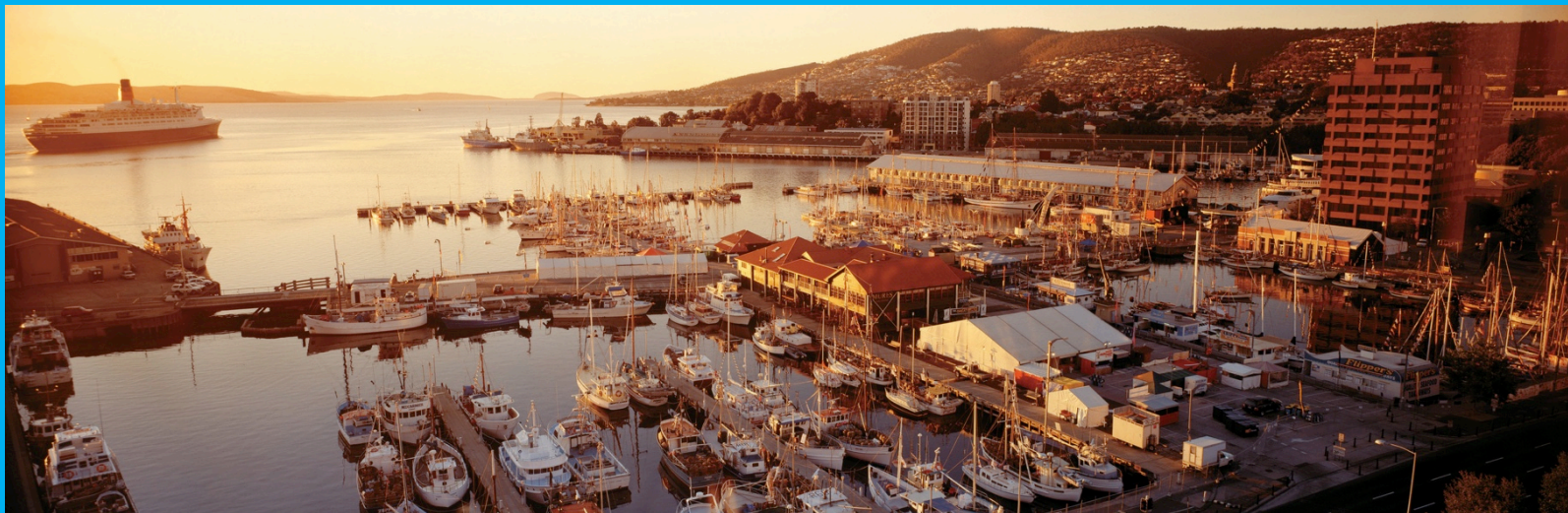


# Using principles from serious games to boost engagement with a smoking cessation app



*Stuart Ferguson*  
*University of Tasmania*

BREATHE  
THE  
WELL



- I have received researcher-initiated project grant funding from Pfizer (through the GRAND initiative), have worked as a consultant for GSK & Chrono Therapeutics, & have served on an advisory board for Johnson & Johnson.
  - Not involved in current project
- Drs Peterson & Bindoff having nothing to declare.

- Education & support has been the backbone of quit smoking programmes for decades
- Variety of delivery modalities
  - Booklets, help lines, websites, counselling ...
- Moderately effective
  - OR: ~1.5 (Fiore et al, 2008)
  - Somewhat at odds with theoretical predictions

- Teach here – Apply there
  - Disconnect btw learning & application
- Reactive assistance
  - Need to reach people when & where they need help
- One-on-one approaches (e.g., help-lines) are expensive (prohibitively so?), especially for reactive support

- Technological advances have expanded delivery options
  - Text message support, apps
- Rapid growth of mHealth applications



# And not just for quit smoking programmes



# *mHealth Apps: Appealing Characteristics*



- Tailoring, including responsive tailoring
- Can utilise images & video content
- Social networking (e.g., real/virtual quit buddies)
- Real-time monitoring: Support & feedback
- Geo-tagging
- Reach of intervention
  - Low cost of distribution
  - Opportunities for development / refinement
    - Mechanistic evaluations

# Some evaluated apps exist



**SF28**

## SF28 is your Road to a Smoke Free future

SF28 guides you through the first 28 days of your quit attempt as well as helping you prepare for your quit. It is based on the latest scientific research and provides a range of tools and advice to help you quit smoking for good.

