

The GNOME™ Conference

GUADEC

July 22nd – 28th, 2020

Flooding the Desktop with Learning tools

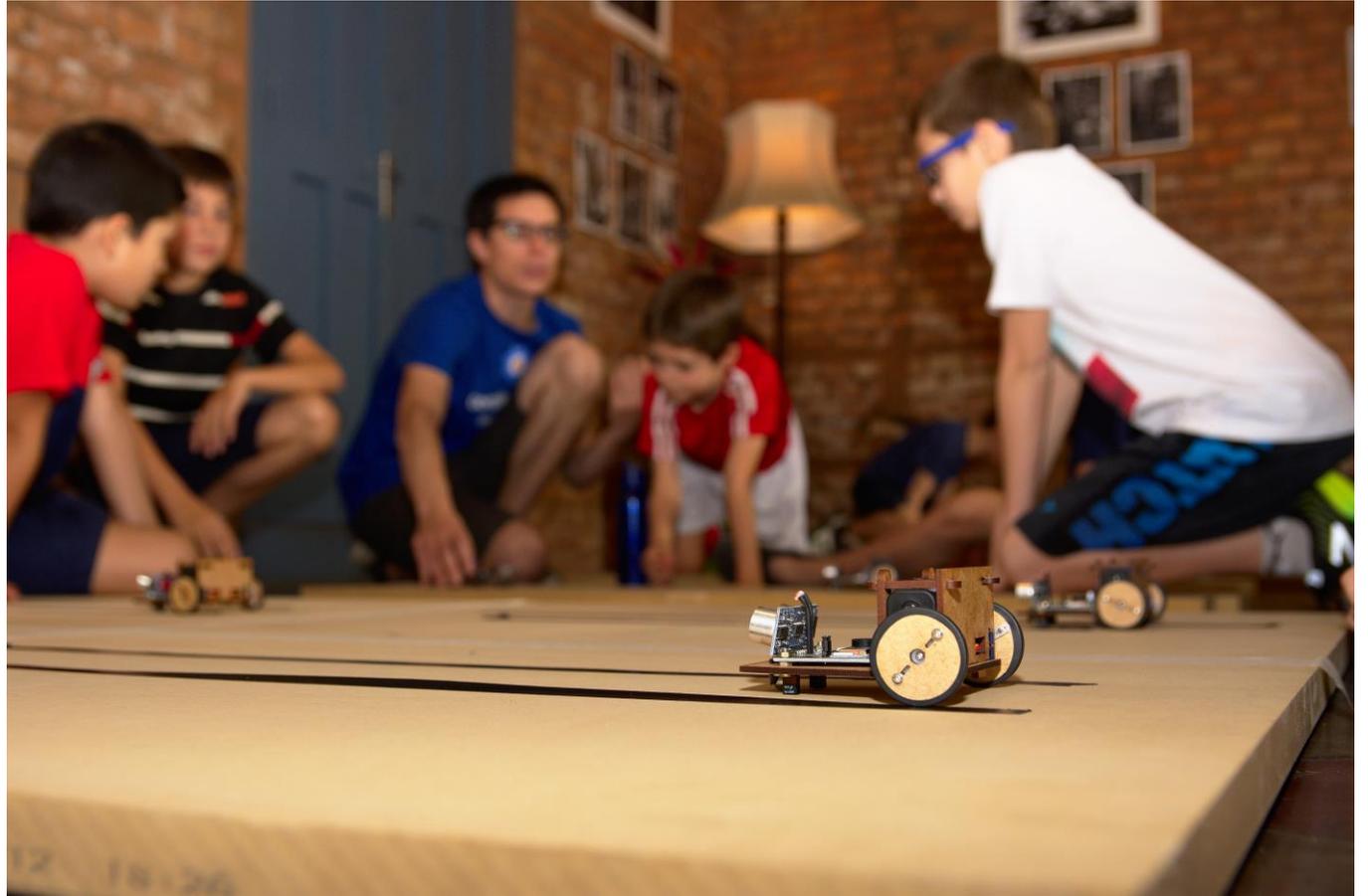
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How much value can we add
by connecting the dots?

Who am I?

- (fmr.) One Laptop Per Child.
- (fmr.) Sugar desktop.
- (fmr.) Endless.
- Member of Sugar Labs and the GNOME Foundation.

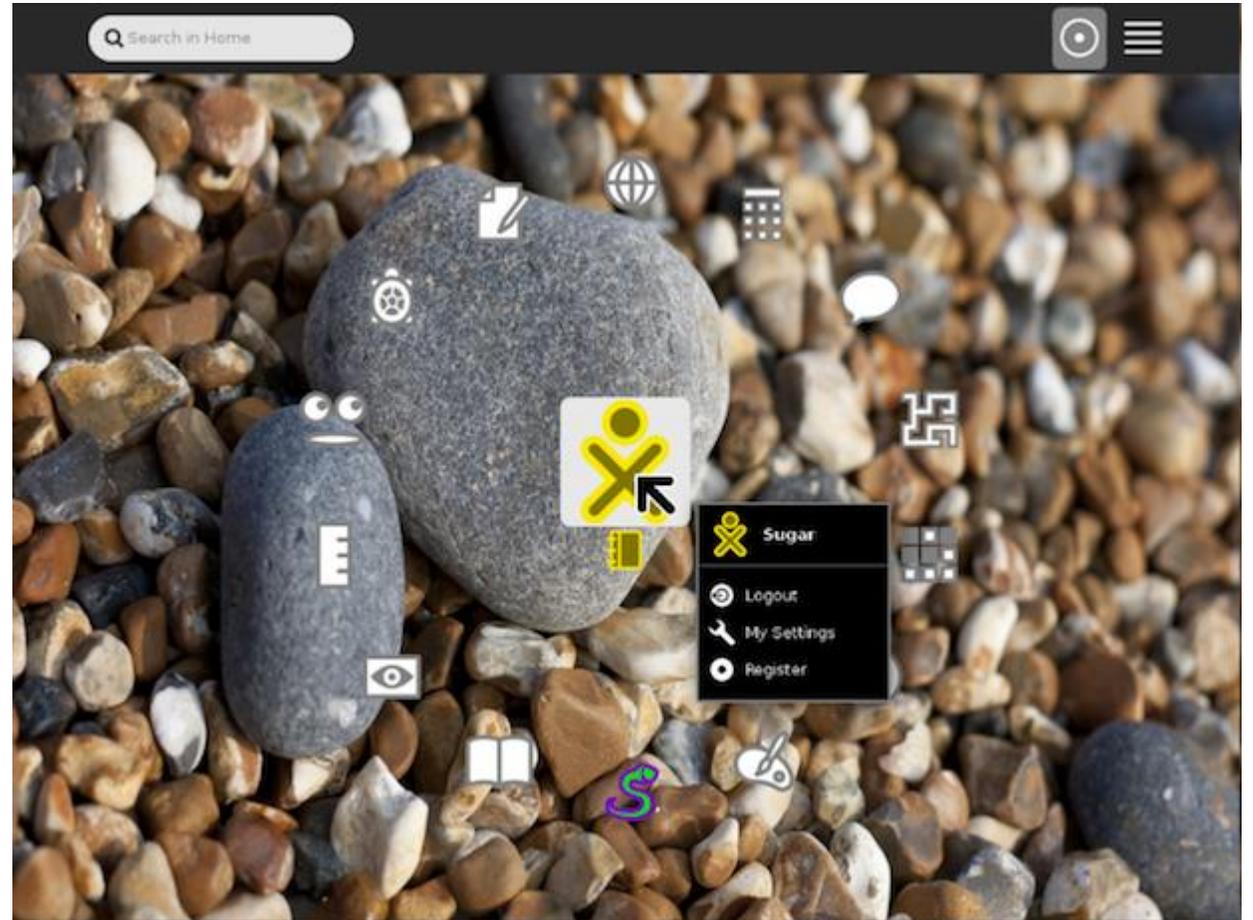


twitter.com/tchx84

The dots

What's Sugar?

- Desktop for Linux.
- Hundreds of learning tools.
- Different paradigms.
- Released on May 2006.



sugarlabs.org

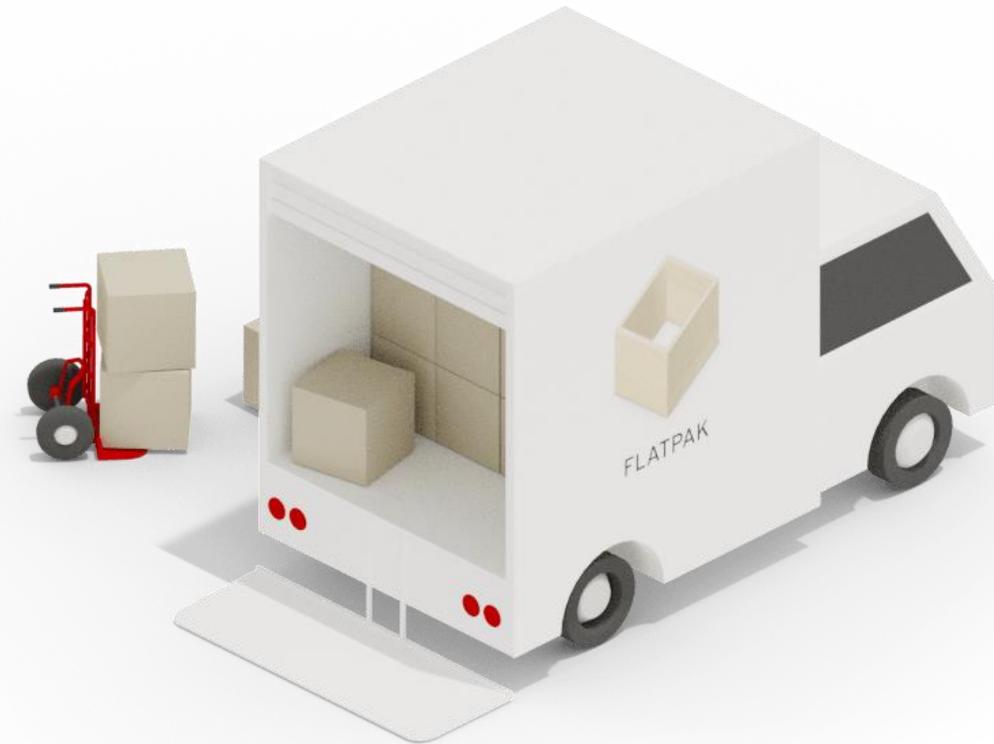
What's Flatpak?

