The GNOME™ Conference

GUADEC
July 22nd – 28th, 2020

Flooding the Desktop with Learning tools

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How much value can we add by connecting the dots?

Who am I?

- (fmr.) One Laptop Per Child.

- (fmr.) Sugar desktop.

- (fmr.) Endless.

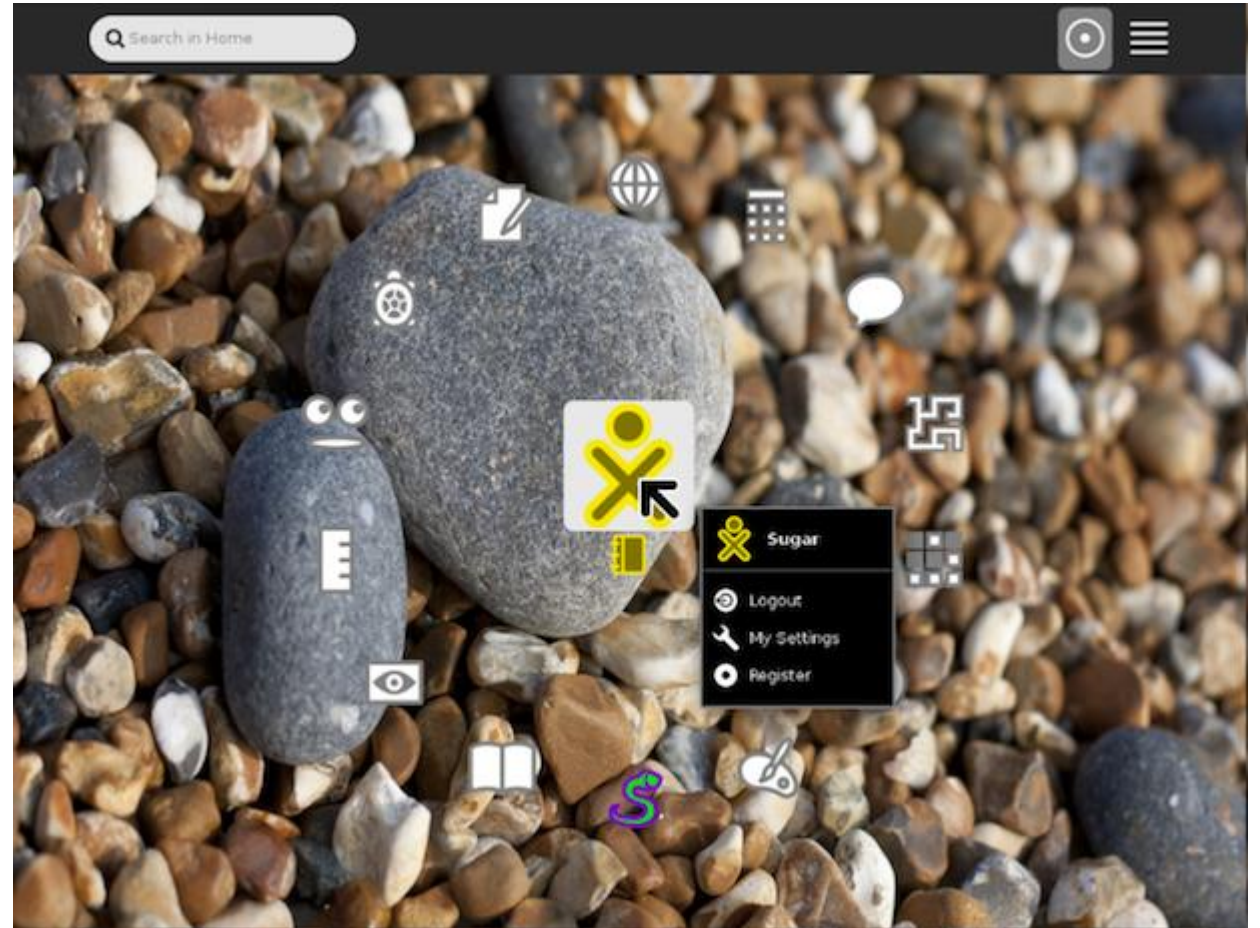- Member of Sugar Labs and the GNOME Foundation.

twitter.com/tchx84

The dots

What's Sugar?

- Desktop for Linux.

- Hundreds of learning tools.

- Different paradigms.

- Released on May 2006.
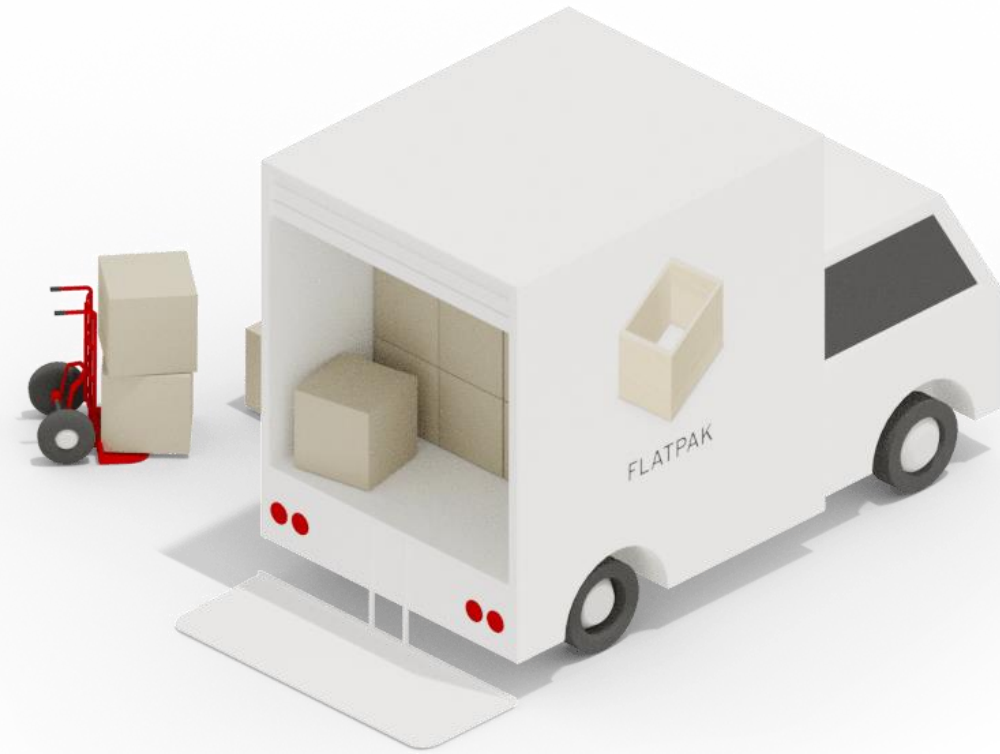

sugarlabs.org

What's Flatpak?

For users:
- A better way to manage apps.
- On every distribution.
- More secure.

For developers:
- A better way to package apps.
- For every distribution.
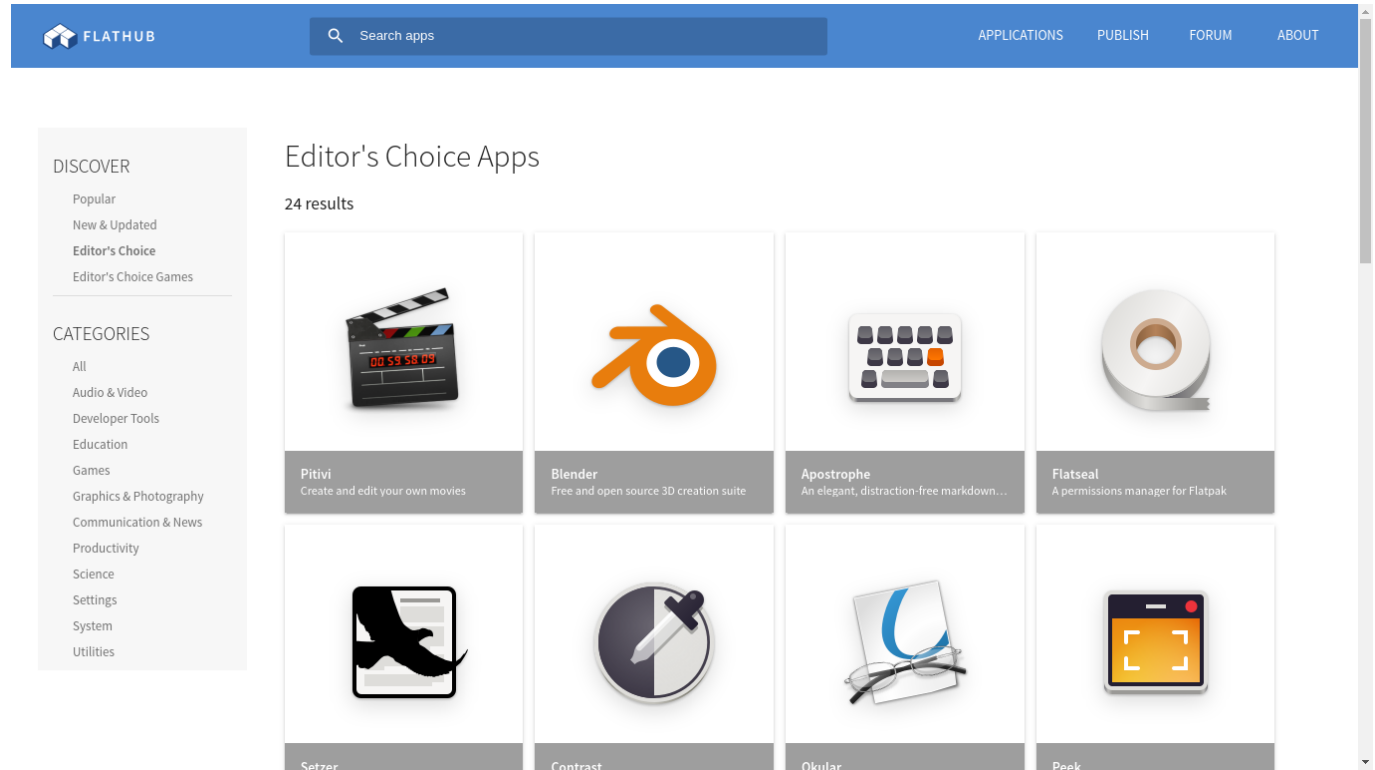- Easier.

flatpak.org

What's Flathub?