**NCSCT** **Society for Study of Addiction** **UTAS**

Available free on Android and iOS

ANDROID APP ON **Google play** Available on the **App Store**

Ubhi HK, Michie S, Kotz D, Wong WC, West R, (2015). A mobile app to aid smoking cessation: Preliminary evaluation of SmokeFree28. *Journal of Medical Internet Research*, (17)1:e17



- mHealth apps suffer from poor adherence & low content engagement
  - Also observed with traditional programmes
- Limits potential:
  - Programmes will not work if users don't engage with content
  - Difficult to refine content and/or study mechanisms
- Need to explore novel approaches to improving engagement



- Online gaming is a popular activity
  - Increasing numbers of users
  - Increasing time spent in games
- Well-designed games engage users
- In recent years, increased interest in harnessing games for behaviour changes

# Modelling / Promoting Target Behaviours



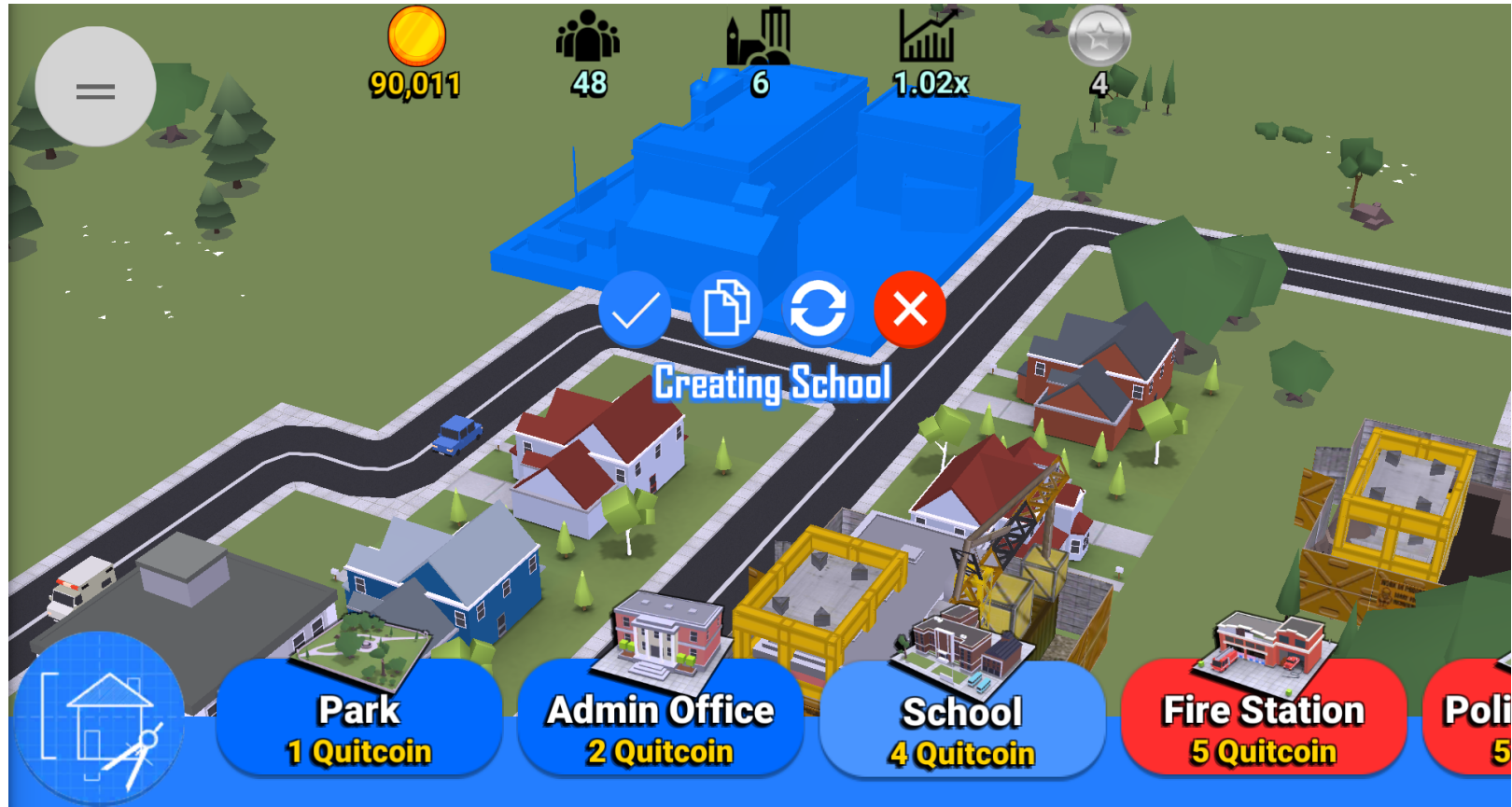
Source: [www.extension.iastate.edu/life/](http://www.extension.iastate.edu/life/)