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:

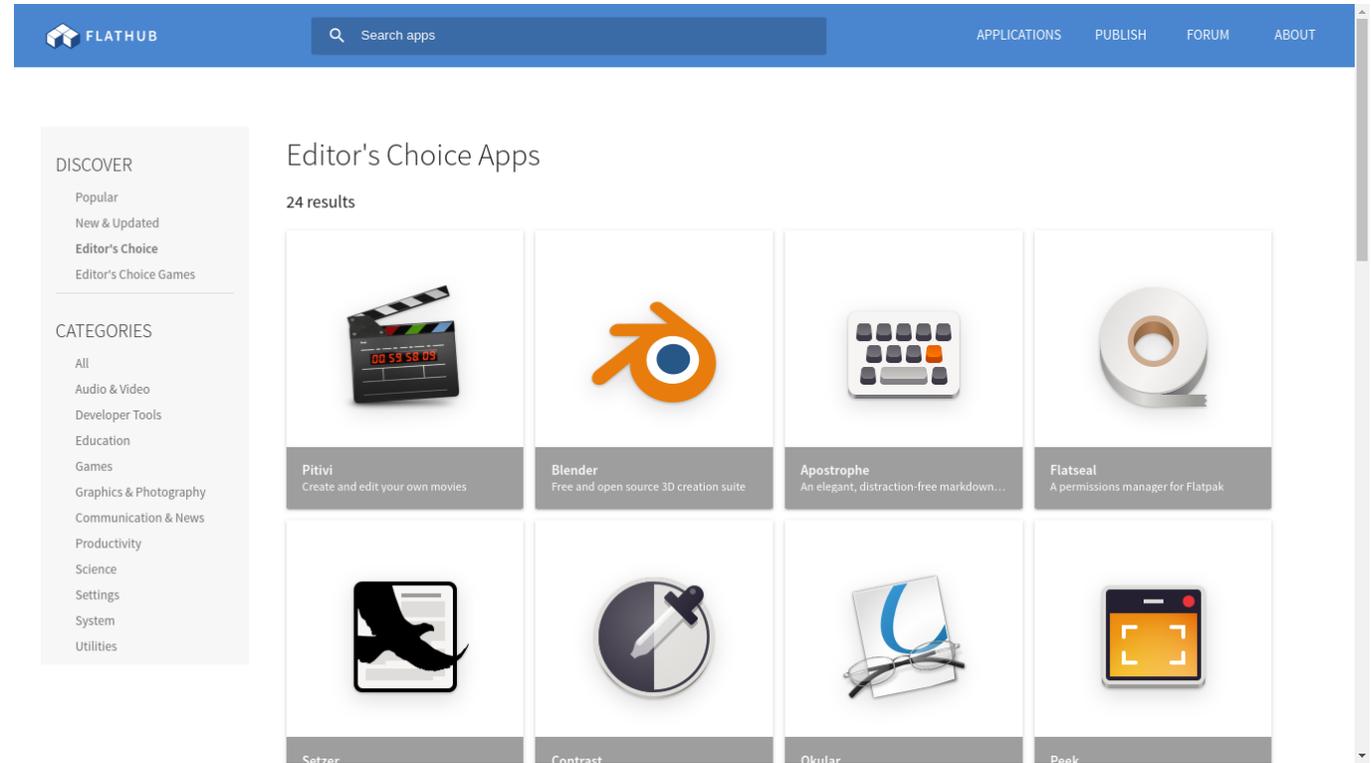
- A store for apps.

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

DISCOVER

- Popular
- New & Updated
- Editor's Choice
- Editor's Choice Games

CATEGORIES

- All
- Audio & Video
- Developer Tools
- Education
- Games
- Graphics & Photography
- Communication & News
- Productivity
- Science
- Settings
- System
- Utilities

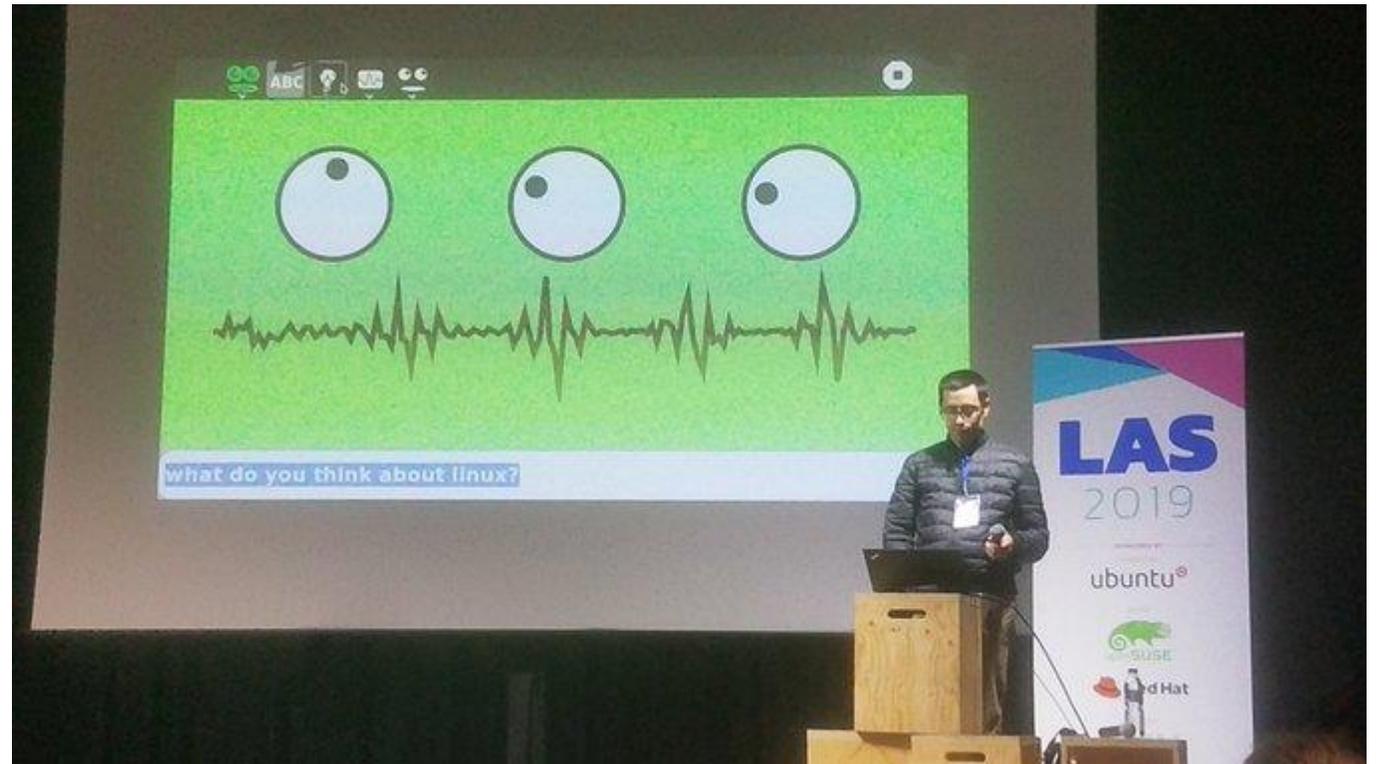
Search

20 results

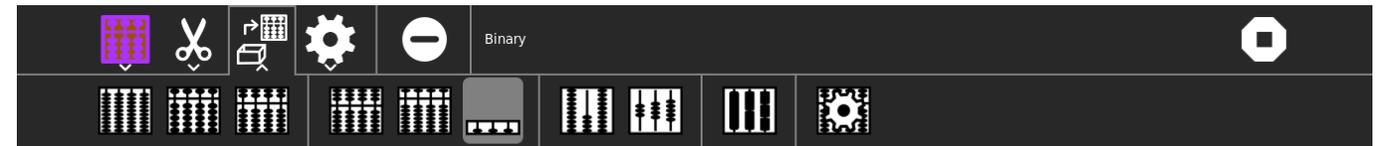
						
Abacus A tool for simple arithmetic c...	Chart Create your charts	ColorDeducto A game based on logical ind...	Dimensions A pattern-matching game	Finance Learn financial planning basics	FotoToon Create your own comic	FractionBounce A game about fractions
						
Implode Implode blocks of the same ...	Maze A simple maze game	Measure Oscilloscope program for vis...	Memorize Find matching pairs	Music Keyboard Play music with this piano ke...	Physics Prove Sir Isaac Newton correct	Pippy Talk to your computer in Pyt...
						
