

# Serious gaming helps children view Highway Code from another perspective

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# Categories

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- Serious games and education
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- Highway Code game
- Significant benefits
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- Dissemination of the game

# Serious games

Serious games:

- Refer to digital games used for purposes other than mere entertainment.
- They simulate environments and systems
- Allow learners to experience cases that are not possible in real life

# Serious games

Three main reasons that Serious games are used:

- Safety
- Cost
- Time

# Serious games

*Is Serious gaming familiar to children?*

The Federation of American Scientists suggests that kids from 8 to 18 years old usually spend approximately 50 minutes per day playing video games [3]

# Serious games and education

A knowledgeable pedagogue transmits the knowledge to learners via:

- Lectures
- Books
- Articles

# Serious games and education

Limitations in the traditional learning paradigm:

- Teaching is an indispensable condition for learning
- The ultimate testing and skill acquisition and knowledge are not usually for knowing
- Emphasize the transmission of knowledge from an acknowledged special to individuals in isolation

# Serious games and education

- Learning only what a person intends is not the most desirable
- The physical layout of classrooms and the structure of classes transfers meta-messages about knowledge creation, acquisition and use.
- Small capacity to accommodate linkages between affective, behavioral, and cognitive domains [7]



# Serious games and education

- Dissemination of gaming
- Engaging educational practices
- Worldwide use of the Internet



A paradigm shift, offered by serious gaming, which show us how the education and training should be delivered in the 21<sup>st</sup> century

# Knowledge types

- Communication knowledge
- Situated knowledge
- Tacit knowledge
- Imperative knowledge
- Explicit knowledge
- Embedded knowledge

# Knowledge processes that are supported

- Hand and eye co-ordination
- Spatial awareness
- Memory and lateral thinking
- Cognitive thinking
- Self – assessment and analysis
- Spatial abilities
- People, job-specific, organization, communication, and strategy skills

# Highway Code game

- The Highway Code serious game is developed to teach children the highway code.
- Children have much less limited attention span than the adults.
- Children will be able to exercise, learn the signs, and having fun at the same time

# Highway Code game

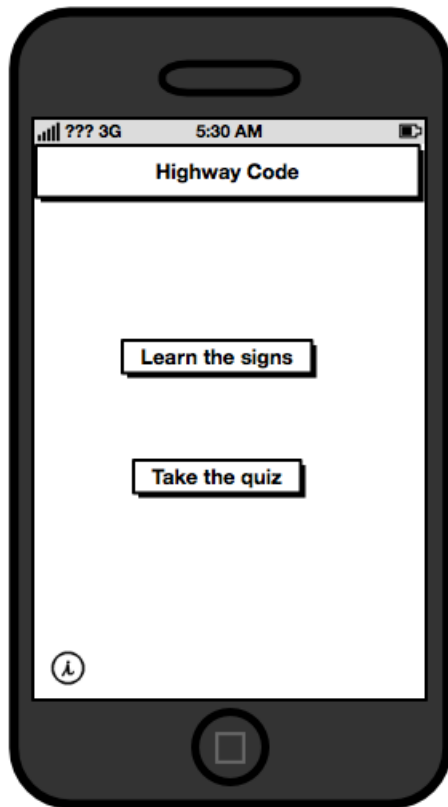
- Is built for iPhone devices (ios 6 )
- Portrait mode
- Appcelerator Titanium is used for building the app

# Significant benefits of Highway code game

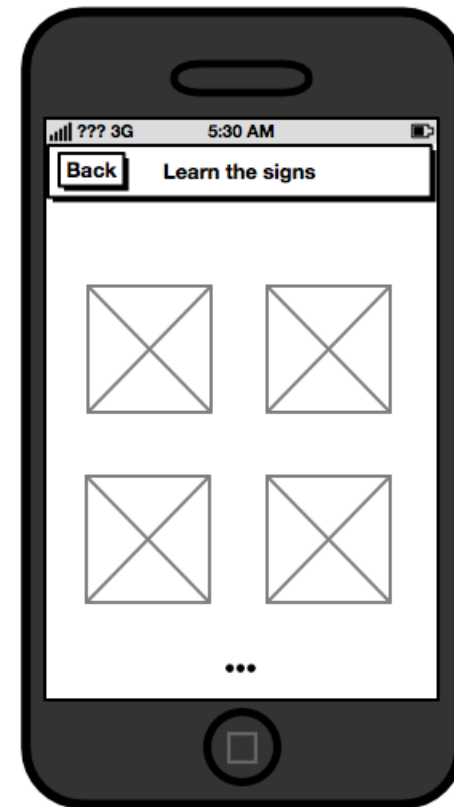
- Situated knowledge
- Tacit knowledge
- Embedded knowledge that is locked in processes
- Hand - eye co-ordination
- Spatial awareness
- Memory and lateral thinking
- Cognitive thinking
- Self- assessment and analysis