# Distraction Games



- Common addition to quit smoking apps
- Effective as immediate coping strategies?

# Games could also be used to promote & maintain engagement

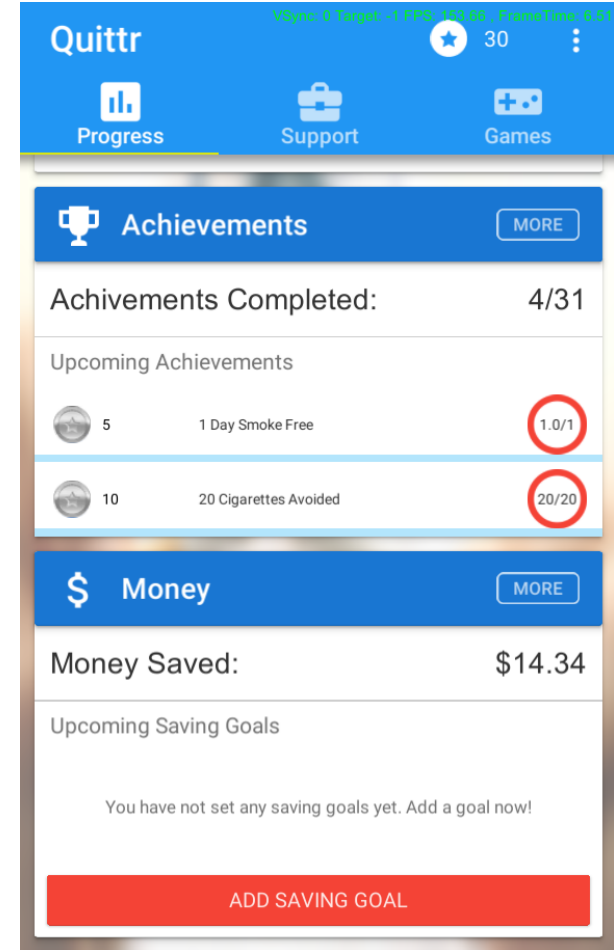
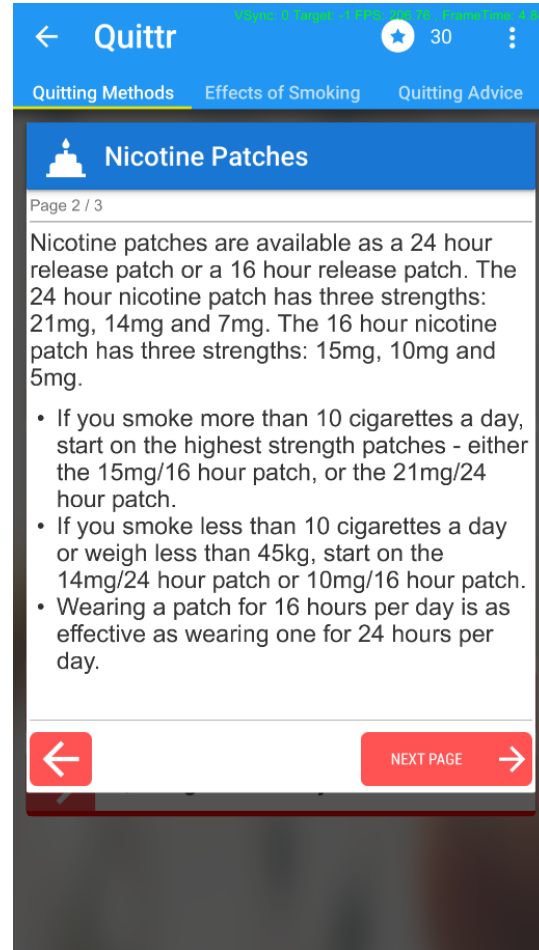
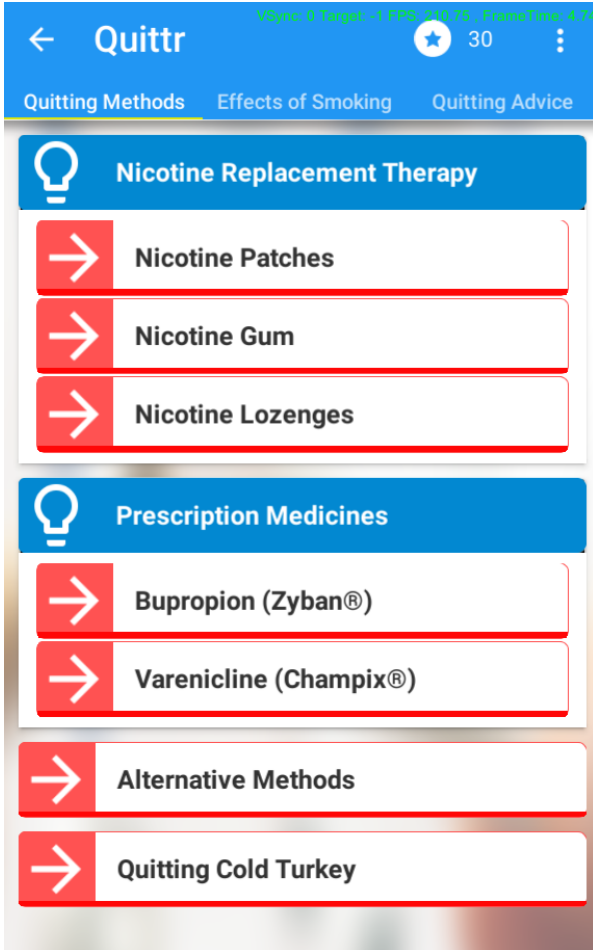