Read ETexts Read thousands of free e-bo...	Sliderule A mechanical calculator	Speak An animated face that speak...	Story Tell a story	Turtle in a Pond Surround the turtle before it ...	Words A multilingual offline diction...	

Phase one

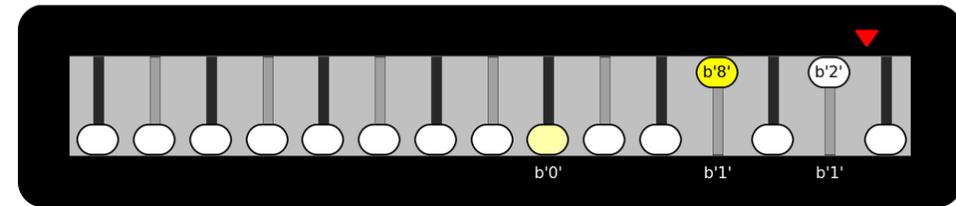
- Initial experiments.
- Linux Apps Summit.
- First results.



linuxappsummit.org



$$8 + 2 = 10$$

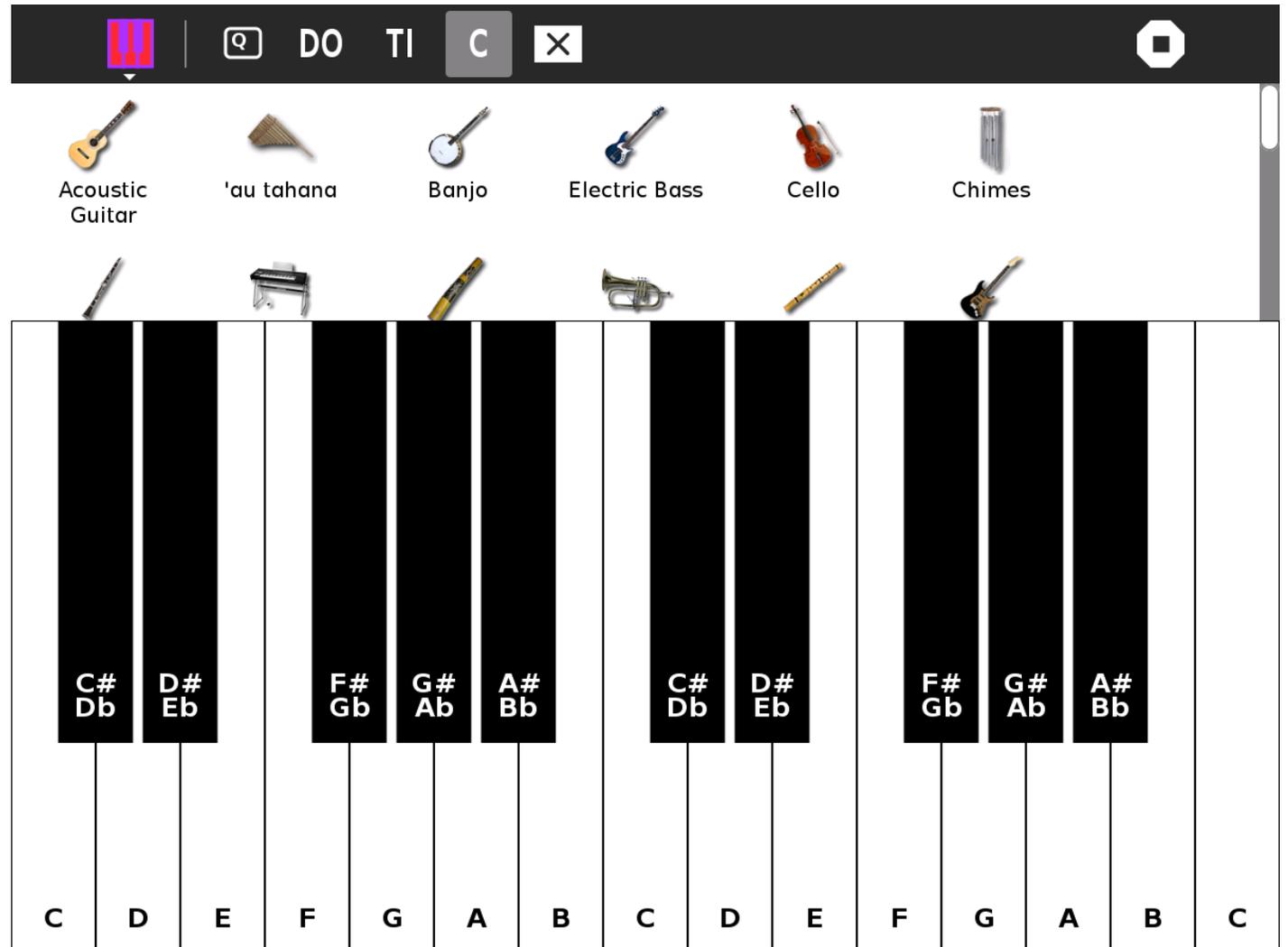


Abacus

Learn the basics of computation.

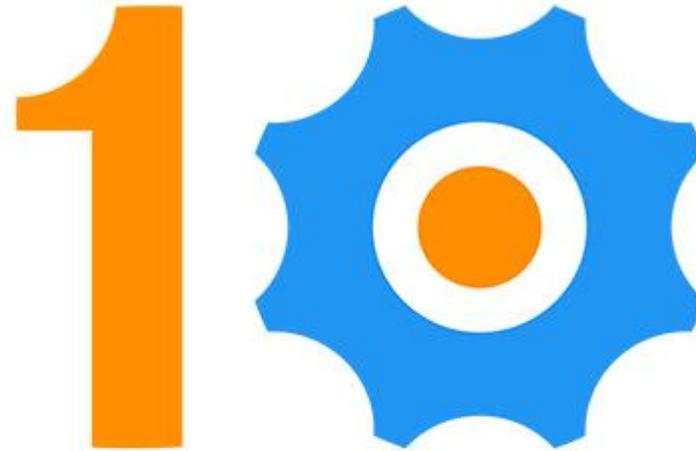
Music Keyboard

Play your next master piece.



Phase two

- Tutorials.
- Google Code-In.
- Upstream.

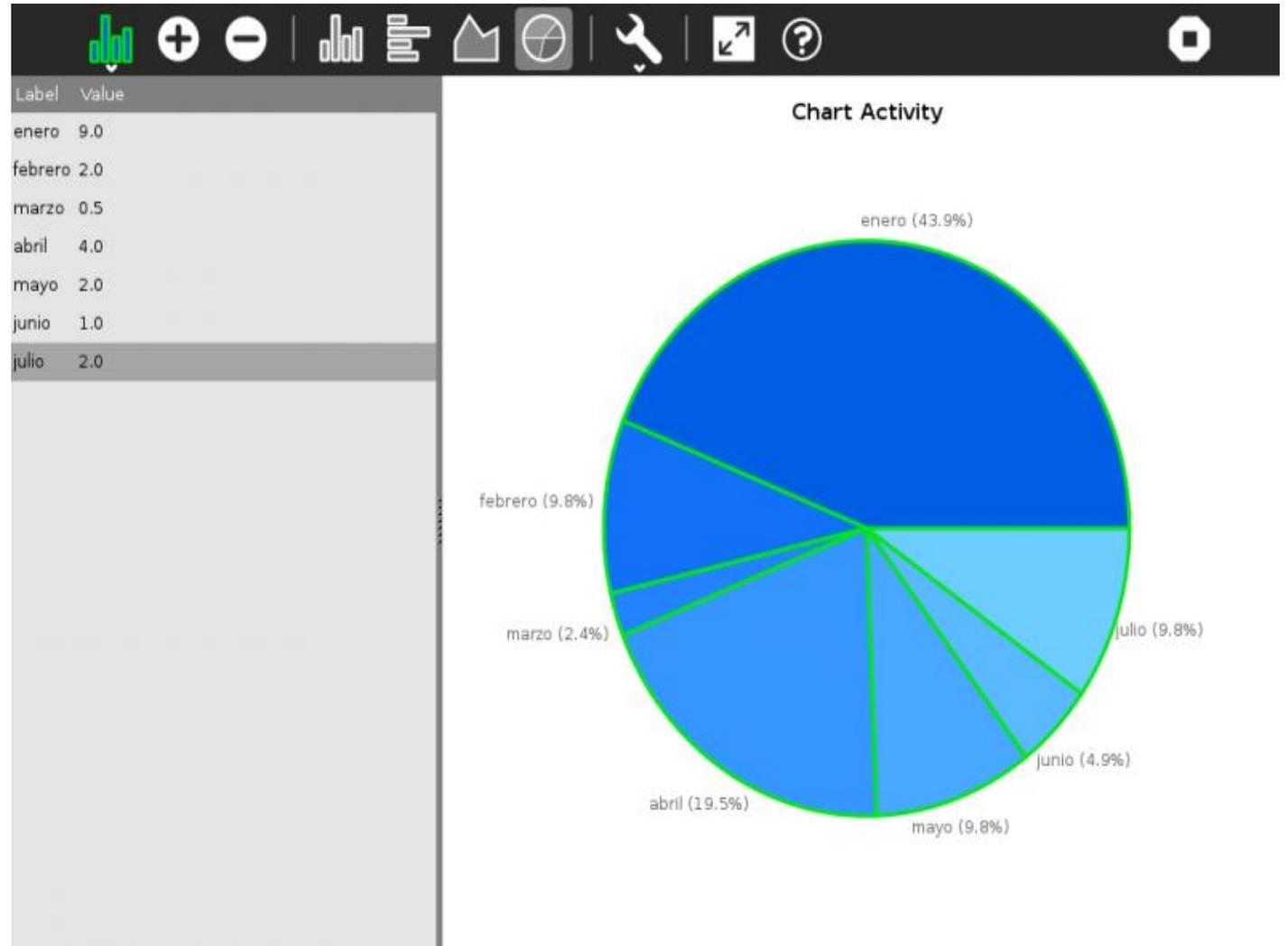


Google Code-in
Celebrating 10 years

sadly, the last edition...

