Mix + Hex

The power couple of the Elixir Community

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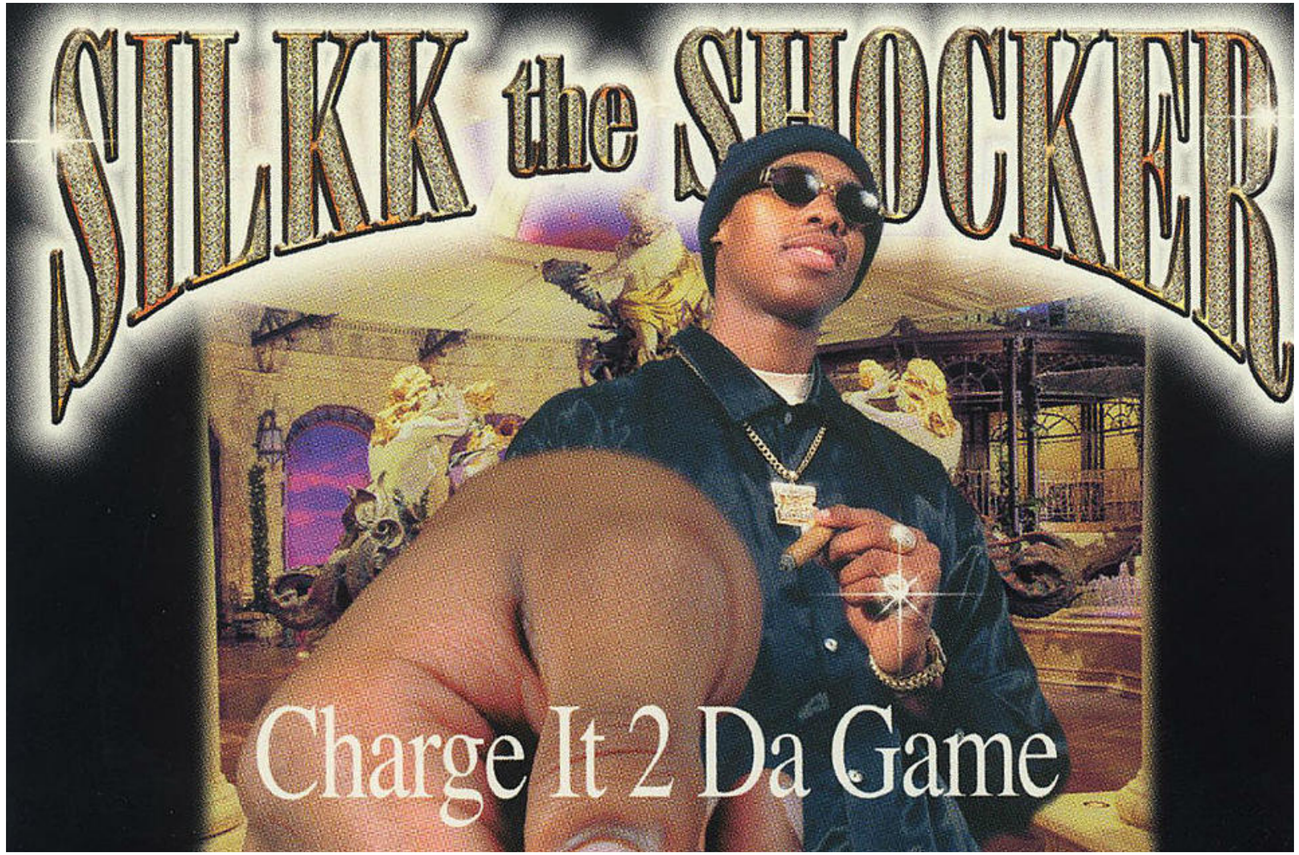