For users:
- A store for apps.

For developers:
- A platform.

For both:
- A community.

flathub.org

Connecting

What's the premise?

- Hundreds of learning tools.

- Wider audience.

What's the approach?

- Wrapper application.

- Replacement widgets.

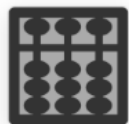- Meta-data generation tools.

github.com/tchx84/sugarapp

Value

flathub.org/apps/search/sugarlabs

Phase one

- Initial experiments.

- Linux Apps Summit.

- First results.
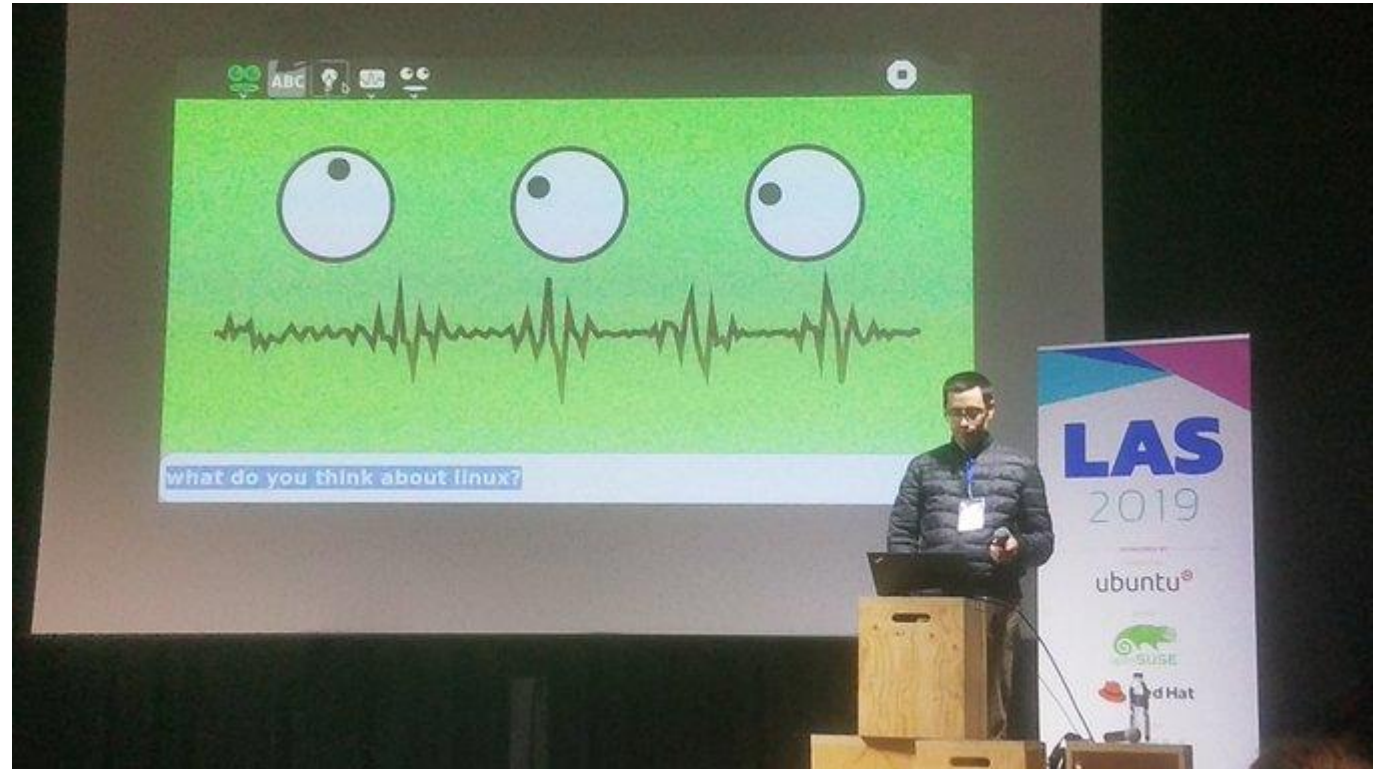
linuxappsummit.org
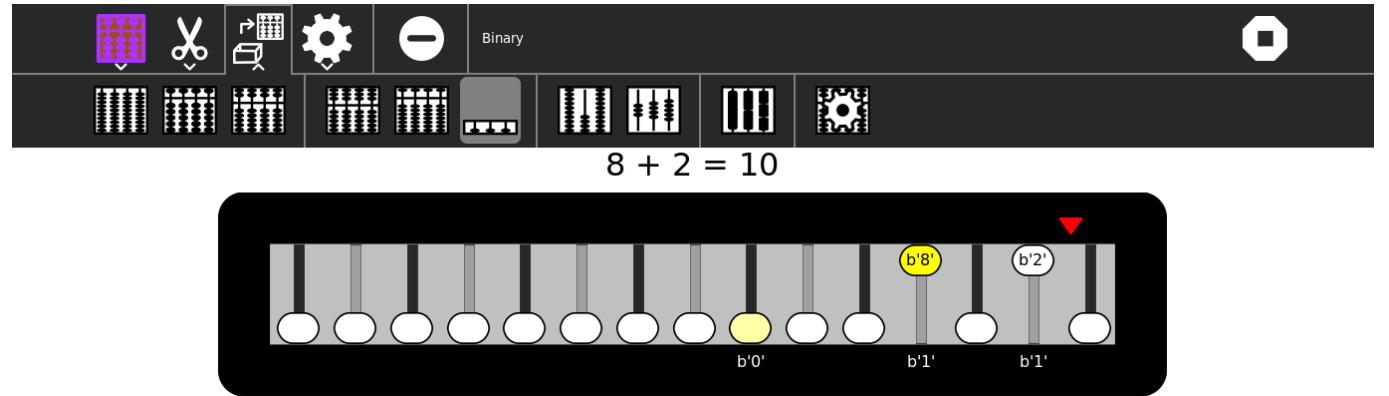
Abacus

Learn the basics of computation.

8 + 2 = 10

b'8' b'2'
b'0' b'1' b'1'

Binary

Music Keyboard

Play your next master piece.