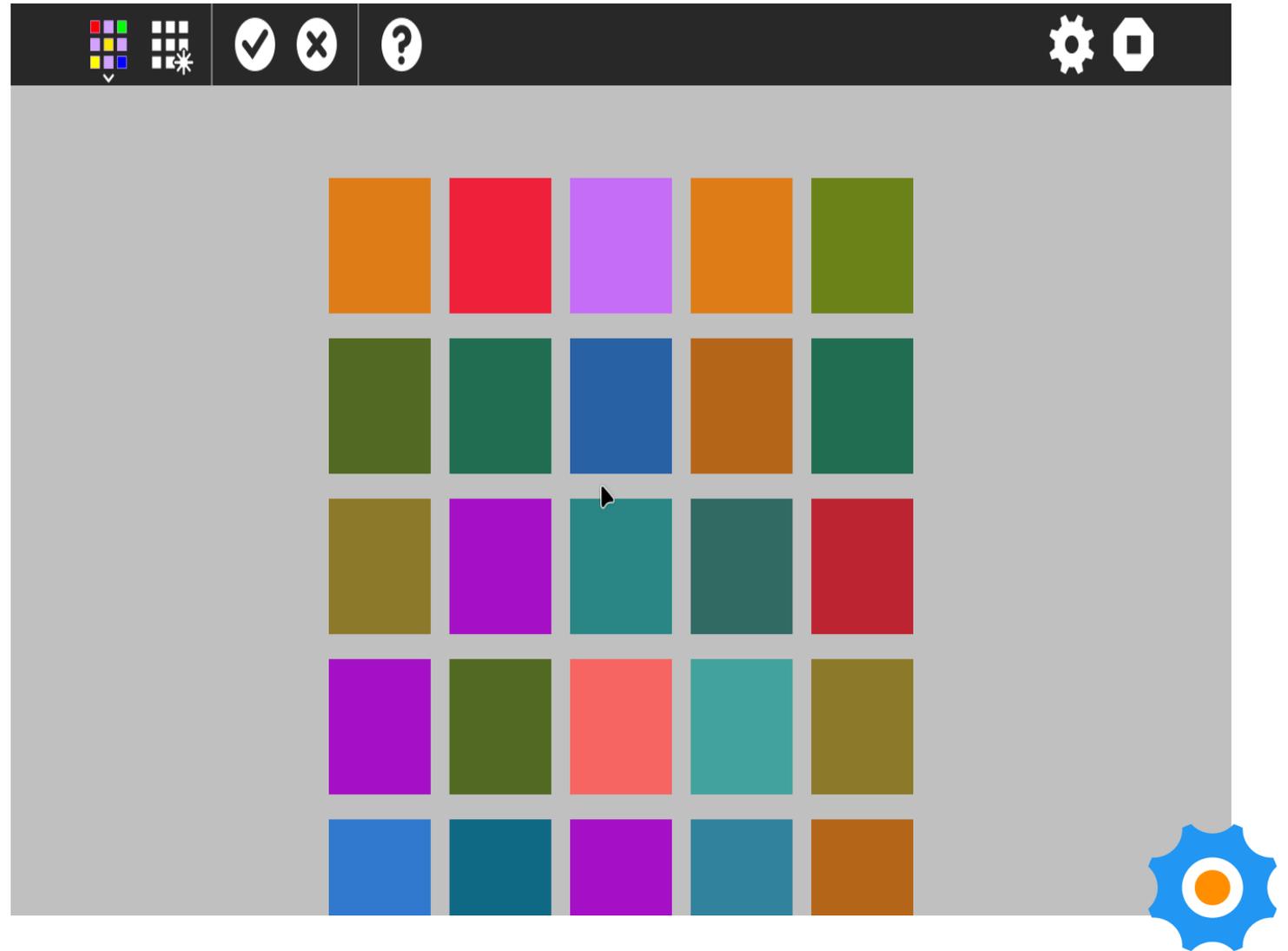
Chart

Make your first steps into data visualizations.



Color Deducto

Play and learn about
logic induction.



Dimensions

Put your pattern matching skills to test.

The screenshot shows the Dimensions game interface. At the top, there is a dark toolbar with icons for undo, redo, and a robot icon, along with level indicators for 2, 3, and 4. The main area displays a 4x3 grid of cards. The first row contains cards with the numbers 11 (red), 十四 (green), and 22 (blue). The second row contains cards with the number 十 (green), 22 (green), and 廿一 (green). The third row contains cards with dice patterns: a red card with 1, 2, 3 dots, a blue card with 4, 5, 6 dots, and a red card with 1, 2 dots. The fourth row contains cards with the numbers 15 (red), 十四 (blue), and 卅三 (green). To the left of the grid, the text "0 matches (1 robot)" is displayed. To the right, the number "13" is shown. At the bottom of the grid, there are three empty gray boxes.

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

Finance

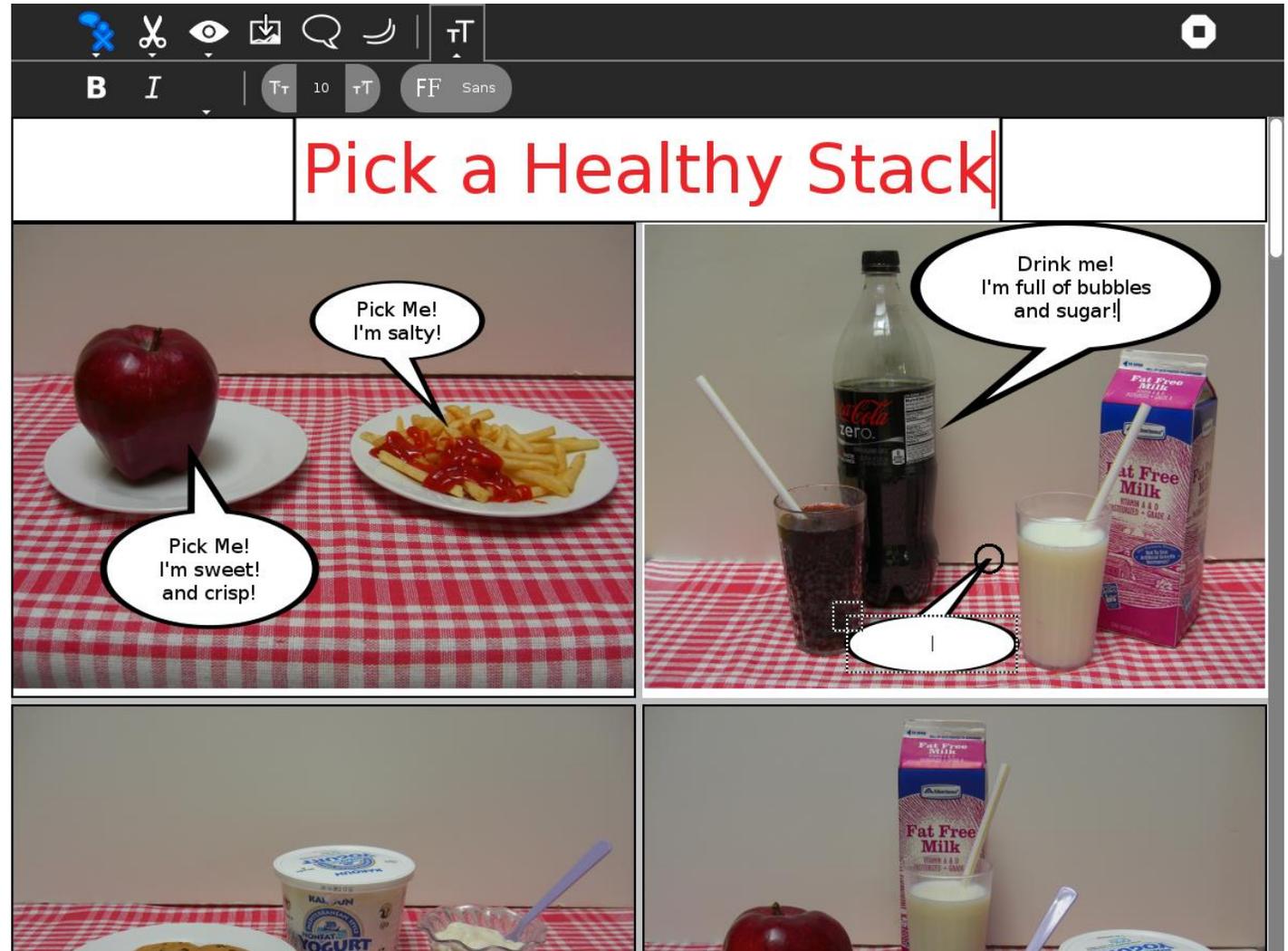
Learn by managing your home finances.

