Accelerometer-based games
for the Maemo 5 Platform

Vladimir Dmitriev, Konstantin Kirpichonock, Arsenii Sotnikov,
Aleksandr Volkov, Vyacheslav Dimitrov

Petrozavodsk State University
Department of Computer Science

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Accelerometer-based control

- New principles of game objects control.

- Control of game objects on the screen is implemented by changing position of tablet in the space.

- e.g. when you tilt the device, Brush or Ball are moving on the screen.

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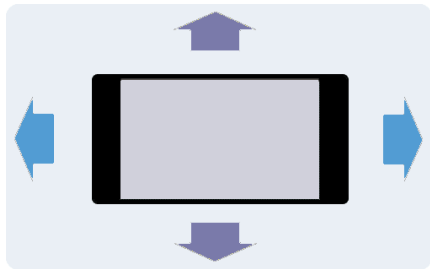
Features

- Drawing
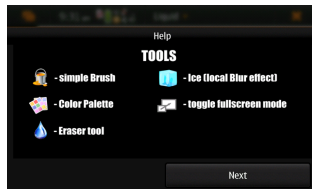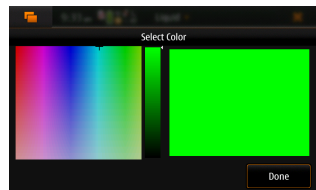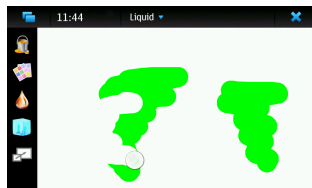 - Brush as drop of paint
  - drawing with accelerometer or touchscreen
- Tools
  - basic drawing tools (Brush, Color tool, Eraser)
 - local and fullscreen Blur effects
- Other
  - may be useful for children for expansion motor functions
  - entertaining application for other

Architecture

- Core: based on QPainter, implements basic functions of editor

- Accelerometer Module: geta data from accelerometer and transmita it to Core; also it handles sleep and background modes

- Filters: implements additional tools and filters for editor (i.e. Blur)

- User Interface: responsible for interaction with user

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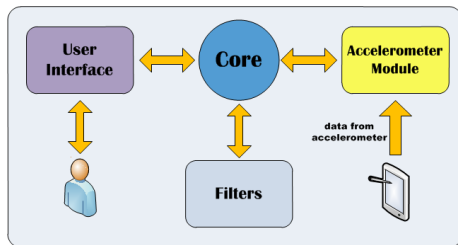
Features

- Game is based on different physical laws (Hooke's Law, Newton's Laws...)
- Gameplay
  - ▶ User must control Ball by accelerometer and hook small balls (TailBalls). Each linked TailBall gives some score (combination gives some extra points). Other objects on the screen complicate this task
  - ▶ Links have spread physics
- Best scores are stored in Highscore table

Architecture

- Physic Engine:
  responsible for all physic
  (movement, links...)

- Accelerometer Module:
  get data from
  accelerometer and
  transmit it to Physic
  Engine; also it handles
  sleep and background
  modes

- Score System: keep
  scores for top players

- User Interface:
  responsible for interaction
  with user

Demo is started . . .

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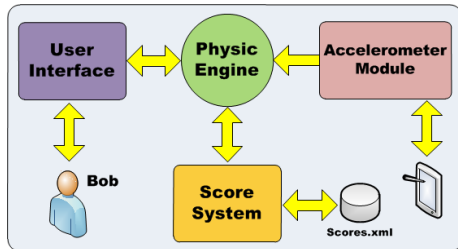
Project Metrics

METRICS	Liquid	Shariks
LOC	2651 (Qt C++)	3099 (SDL/C++)
Comments	363	608
Doxygen Comments	176	—
Time Resources	575	316
Human Resources	4	3