flathub.org/apps/details/org.sugarlabs.MusicKeyboard
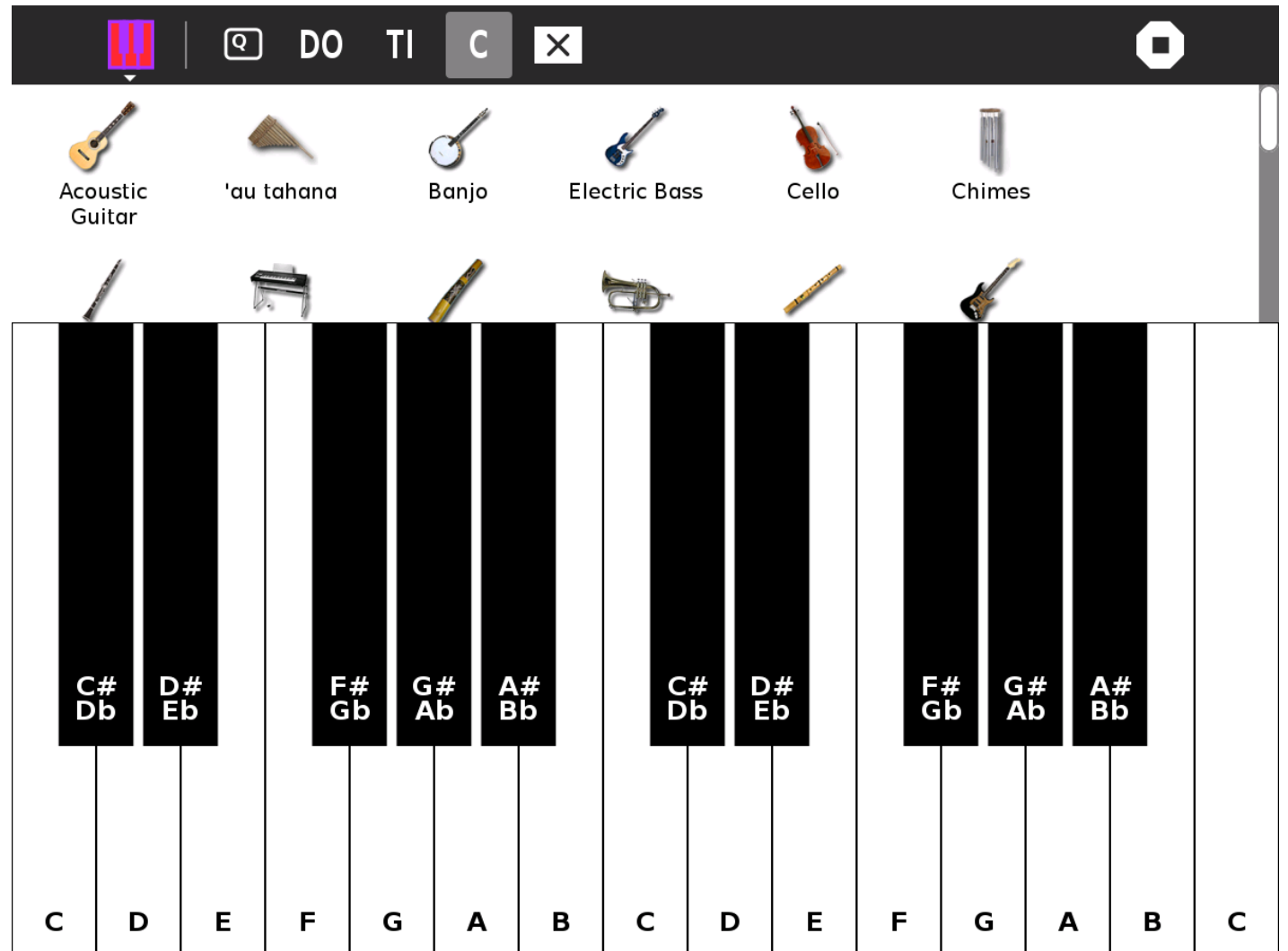
Phase two

- Tutorials.

- Google Code-In.

- Upstream.

sadly, the last edition...

Chart

Make your first steps into data visualizations.
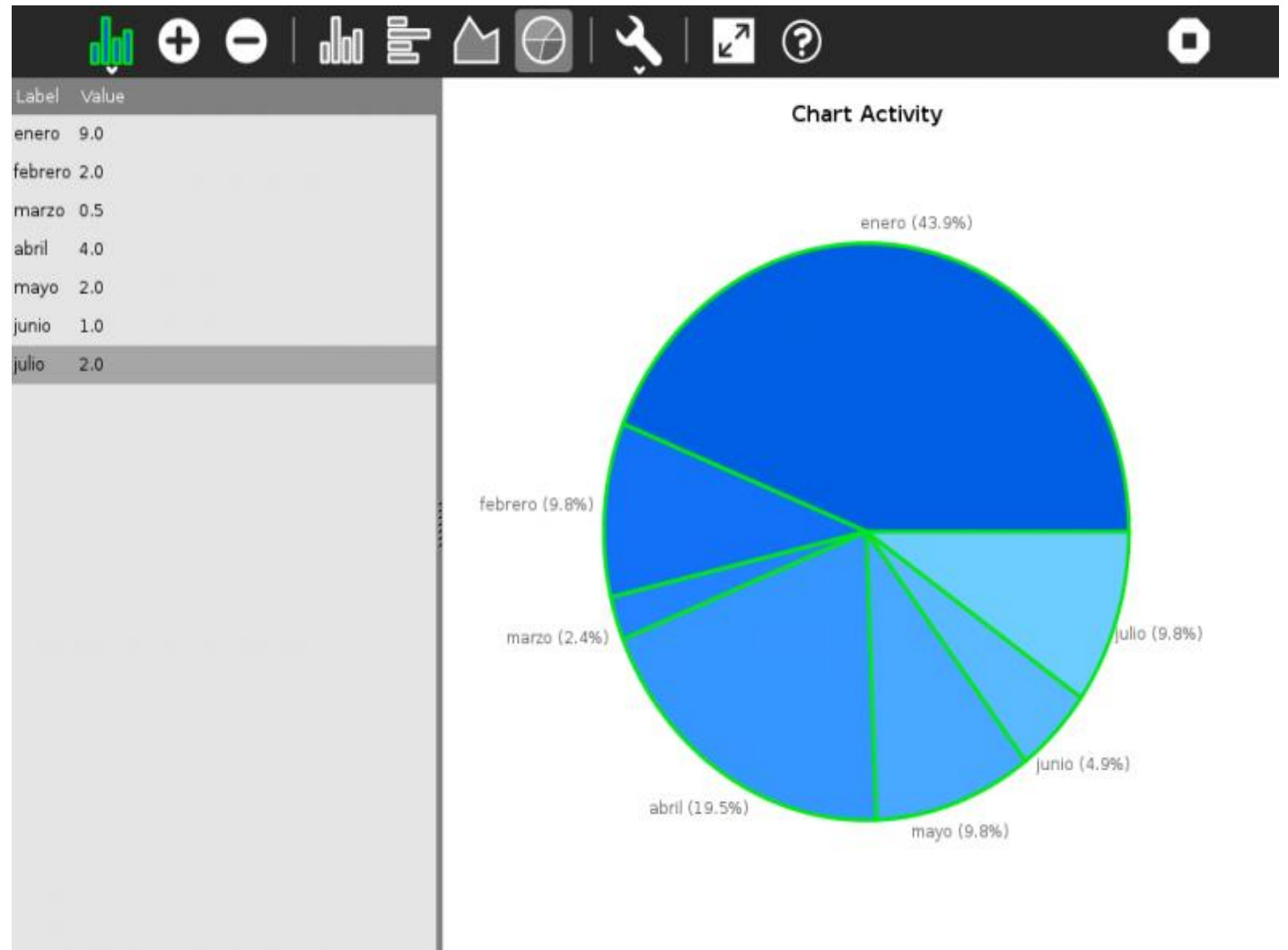
flathub.org/apps/details/org.sugarlabs.Chart

Color Deducto

Play and learn about logic induction.

Dimensions

Put your pattern matching skills to test.

flathub.org/apps/details/org.sugarlabs.Dimensions

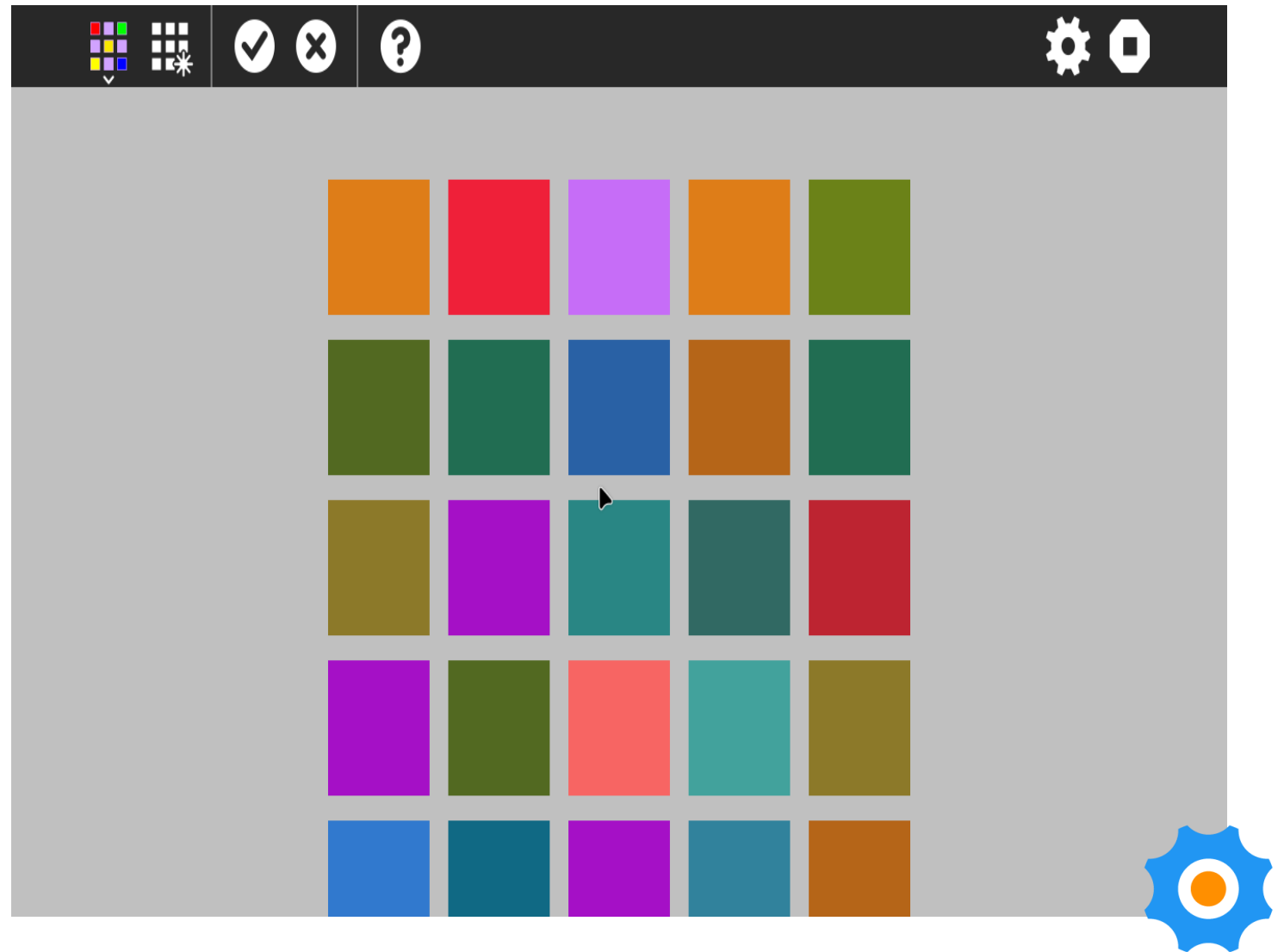| Category	Description	Date	Amount
Pocket money	New Credit	2018-11-07	20.00
Pocket money	New Credit	2018-11-07	10.00
Sweets	New Debit	2018-11-07	-5.00
From mom	New Credit	2018-11-07	50.00
Game	New Debit	2018-11-07	-10.00
PS Controller	New Debit	2018-11-07	-50.00
Sweets	New Debit	2018-11-07	-10.00