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

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

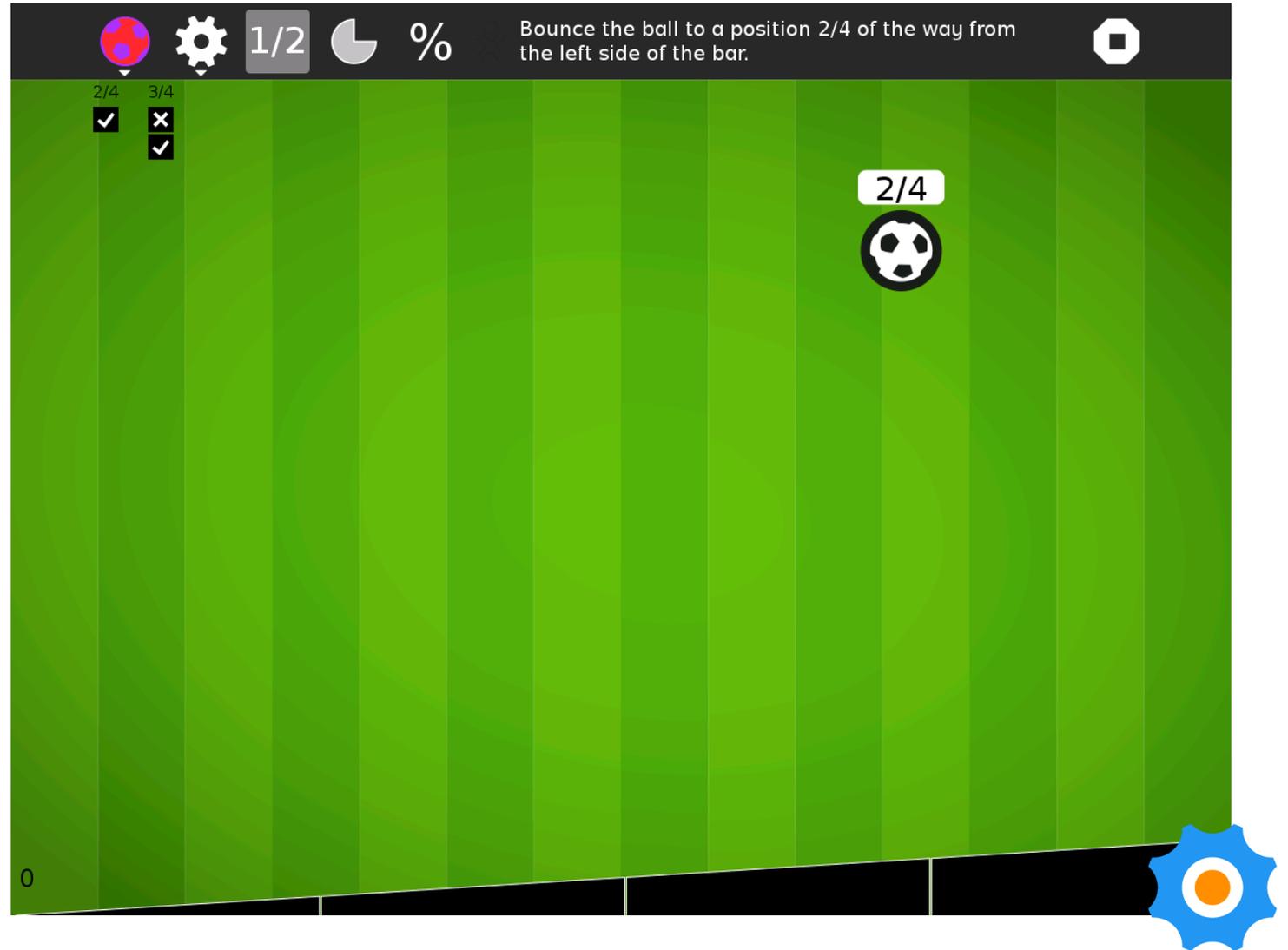
FotoToon

Create the next biggest meme.



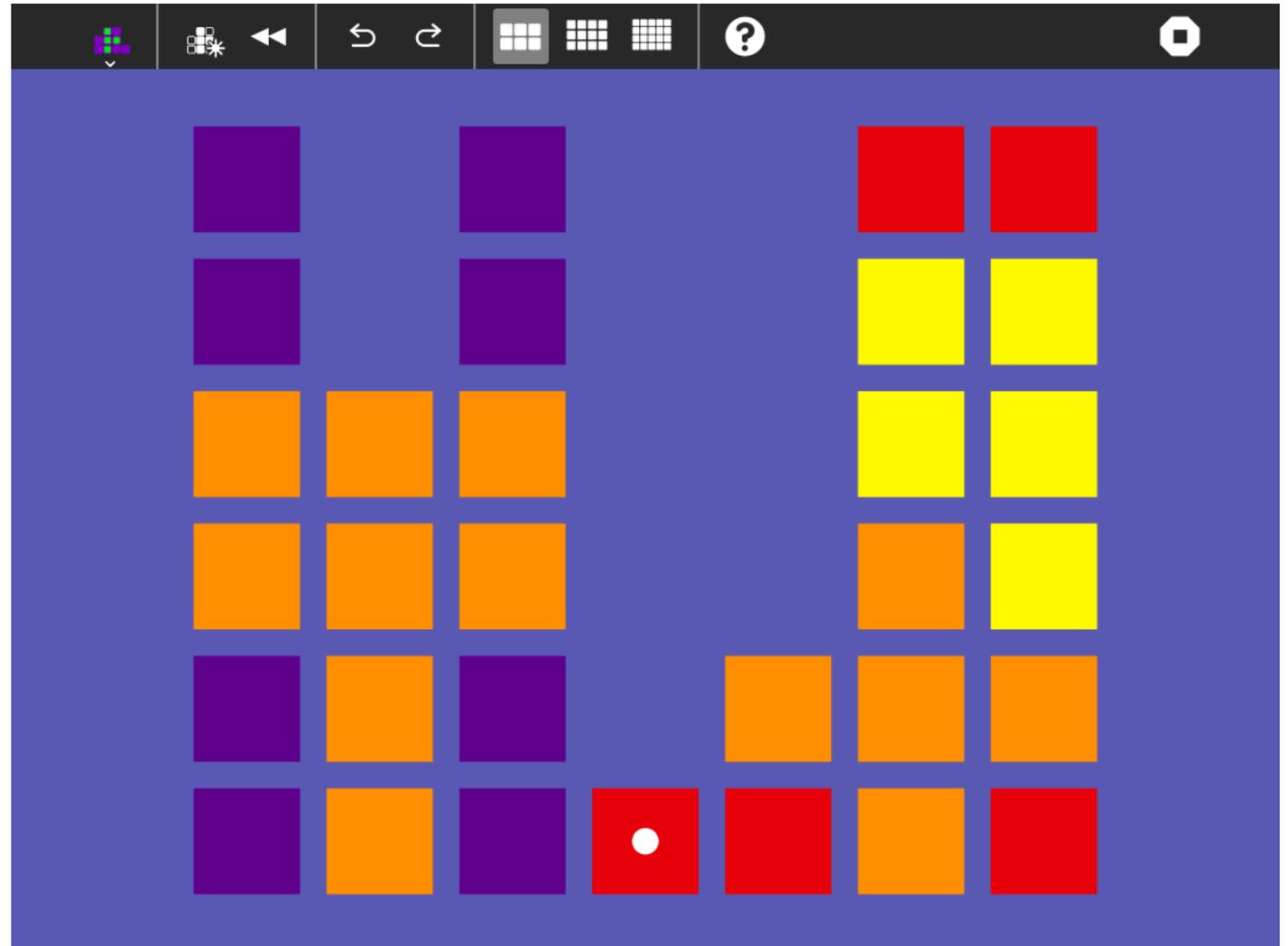
FractionBounce

Learn fractions while kicking a football.



Implode

Solve complex tetris-like puzzles.



Maze

Put your problem solving skills to test.