- Quitcoins: Linking engagement to game progression

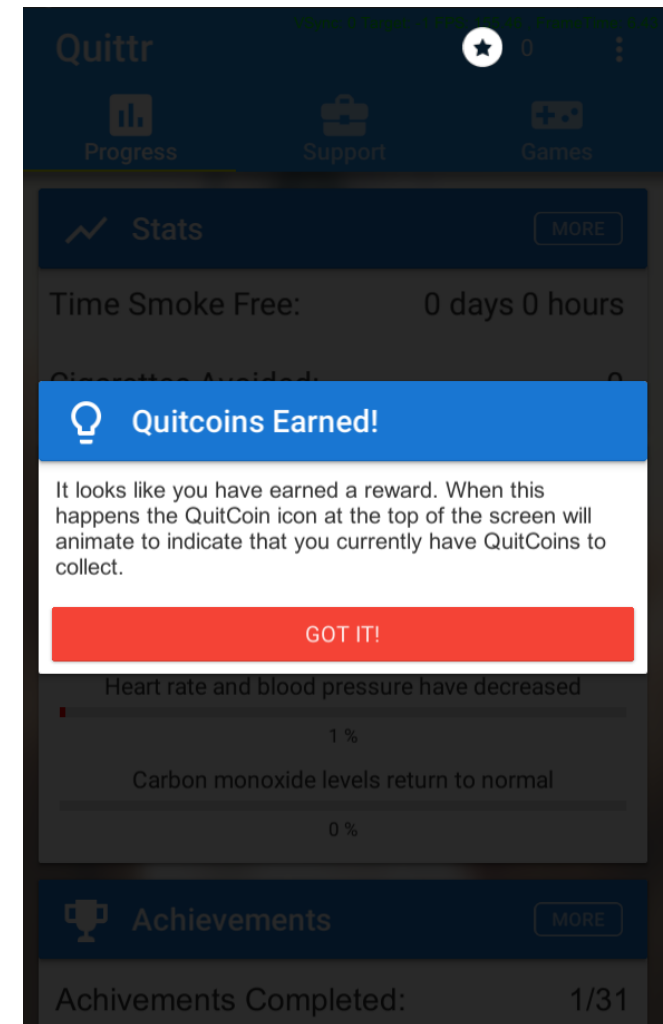


- Standard behavioural content & support tools

# Quittr mHealth App



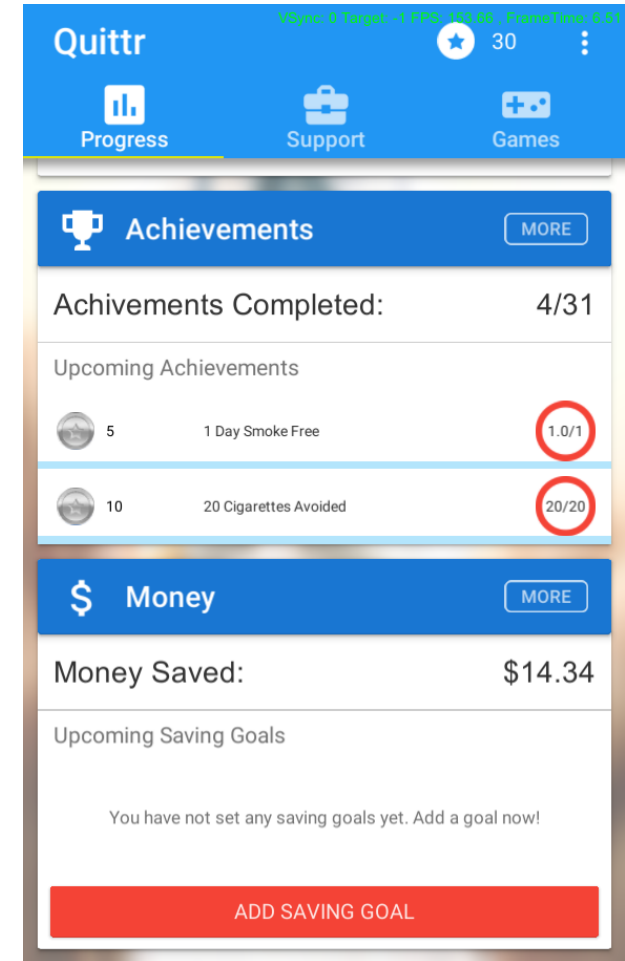
- Standard behavioural content & support tools
- Novelty:
  - Embedded game(s)
  - Game progression linked to engaging with content
- Reinforce breadth of content
- Encourage different content at different points in quit effort



# Quittr mHealth App



- Developed with feedback from content experts, developers and smokers
- Focus groups
- Feedback used to enhance the design & game play



- Gaming elements may be useful for promoting and maintaining content engagement
- Better engagement:
  - Boost overall effectiveness of mHealth apps
  - Improve content & tailoring
- Might be particularly useful for younger smokers?
- Next step: Clinical Evaluation



# Acknowledgements



- Co-authors
  - Greg Peterson
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