Starting Balance: $0.00 — $80.00 in 3 credits — $75.00 in 4 debits — **Balance: $**

November 07, 2018

Day

Finance

Learn by managing your home finances.

flathub.org/apps/details/org.sugarlabs.Finance

FotoToon

Create the next biggest meme.
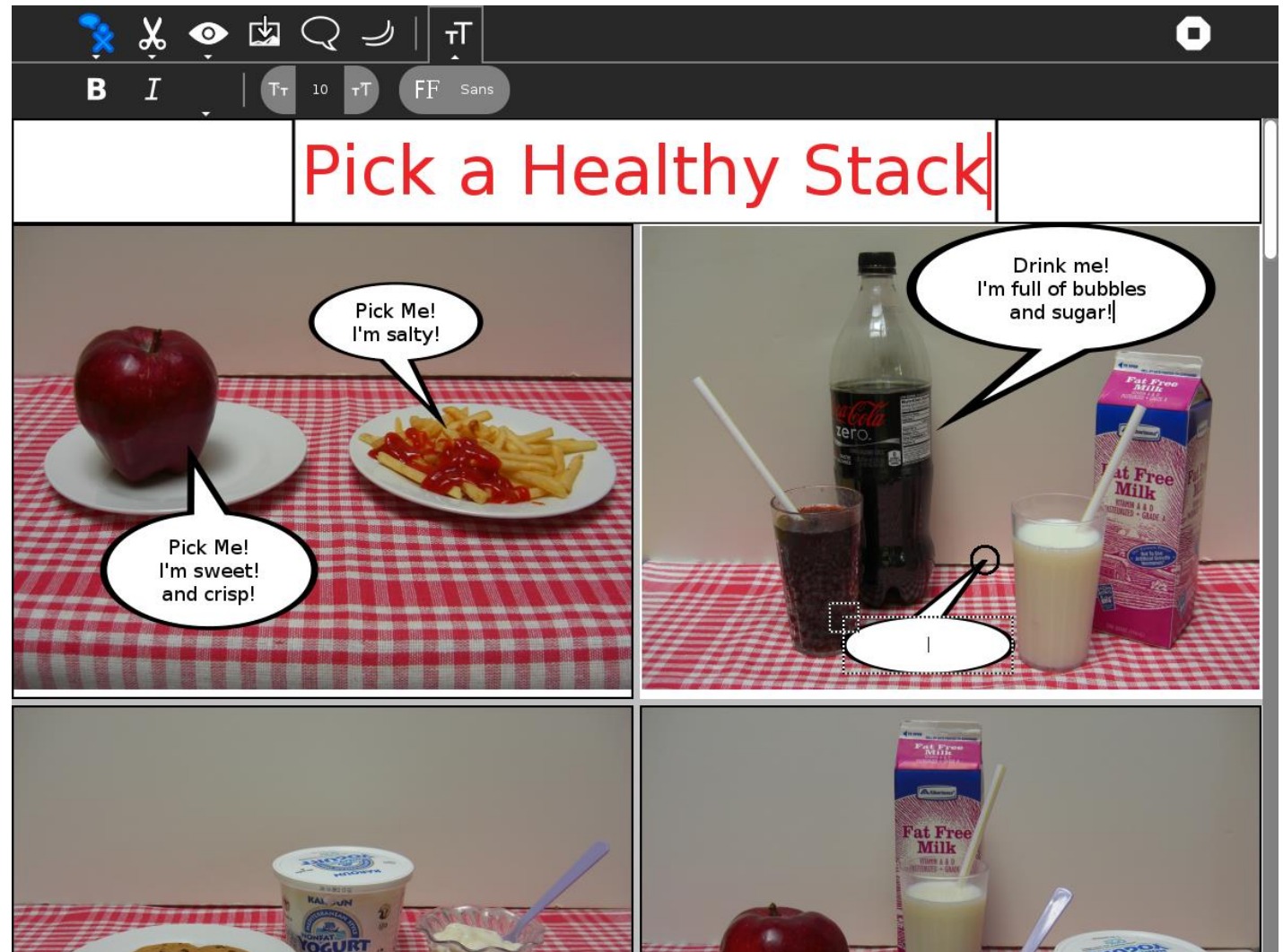
FractionBounce

Learn fractions while kicking a football.
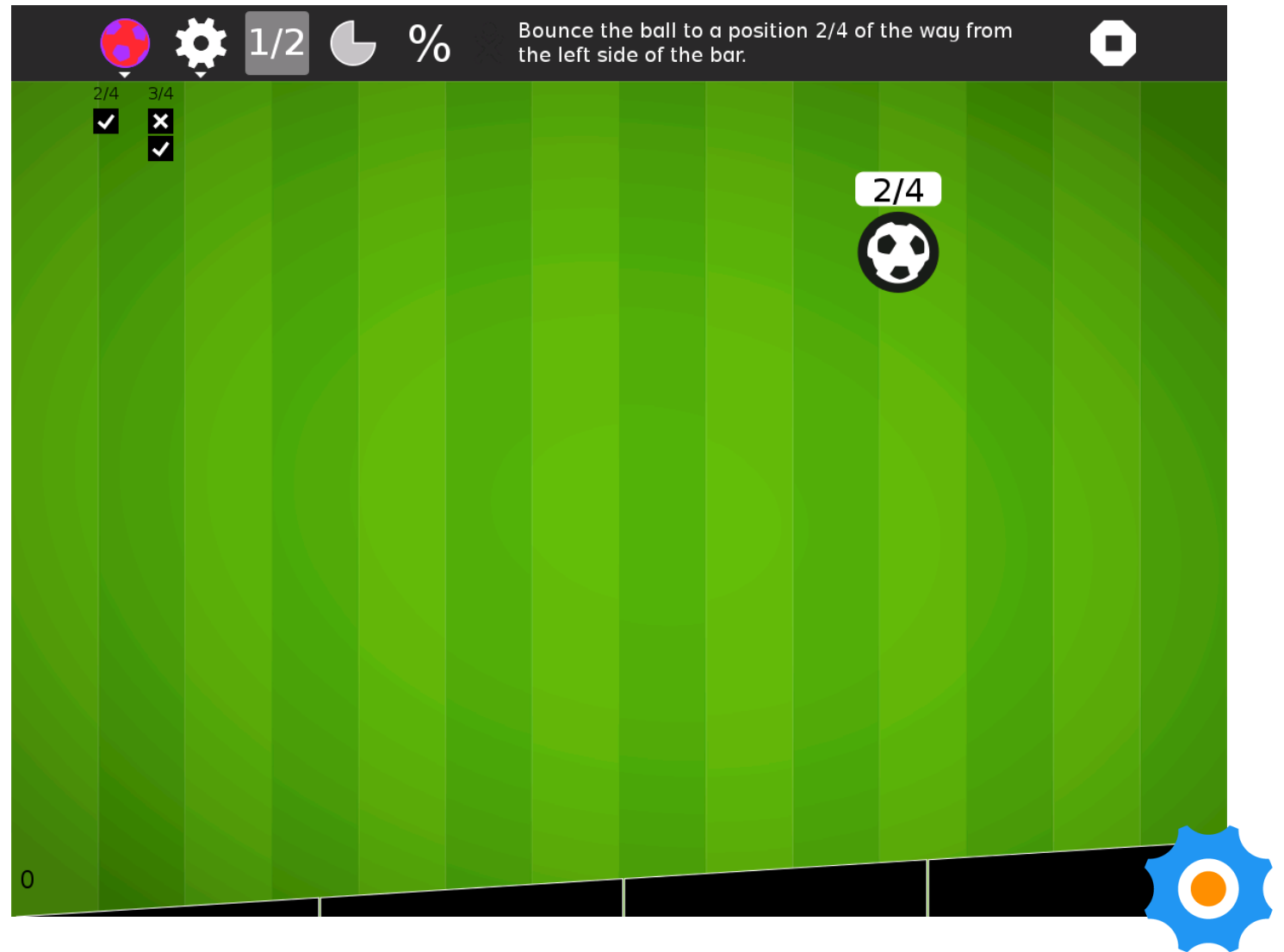
flathub.org/apps/details/org.sugarlabs.FractionBounce