Measure

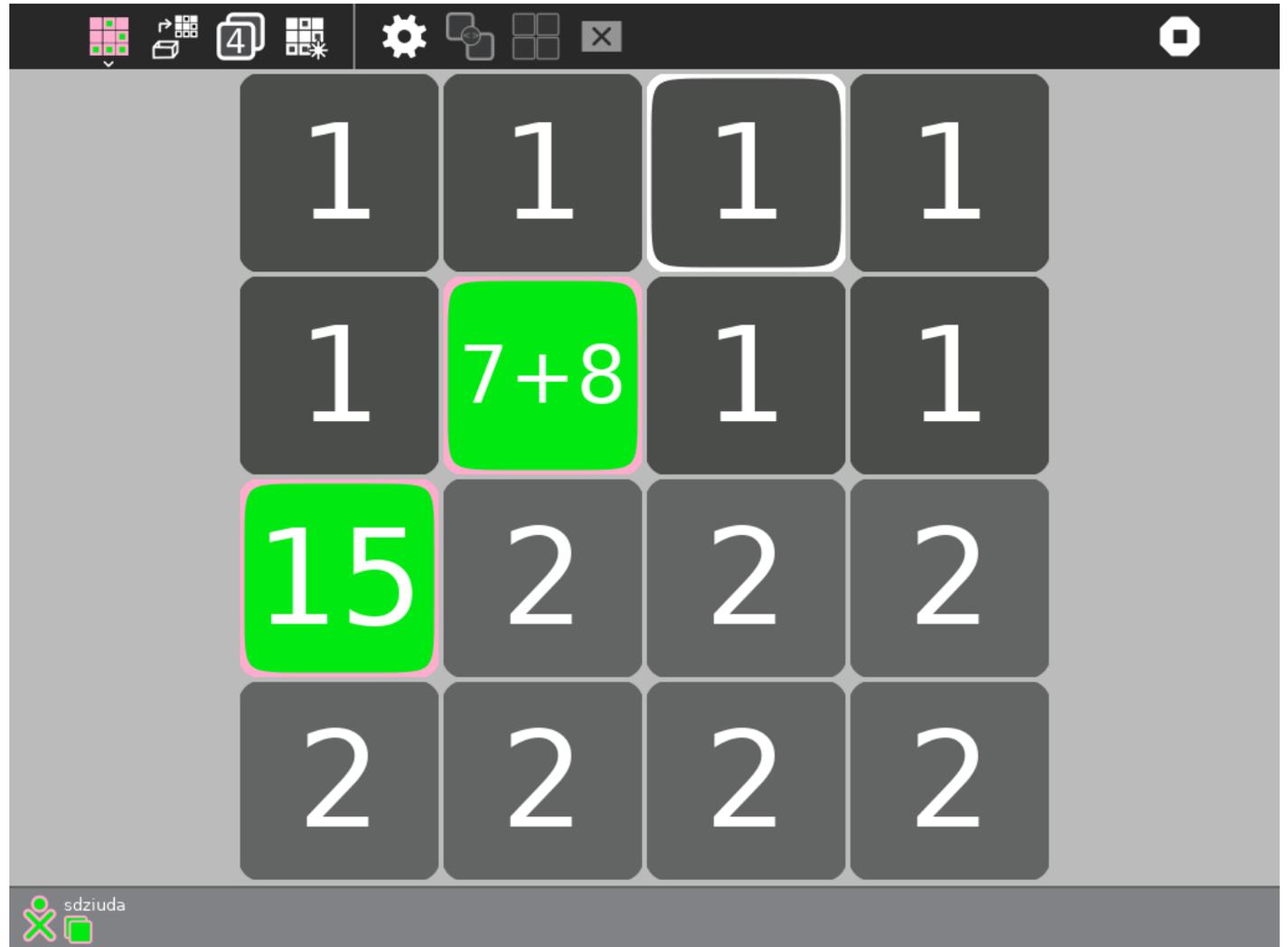
See sound in a completely new way.



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

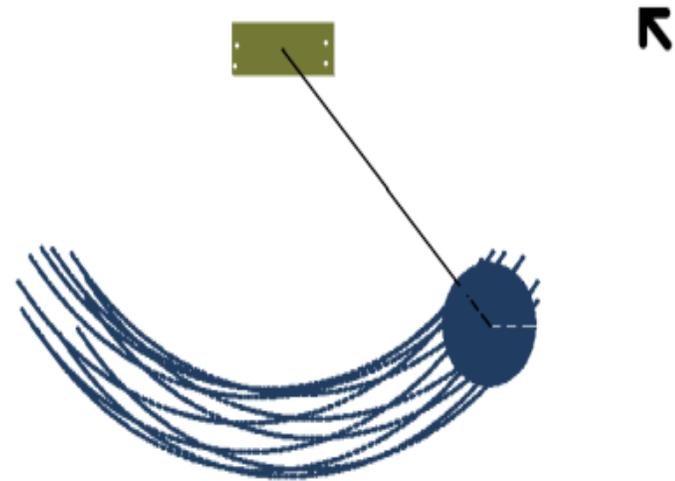
Memorize

Put your memory to test.



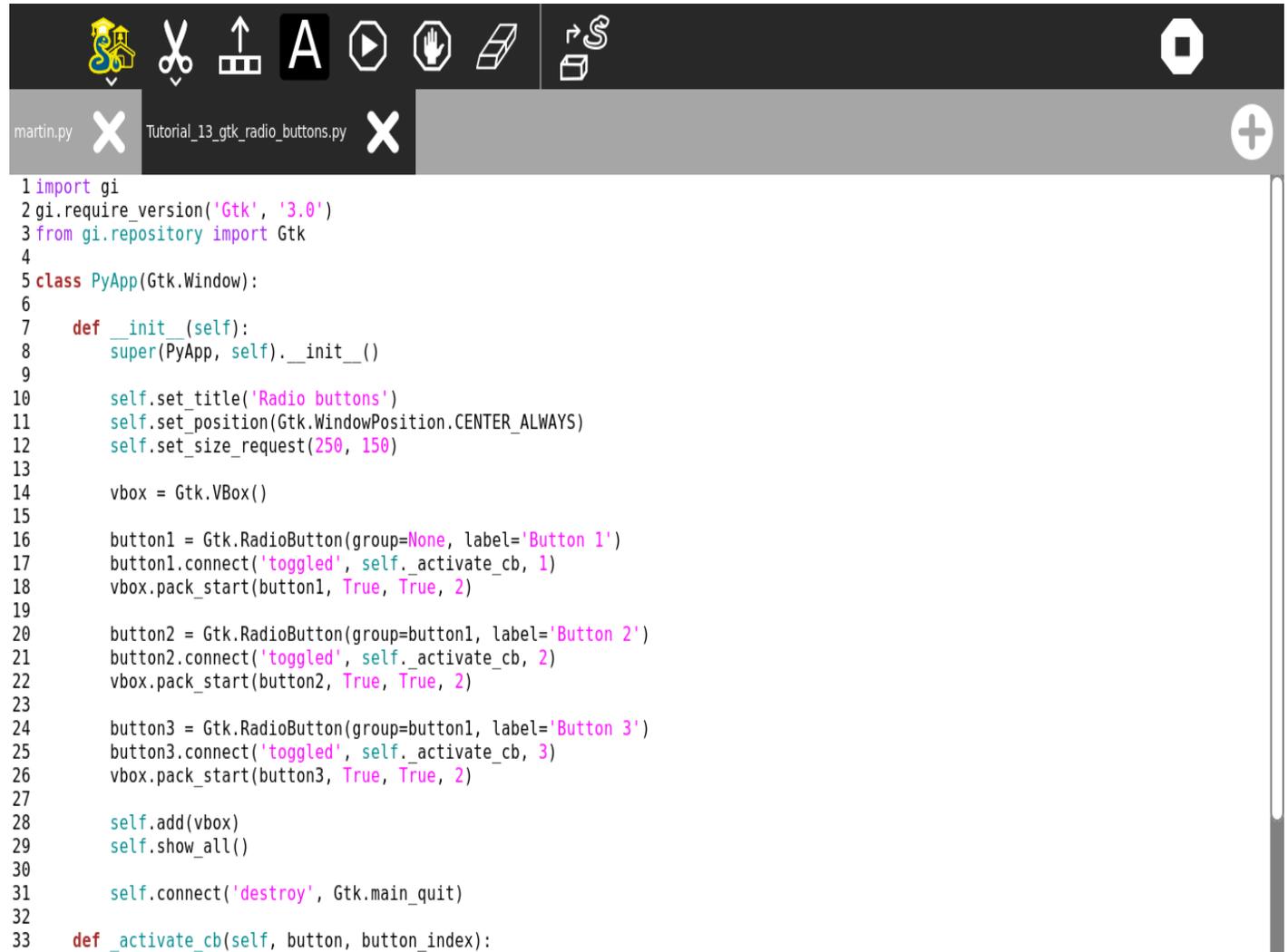
Physics

Build the craziest structures
or enjoy watching them fall.



Pippy

Talk to your computer
using Python.



```
1 import gi
2 gi.require_version('Gtk', '3.0')
3 from gi.repository import Gtk
4
5 class PyApp(Gtk.Window):
6
7     def __init__(self):
8         super(PyApp, self).__init__()
9
10        self.set_title('Radio buttons')
11        self.set_position(Gtk.WindowPosition.CENTER_ALWAYS)
12        self.set_size_request(250, 150)
13
14        vbox = Gtk.VBox()
15
16        button1 = Gtk.RadioButton(group=None, label='Button 1')
17        button1.connect('toggled', self._activate_cb, 1)
18        vbox.pack_start(button1, True, True, 2)
19
20        button2 = Gtk.RadioButton(group=button1, label='Button 2')
21        button2.connect('toggled', self._activate_cb, 2)
22        vbox.pack_start(button2, True, True, 2)
23
24        button3 = Gtk.RadioButton(group=button1, label='Button 3')
25        button3.connect('toggled', self._activate_cb, 3)
26        vbox.pack_start(button3, True, True, 2)
27
28        self.add(vbox)
29        self.show_all()
30
31        self.connect('destroy', Gtk.main_quit)
32
33    def _activate_cb(self, button, button_index):
```

ReadETexts

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

very much pleased.