SILKK the SHOCKER
Charge It 2 Da Game

Todd Resudek

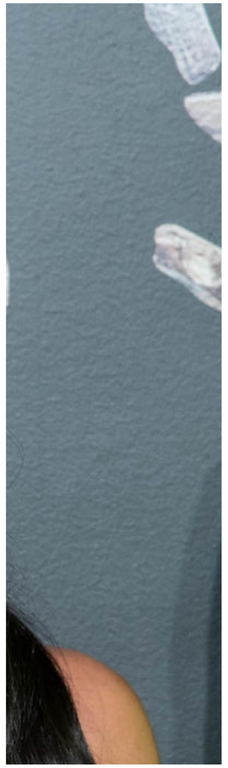
- Lead Engineer at Weedmaps
- Hex Core Team
- @supersimple
- sprsmpl

pow•er cou•ple

noun

A couple consisting of two people who are each influential or successful in their own right.

SUMMIT



Mix Hex

Mix is a build tool that ships with Elixir that provides tasks for creating, compiling, testing your application, managing its dependencies and much more;

mix task-name

```elixir
defmodule Mix.Tasks.Stir do
  use Mix.Task

  @shortdoc "Stirs up a binary"
  def run([arg]) do
    arg
    |> String.split("", trim: true)
    |> Enum.shuffle()
    |> Enum.join()
    |> IO.puts()
  end

  def run(_), do: Mix.raise("This task expects exactly one binary")
end
```

```
defmodule Mix.Tasks.Stir do
  use Mix.Task
```

```
@shortdoc "Stirs up a binary"
```

mix help

whisk — fish /Users/resudek/ELIXIR/whisk — -fish — 81×18

```
~/E/whisk ><>
```

```
def run([arg]) do
  arg
  |> String.split("", trim: true)
  |> Enum.shuffle()
  |> Enum.join()
  |> IO.puts()
end
```

mix new appname

```
* creating README.md
* creating .formatter.exs
* creating .gitignore
* creating mix.exs
* creating lib
* creating lib/appname.ex
* creating test
* creating test/test_helper.exs
* creating test/appname_test.exs
```

Mix.Tasks.New.generate/4

```
create_file("README.md", readme_template(assigns))
create_file(".formatter.exs", formatter_template(assigns))
create_file(".gitignore", gitignore_template(assigns))


create_directory("lib")
create_file("lib/#{mod_filename}.ex", lib_template(assigns))
```

Mix.Generator

```
copy_file/3
copy_template/4
create_directory/2
create_file/3
embed_template/2
embed_text/2
overwrite?/1
overwrite?/2
```

Mix Aliases

Aliases are shortcuts or tasks specific to the current project.

```
defp aliases do
  [
    c: "compile",
    hello: &hello/1,
    [all:
      [
       &hello/1,
       "deps.get --only #{Mix.env()}”,
       “compile”
      ]
    ]
  ]
end
```

Customizing Mix

Mix responds to several environment variables that change it's behavior.

MIX_ARCHIVES - where your Archies get installed
MIX_BUILD_PATH
MIX_DEBUG - outputs debug info for each task before running
MIX_ENV - dev, test, prod
MIX_TARGET - when using different architectures
MIX_EXS - full path to mix.exs file
MIX_HOME - where to store mix config and scripts
MIX_QUIET
MIX_REBAR - path to rebar
MIX_REBAR3 - path to rebar3

OptionParser

```
OptionParser.parse!(
  ["--debug", "--foo"],
  strict: [debug: :boolean, foo: :boolean]
)

> {[debug: true, foo: true], []}
```