Implode

Solve complex tetris-like puzzles.

flathub.org/apps/details/org.sugarlabs.ImplodeActivity
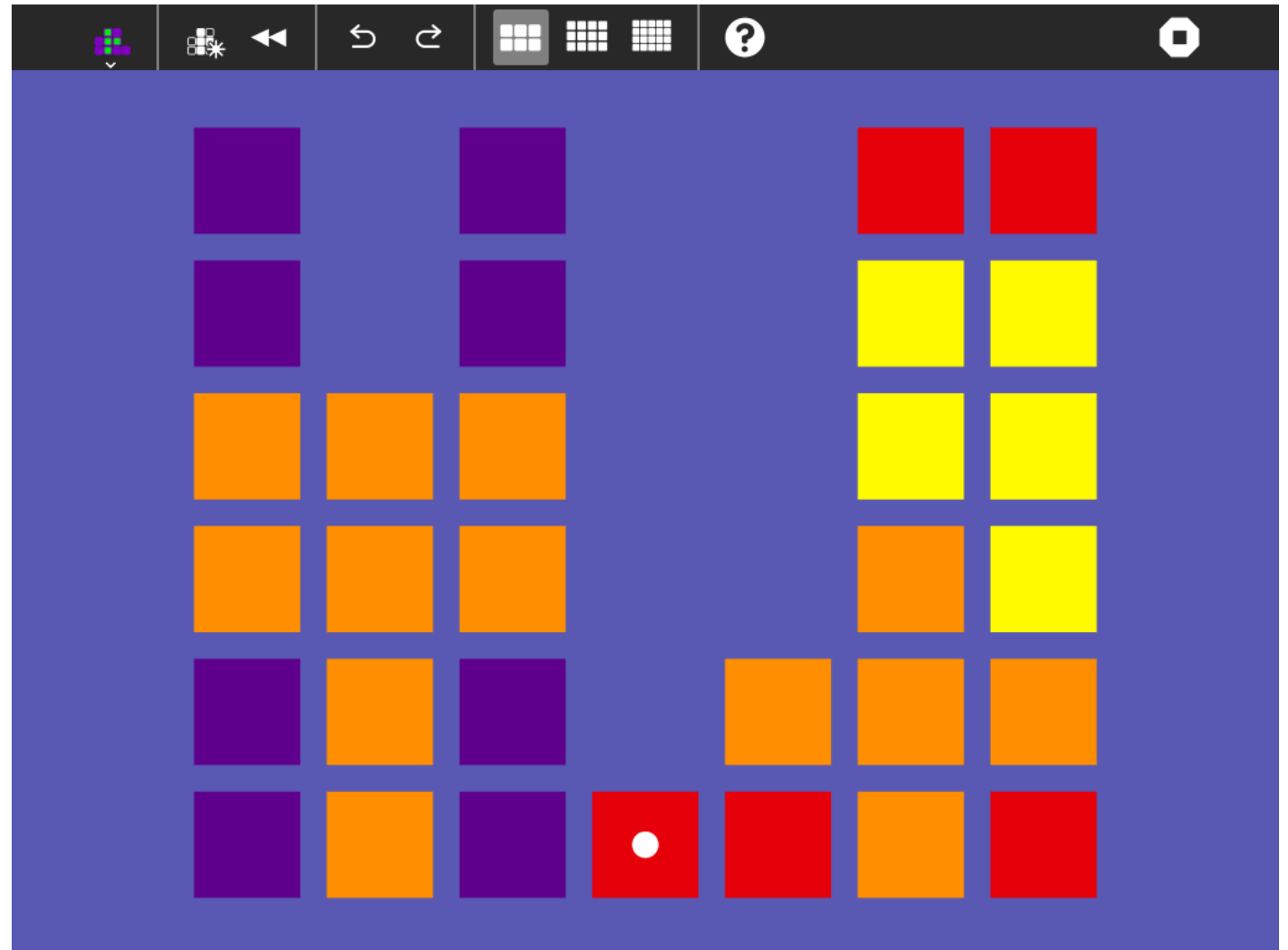
Maze

Put your problem solving skills to test.

Measure

See sound in a completely new way.

Sound   Time Base
X Axis Scale: 1 division = 0.5 ms

flathub.org/apps/details/org.sugarlabs.Measure

Memorize

Put your memory to test.
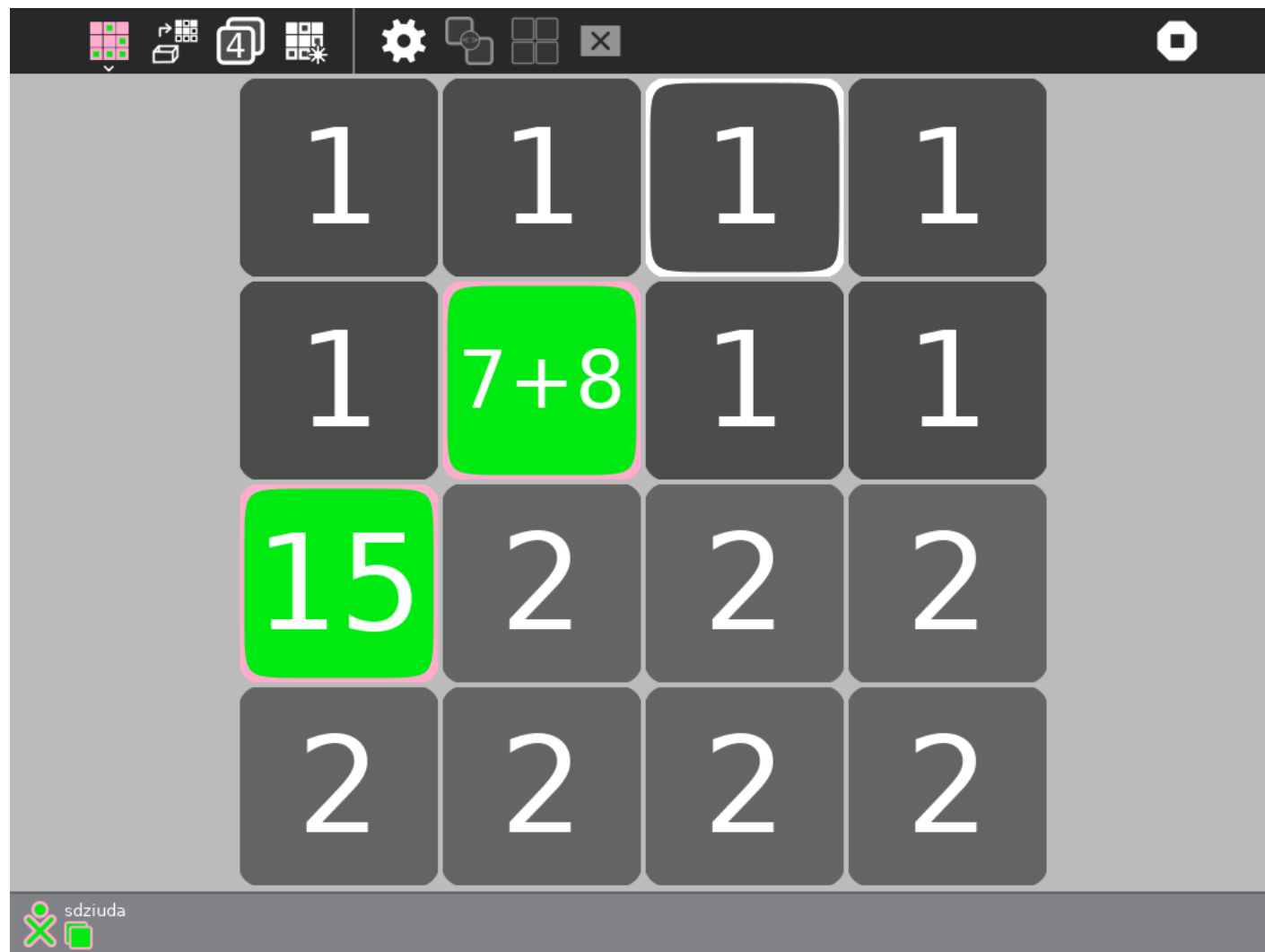
Physics

Build the craziest structures or enjoy watching them fall.
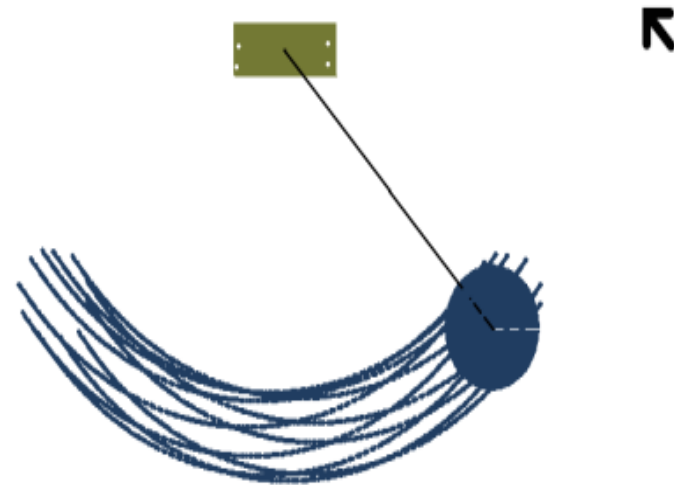
Pippy