# Wireframes

**Main window**

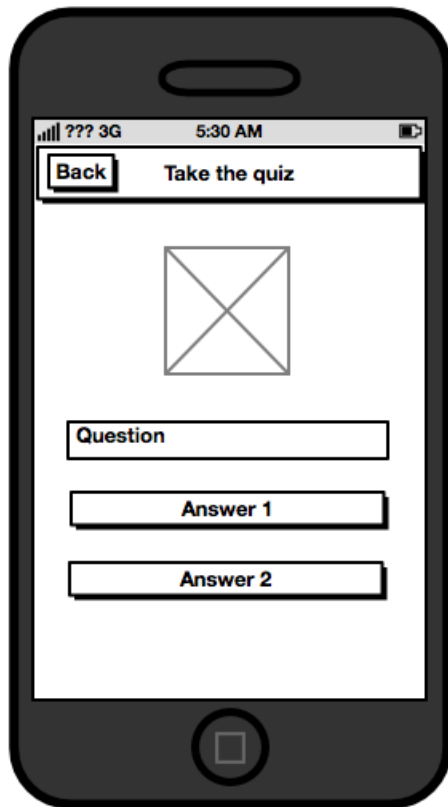


**“Learn the signs” window**

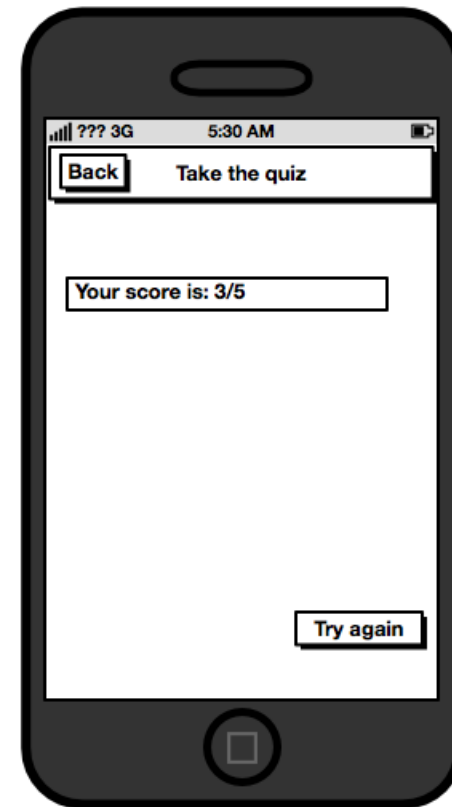


# Wireframes

**“Take the quiz” window**



**“Quiz results” window**





# Highway code

“Take a quiz” window



“Learn the signs” window



# Dissemination of the game

- Free of charge application
- Focus on schools
- Focus on parents
- Persuade teachers and parents about the importance of that application
- Use social networks

# References

- [1] Bates A. W. T. 2005. *“Technology, e-learning and distance education”* .
- [2] Gredler M. E. 2009. *“Games and Simulations and their relationships to e-learning”*. University of South Carolina,
- [3] Derryberry A. 2007. *“Serious games: online games for learning”*.
- [4] Kaiser family foundation, available at  
<<http://www.kff.org/entmedia/entmedia012010nr.cf>>
- [5] Cole et al. *“Color Psychology: Children vs. Adults”*
- [6] Definition of Learning, available at  
<<http://en.wikipedia.org/wiki/Learning>>
- [7] Ruben B.D. 2002. *“Simulations, games, and Experience-Based Learning: The new Quest for a New Paradigm for Teaching and Learning.”* Rutgers University
- [8] Freitas S. and Liarokapis F. *“Serious Games: A new Paradigm for Education”*. Coventry University.

**QUESTIONS ?**