Chyavana made offerings of Soma to the Asvini Kumâras. This offended Indra. He held up the Vajra to kill Chyavana, but the son of Bhrigu paralysed the hands of Indra. From that time the Devas consented to give a share in Soma to the Asvini Kumâras.

SARYÂTI.

```
graph TD
    SARYATI[SARYÂTI.] --- Sukanya[Sukanyâ  
m. Chyavana]
    SARYATI --- Uttanavarhi[Uttânavarhi]
    SARYATI --- Anarta[Ânarta]
    SARYATI --- DhuriSena[Dhûri Sena]
    Anarta --- Revata[Revata  
(He built a town called Kusasthali  
in the midst of the sea and from that  
town ruled Anarta and other lands.)]
    Revata --- Kakudmin[Kakudmin]
    Revata --- Sons[99 other Sons.]
    Kakudmin --- Revati[Revati]
```

Kakudmin took his daughter Revati with him and went to Brahmâ loka to



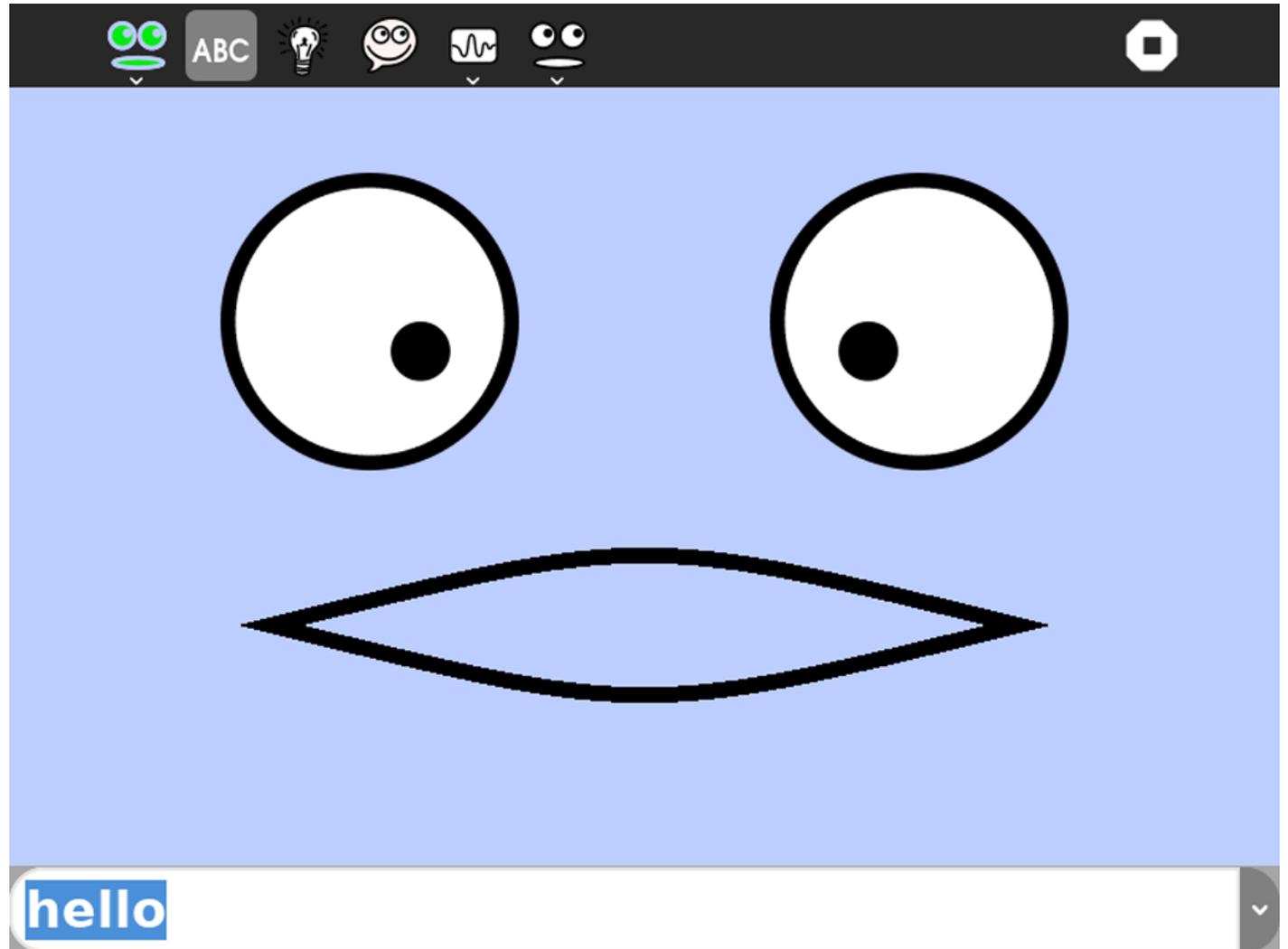
Sliderule

Learn arithmetic in a different way.

The screenshot displays the Sliderule application interface. At the top, there is a toolbar with icons for various functions: a red and yellow square, a calculator, a gear, a settings gear, and a scissors icon. Below the toolbar, there are buttons for 'square/square root', 'A', 'log²', 'D', and 'log'. The main display area shows a sliderule with two scales, A and B. The value 1.35 is set on scale A, and the corresponding value 1.16 is shown on scale B. Below the sliderule, the calculation is displayed as $\sqrt{1.35} = 1.16$ and $1.16^2 = 1.35$. A blue gear icon is located in the bottom right corner of the application window.

Speak

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





Story

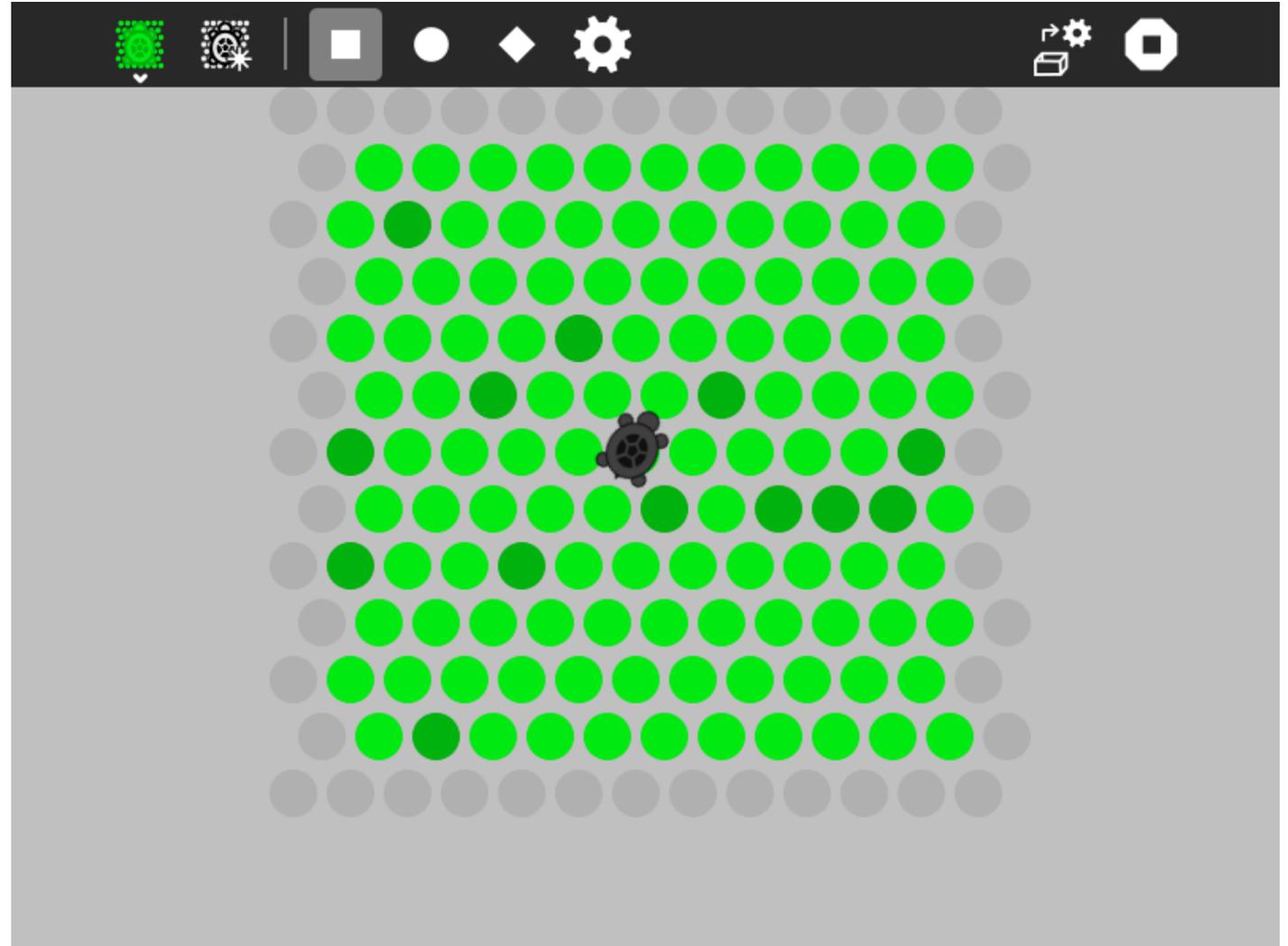
Have fun writing the most silly stories.