Talk to your computer using Python.

```python
import gi
gi.require_version('Gtk', '3.0')
from gi.repository import Gtk

class PyApp(Gtk.Window):

    def __init__(self):
        super(PyApp, self).__init__()

        self.set_title('Radio buttons')
        self.set_position(Gtk.WindowPosition.CENTER_ALWAYS)
        self.set_size_request(250, 150)

        vbox = Gtk.VBox()

        button1 = Gtk.RadioButton(group=None, label='Button 1')
        button1.connect('toggled', self._activate_cb, 1)
        vbox.pack_start(button1, True, True, 2)

        button2 = Gtk.RadioButton(group=button1, label='Button 2')
        button2.connect('toggled', self._activate_cb, 2)
        vbox.pack_start(button2, True, True, 2)

        button3 = Gtk.RadioButton(group=button1, label='Button 3')
        button3.connect('toggled', self._activate_cb, 3)
        vbox.pack_start(button3, True, True, 2)

        self.add(vbox)
        self.show_all()

        self.connect('destroy', Gtk.main_quit)

    def _activate_cb(self, button, button_index):
```
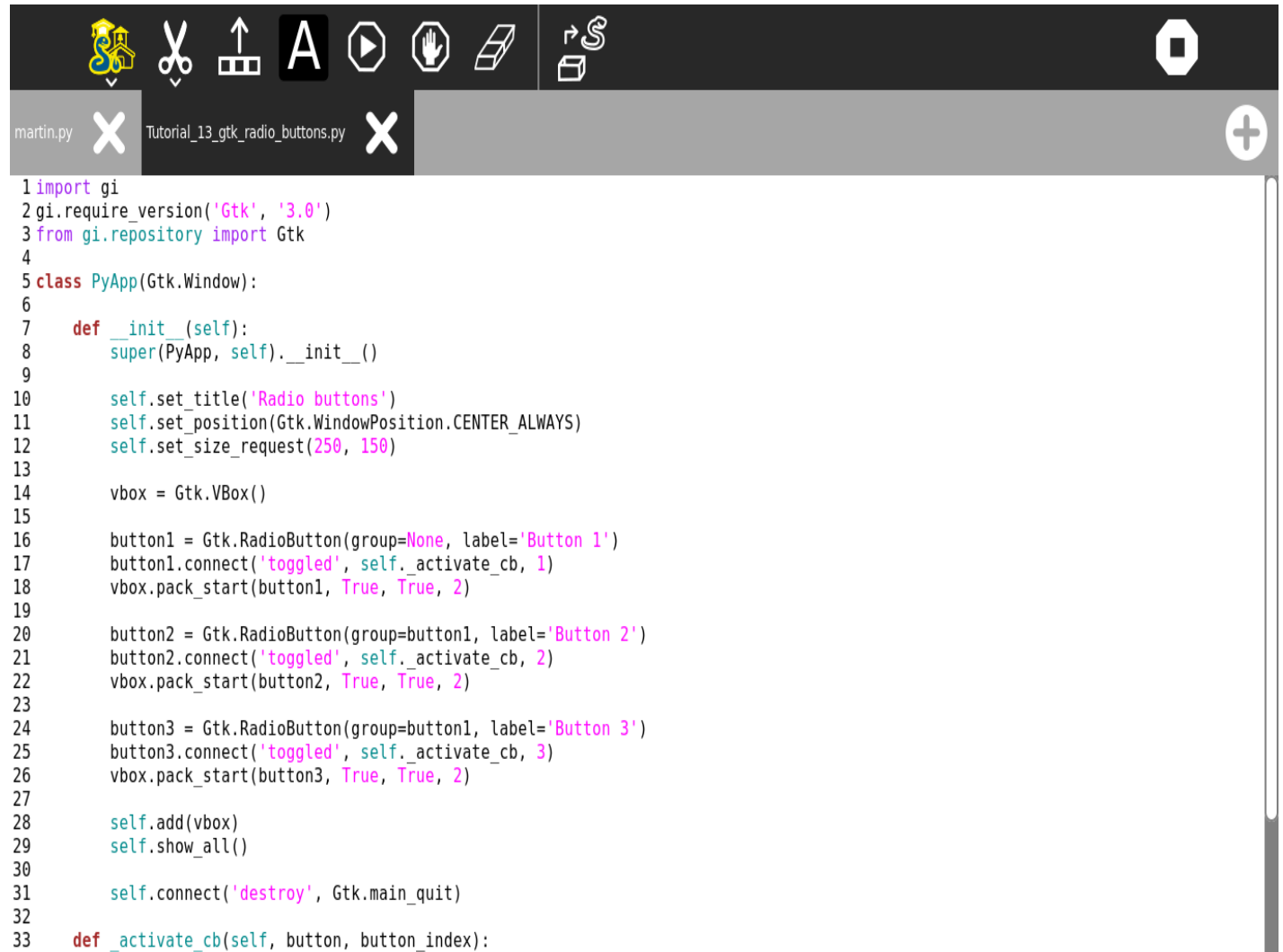
flathub.org/apps/details/org.sugarlabs.Pippy

ReadETexts

Have a robot read you thousands of books in your own language.

Sliderule

Learn arithmetic in a different way.
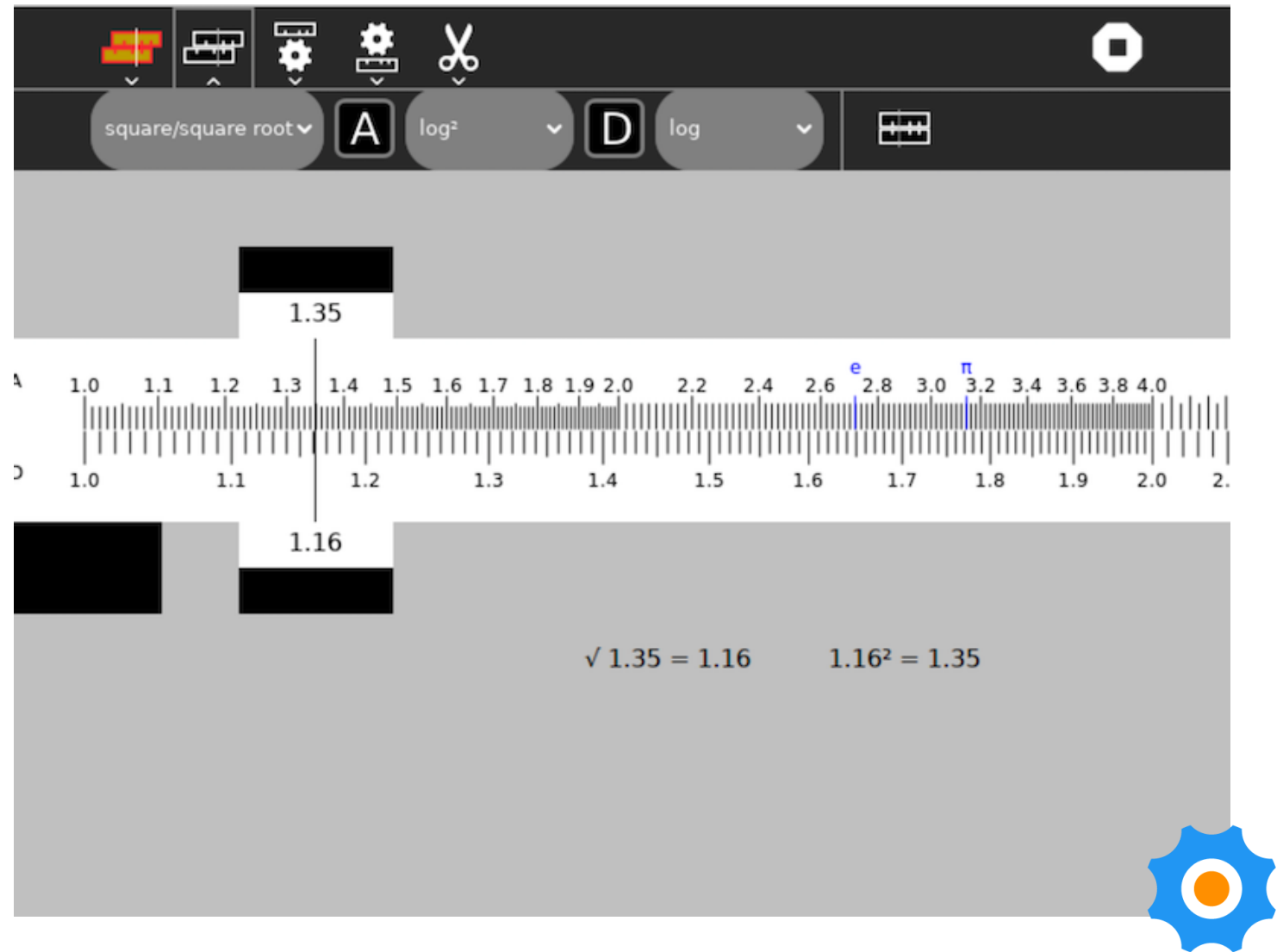
Speak