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Evolution

I. Maemo extras-devel:
- Liquid. 06.07.2010 – 06.09.2010:
  `http://maemo.org/packages/view/liquid/`
- Shariks. 02.09.2010 – 01.10.2010:
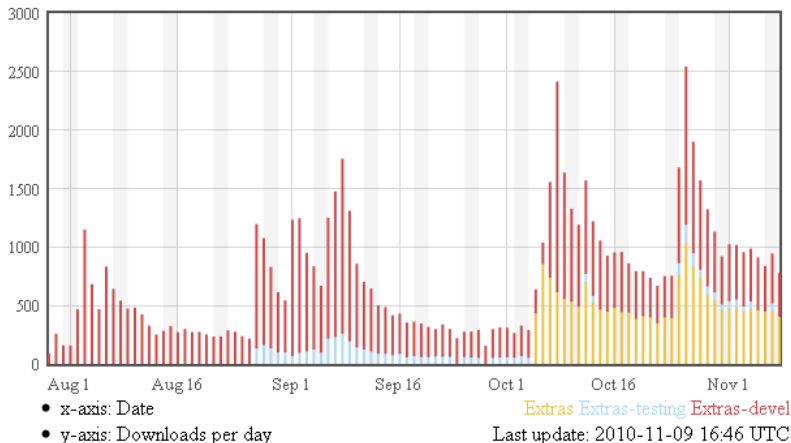 `http://maemo.org/packages/view/shariks/`

II. Maemo extras-testing:
- Liquid. 06.09.2010 – 05.10.2010
- Shariks. 01.10.2010 – 21.10.2010

III. Maemo extras:
- Liquid. since 05.10.2010:
  `http://maemo.org/downloads/product/Maemo5/liquid/`
- Shariks. since 21.10.2010:
  ```
  http:
  //maemo.org/downloads/product/Maemo5/shariks/
  ```

Download statistics for Liquid

- x-axis: Date
- y-axis: Downloads per day

Extras Extras-testing Extras-devel

Last update: 2010-11-09 16:46 UTC

Total downloads: 68740

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Download statistics for Shariks

- x-axis: Date
- y-axis: Downloads per day

Extras Extras-testing Extras-devel
Last update: 2010-11-09 16:46 UTC
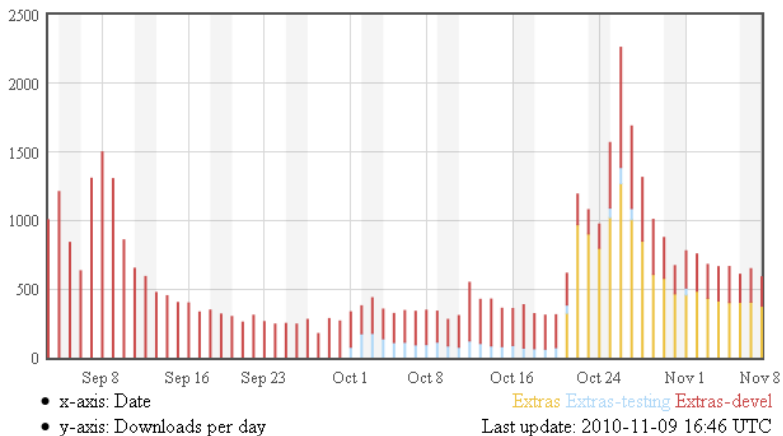
Total downloads: 34941

The Team

- Developers
  - ▸ Vladimir Dmitriev: bachelor student
    GUI, Filters (Liquid), GUI, Score System (Shariks)
  - ▸ Konstantin Kirpichonock: bachelor student
    Core (Liquid), Physic Engine (Shariks)
  - ▸ Arsenii Sotnikov: bachelor student
    Accelerometer Module (Shariks)
  - ▸ Aleksandr Volkov: bachelor student
    Accelerometer Module (Liquid)
- Experts
  - ▸ Vyacheslav Dimitrov
  - ▸ Mikhail Kryshen

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Current state:

support and maintenance

- Liquid:
  - ▶ Wiki: http://oss.fruct.org/wiki/Liquid
  - ▶ Code: http://gitorious.org/liquid-graphic
  - ▶ Extras:
    http://maemo.org/downloads/product/Maemo5/liquid/
- Shariks:
  - ▶ Wiki: http://oss.fruct.org/wiki/Shariks
  - ▶ Code: http://gitorious.org/liquid-graphic
  - ▶ Extras: http:
    //maemo.org/downloads/product/Maemo5/shariks/

Please, send your comments and bugs to
maemo-sensors@cs.karelia.ru

Thank you for your attention