Write your story here.



Turtle in a Pond

Teach this turtle to be smarter by writing code.



Word

Learn how to spell "learn"
in many languages.

The screenshot shows the 'Words' app interface. At the top, there is a navigation bar with a logo on the left, language selection options 'From: English' and 'To: French' in the center, and a home icon on the right. Below the navigation bar, the app is divided into two main panels. The left panel, titled 'Word', contains a search input field with the text 'impenetrable' and a search icon on the left and a clear icon on the right. Below the input field, there is a 'Suggestions' section with a list containing the word 'impenetrable'. The right panel, titled 'Translation', shows the word 'impenetrable' followed by its phonetic transcription '[impenitrɔbl]' and its French translation 'imperméable'. Below the translation, there is a 'Dictionary' section with a detailed definition of 'impenetrable', including its pronunciation, etymology, and three numbered definitions: 1. incapable of being penetrated or pierced; not admitting the passage of other bodies; not to be entered; impervious; as, an impenetrable shield. highest woods impenetrable to star or sunlight. 2. (physics) having the property of preventing any other substance from occupying the same space at the same time. 3. inaccessible, as to knowledge, reason, sympathy, etc.; unimpressible; not to be moved by arguments or motives; as, an impenetrable mind, or heart. they will be credulous in all affairs of life, but impenetrable by a sermon of the gospel. taylor.

Phase three

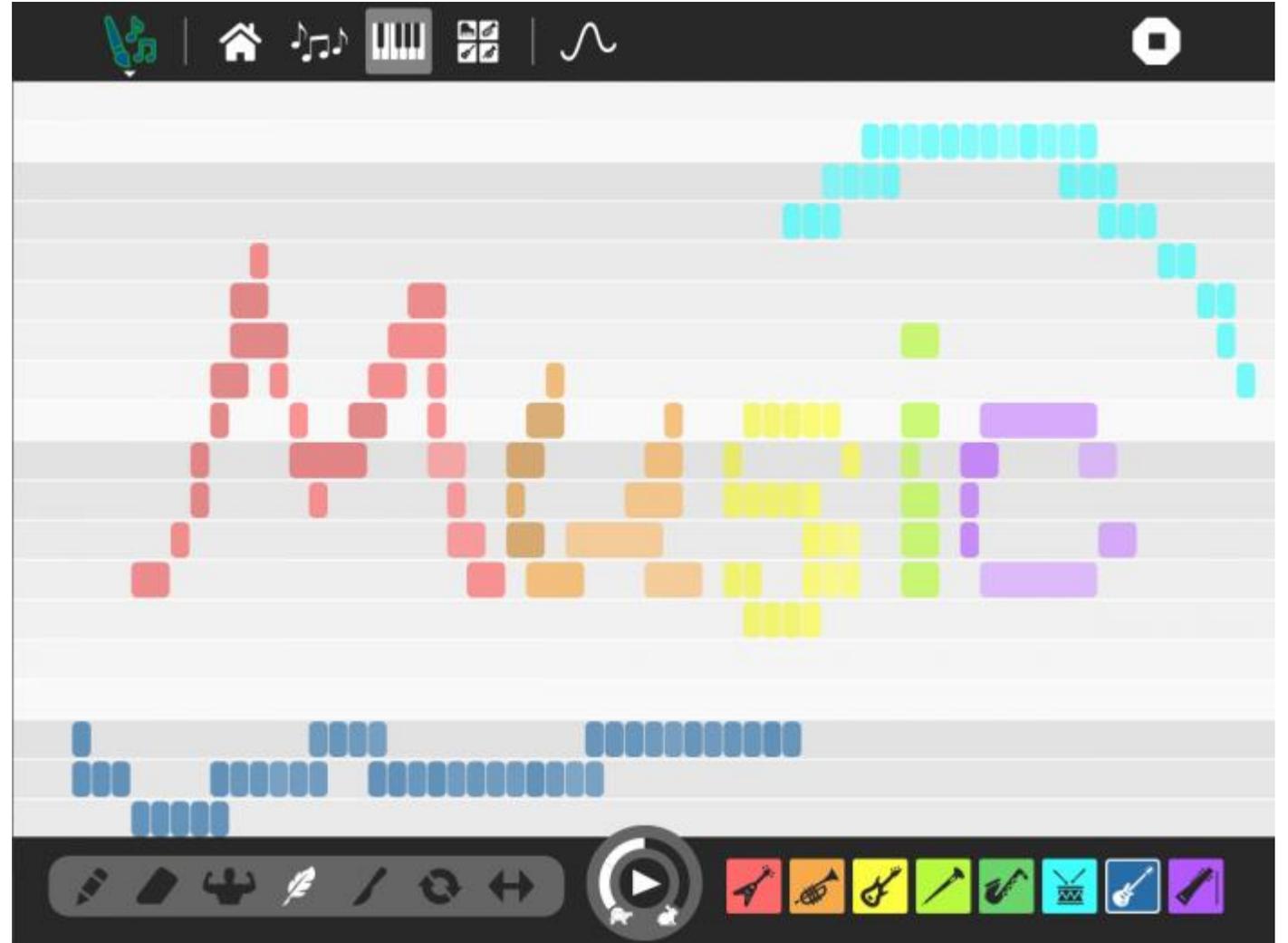
- Refinement.
- Updates.

```
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": "3.30",
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": "864b3e40b48d5ec308eeab2f593004fed8adeb5f"
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

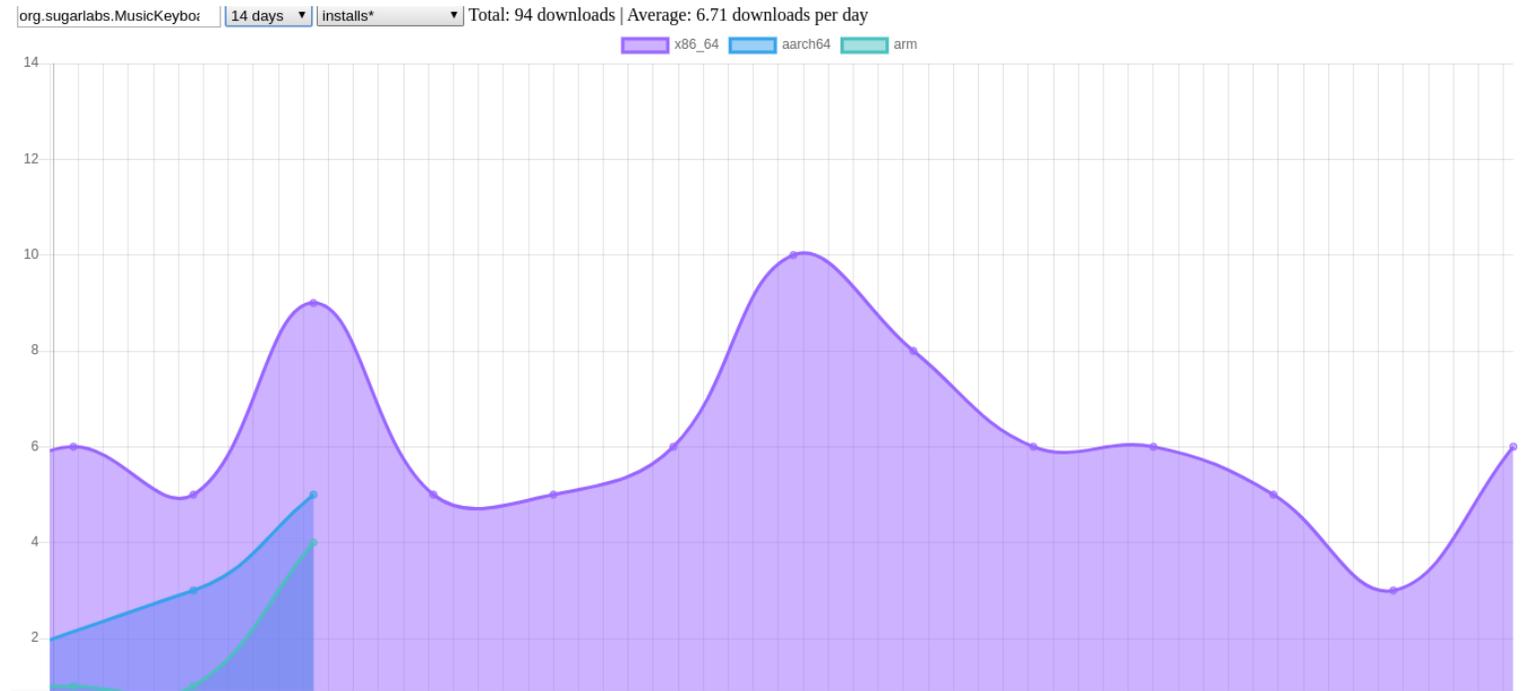
- Update tutorial.
- Port more art applications.



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

Conclusions

- 20 new unique learning tools.
- So far, over 6k downloads.
- Valuable feedback.
- Sugar legacy preserved.



klausenbusk.github.io/flathub-stats

Thank you!
Questions?