Chat with Alice, a robot with a particular sense of humor.
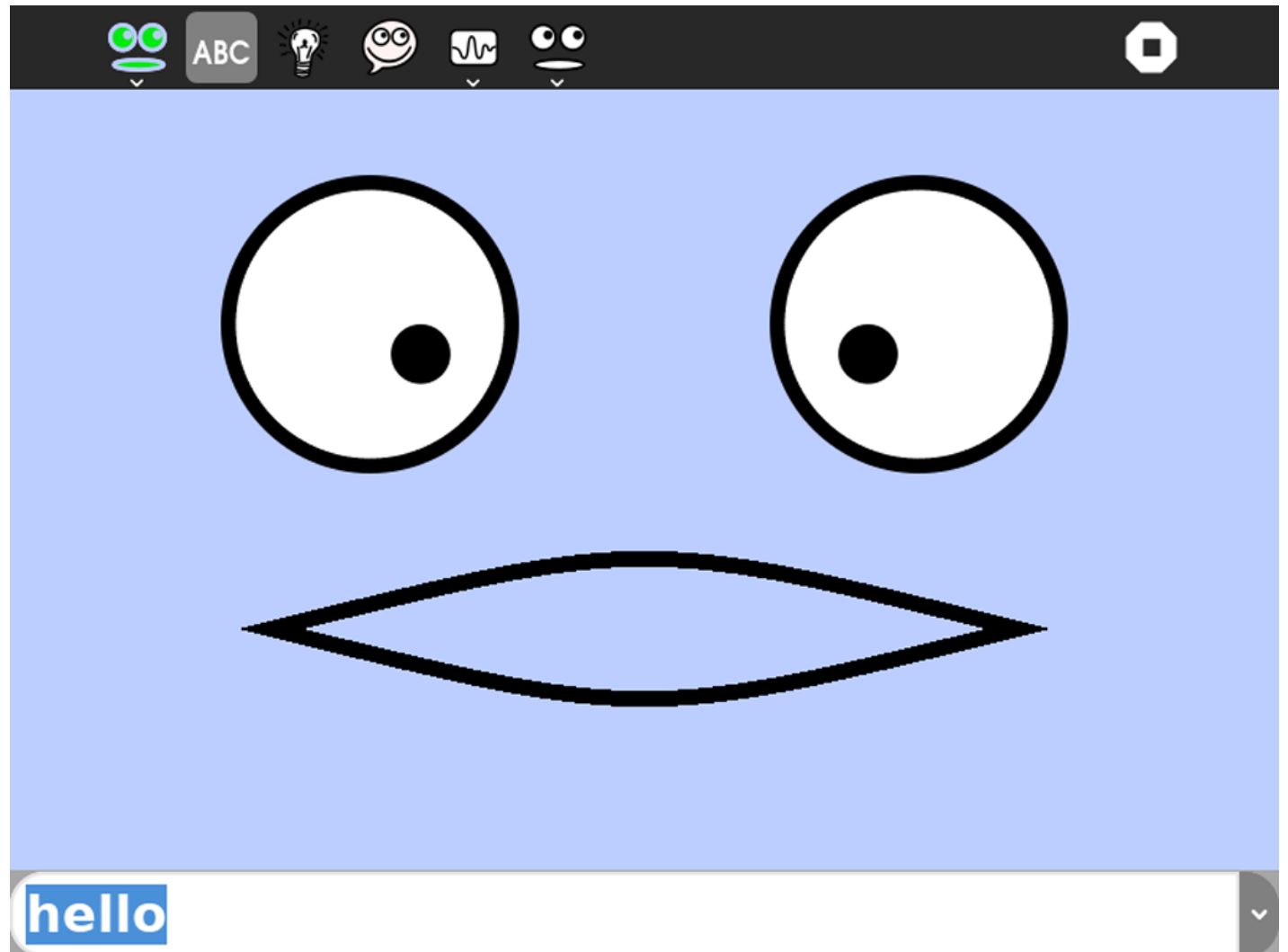
Story

Have fun writing the most silly stories.

Write your story here.

Turtle in a Pond

Teach this turtle to be smarter by writing code.

flathub.org/apps/details/org.sugarlabs.TurtlePondActivity
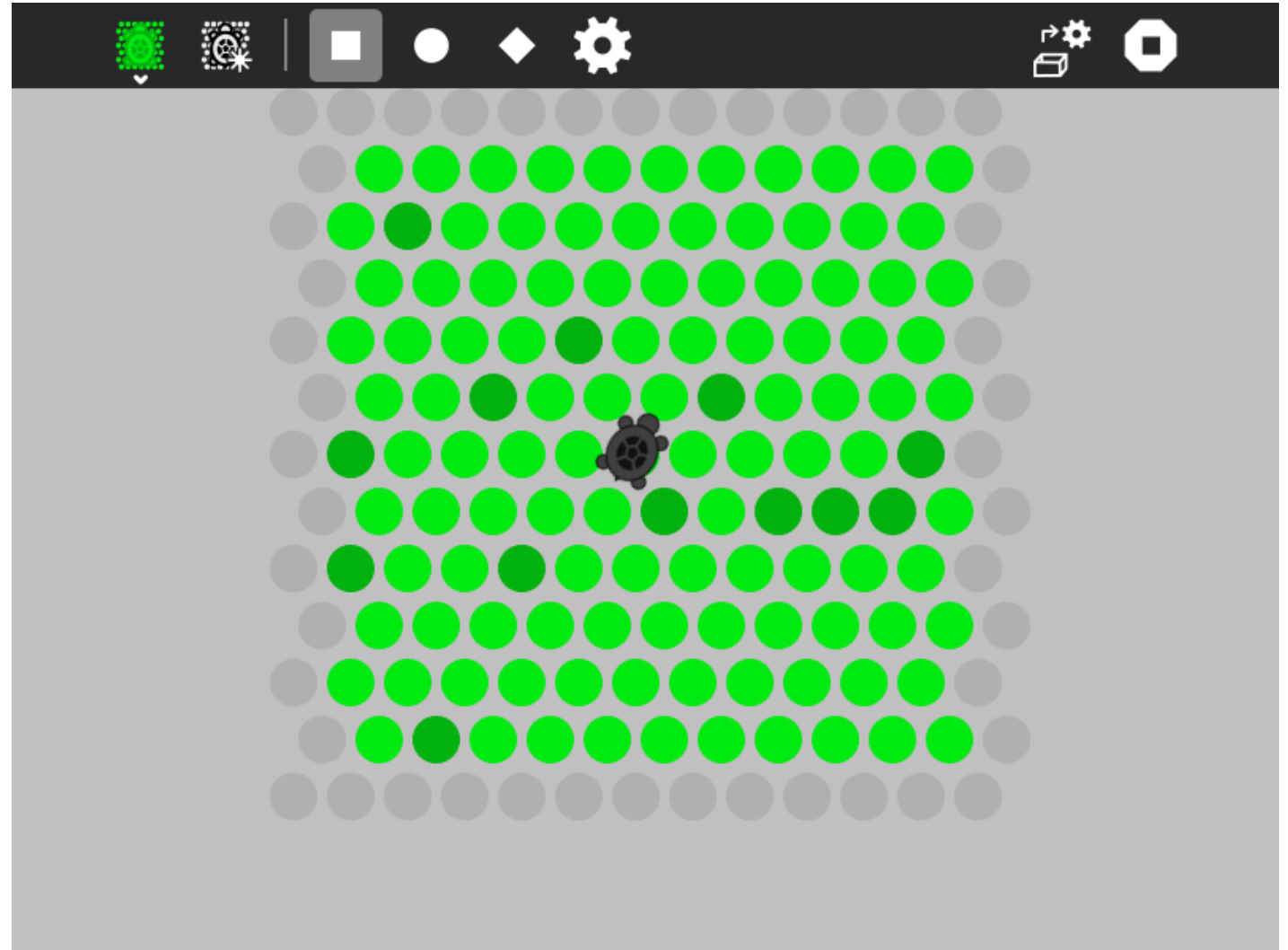
Word

Learn how to spell "learn"
in many languages.

Phase three

- Refinement.

- Updates.

```
54 lines (54 sloc)  1.88 KB                                    Raw  Blame

1   {
2       "app-id": "org.sugarlabs.Maze",
3       "base": "org.sugarlabs.BaseApp",
4       "base-version": "20.04",
5       "runtime": "org.gnome.Platform",
6       "runtime-version": "3.36",
7       "sdk": "org.gnome.Sdk",
8       "separate-locales": false,
9       "command": "sugarapp",
10      "finish-args": [
11          "--socket=x11",
12          "--socket=pulseaudio",
13          "--share=ipc",
14          "--device=dri",
15          "--env=SUGAR_BUNDLE_ID=org.sugarlabs.Maze",
16          "--env=SUGAR_BUNDLE_PATH=/app/share/sugar/activities/Maze.activity"
17      ],
18      "modules": [
19          {
20              "name": "maze",
21              "buildsystem": "simple",
22              "build-commands": [
23                  "python3 setup.py install --prefix=${FLATPAK_DEST} --skip-install-desktop-file --skip-install-mime"
24              ],
25              "sources": [
26                  {
27                      "type": "git",
28                      "url": "https://github.com/sugarlabs/maze-activity.git",
29                      "tag": "v30",
30                      "commit": "864b3e46b48d5ec308eeab2f593694fed8adeb5f"
31                  },
32                  {
33                      "type": "patch",
34                      "path": "maze-port.patch"
35                  },
36                  {
37                      "type": "patch",
38                      "path": "maze-monitors.patch"
39                  },
40                  {
41                      "type": "patch",
42                      "path": "maze-info.patch"
43                  }
44              ],
45              "post-install": [
46                  "sugarapp-gen-appdata activity/activity.info appdata",
47                  "sugarapp-gen-desktop activity/activity.info desktop",
48                  "install -D appdata /app/share/metainfo/org.sugarlabs.Maze.appdata.xml",
49                  "install -D desktop /app/share/applications/org.sugarlabs.Maze.desktop",
50                  "install -D activity/activity-maze.svg /app/share/icons/hicolor/scalable/apps/org.sugarlabs.Maze.svg"
51              ]
52          }
53      ]
54  }
```
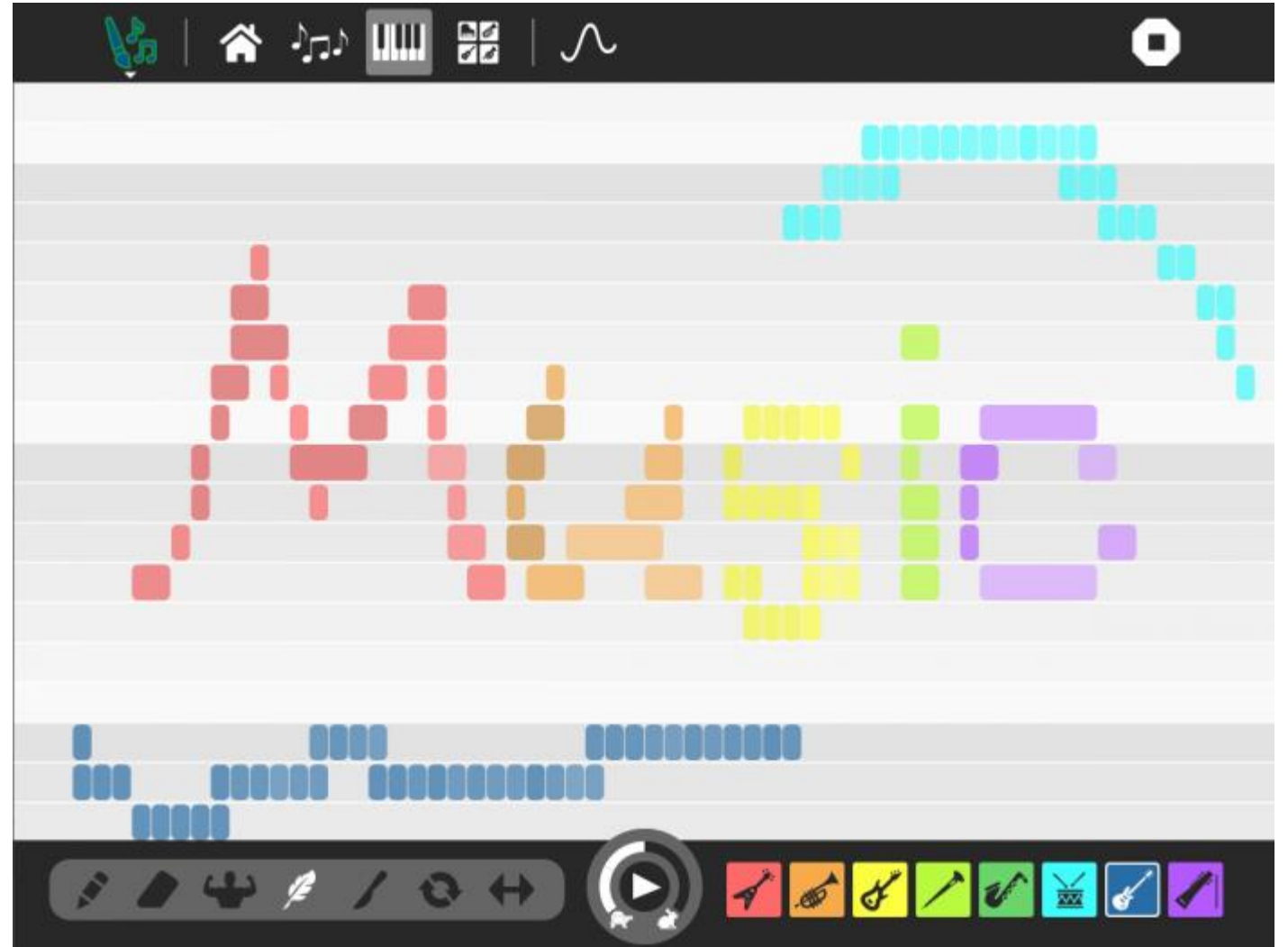
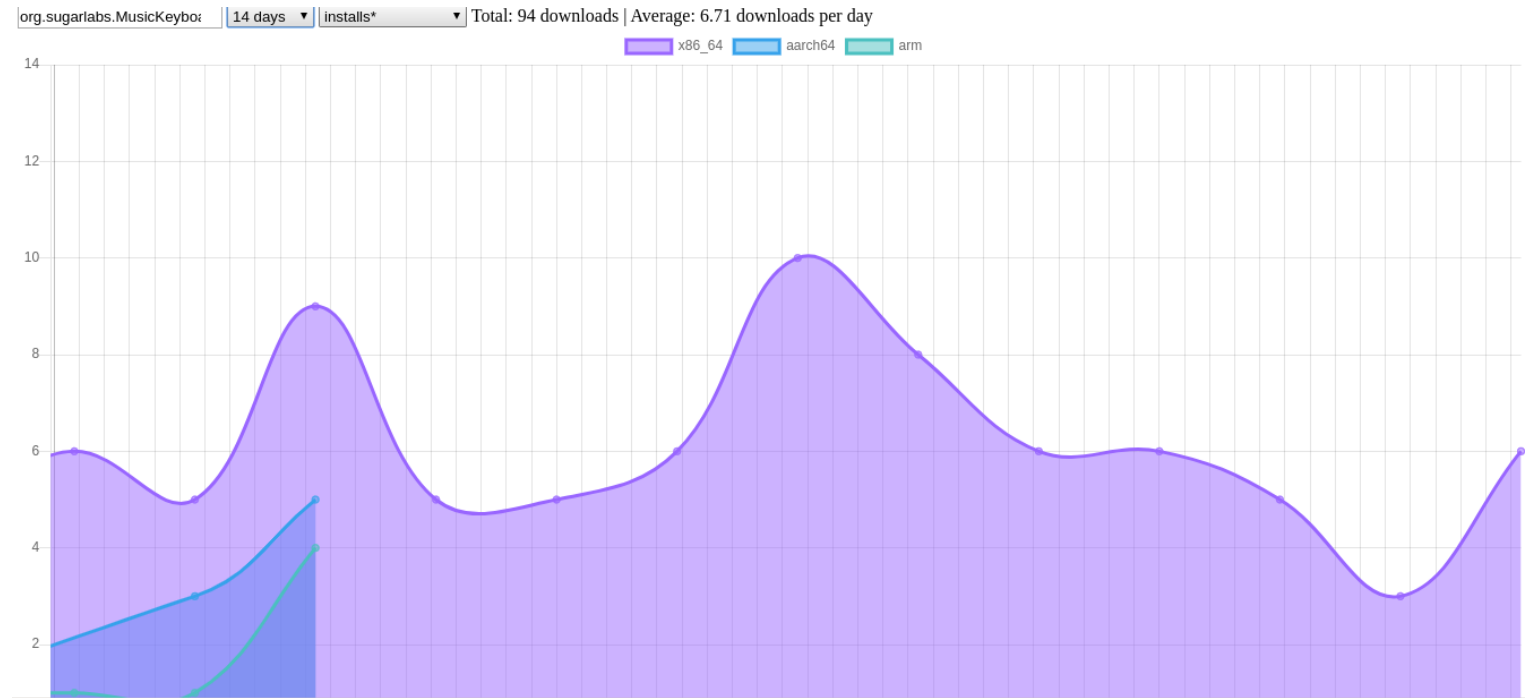# Moving forward

Next phase

- Update tutorial.

- Port more art applications.

activities.sugarlabs.org/en-US/sugar/addon/4730

Conclusions

- 20 new unique learning tools.

- So far, over 6k downloads.

- Valuable feedback.

- Sugar legacy preserved.

org.sugarlabs.MusicKeyboa | 14 days ▼ | installs* ▼ | Total: 94 downloads | Average: 6.71 downloads per day

x86_64   aarch64   arm

klausenbusk.github.io/flathub-stats

Thank you!
Questions?