Calling a Task or List of Tasks

```
defp proceed(args) do
  load_dot_config()
  load_mix_exs()
  {task, args} = get_task(args)
  ensure_hex(task)
  maybe_change_env_and_target(task)
  run_task(task, args)
end
```

```
defp load_dot_config do
  path = Path.join(Mix.Utils.mix_config(), "config.exs")

  if File.regular?(path) do
    Mix.Task.run("loadconfig", [path])
  end
end
```

```
defp load_mix_exs() do
  file = System.get_env("MIX_EXS") || "mix.exs"

  if File.regular?(file) do
    Code.compile_file(file)
  end
end
```

```
defp proceed(args) do
  load_dot_config()
  load_mix_exs()
  {task, args} = get_task(args)
  ensure_hex(task)
  maybe_change_env_and_target(task)
  run_task(task, args)
end
```

```
defp maybe_change_env_and_target(task) do
  task = String.to_atom(task)
  config = Mix.Project.config()
  env = preferred_cli_env(task, config)
  target = preferred_cli_target(task, config)

  env && Mix.env(env)
  target && Mix.target(target)

  if env || target do
    reload_project()
  end
end
```

```
defp run_task(name, args) do
  …
  ensure_no_slashes(name)
  Mix.Task.run("loadconfig")

  if logger_configured?(), do: restart_logger()

  Mix.Task.run(name, args)
  …
end
```

```
def run(task, args) when is_binary(task) do
  proj = Mix.Project.get()
  alias = Mix.Project.config()[:aliases][String.to_atom(task)]

  cond do
    alias && Mix.TasksServer.run({:alias, task, proj}) ->
      res = run_alias(List.wrap(alias), args, :ok)
      Mix.TasksServer.put({:task, task, proj})
      res

    Mix.TasksServer.run({:task, task, proj}) ->
      run_task(proj, task, args)
    true -> :noop
    end
end
```

Mix Hex

Hex is the package manager for the Elixir ecosystem. It consists of the CLI, website, API, and other parts.

mix deps.get

```
defp deps() do
    [
      {:ex_doc, "~> 0.14", only: :dev},
      {:foobar, git: "https://github.com/foo/foobar.git"},
      {:foobar, path: "path/to/foobar"}
    ]
end
```

Hex Resolver

Looks at all dependencies, finds solutions

Tries to pick the best solution once all solutions are made.

Hex Docs

Hex Docs

https://hexdocs.pm/mint/Mint.HTTP.html#close/1

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Mint
v1.0.0

PAGES
MODULES
EXCEPTIONS

Mint.HTTP
- Top
- Summary
- Types
- Functions
  - close/1
  - connect/4
  - controlling_process/2
  - delete_private/2
  - get_private/3
  - open?/2
  - open_request_count/1
  - put_private/3
  - recv/3
  - request/5
  - set_mode/2
  - stream/2
  - stream_request_body/3

Mint.HTTP1
Mint.HTTP2
Mint.Types

Mint.HTTP

Processless HTTP connection data structure and functions.

Single interface for `Mint.HTTP1` and `Mint.HTTP2` with support for version negotiation and proxies.

Usage

To establish a connection with a given server, use `connect/4`. This will return an opaque data structure that represents the connection to the server. To send a request, you can use `request/5`. Sending a request does not take care of the response to that request, instead we use `Mint.stream/2` to process the response, which we will look at in just a bit. The connection is a wrapper around a TCP (`:gen_tcp` module) or SSL (`:ssl` module) socket that is set in **active mode** (with `active: :once`). This means that TCP/SSL messages will be delivered to the process that started the connection.

The process that owns the connection is responsible for receiving the messages (for example, a GenServer is responsible for defining `handle_info/2`). However, `Mint.HTTP` makes it easy to identify TCP/SSL messages that are coming from the connection with the server with the `stream/2` function. This function takes the connection and a term and returns `:unknown` if the term is not a TCP/SSL message belonging to the connection. If the term *is* a message for the connection, then a response and a new connection are returned. It's important to store the new returned connection data structure over the old one since the connection is an immutable data structure.

Let's see an example of a common workflow of connecting to a server, sending a request, and processing the response. We start by using `connect/3` to connect to a server.

```
{:ok, conn} = Mint.HTTP.connect(:http, "httpbin.org", 80)
```

Fetching Documentation

mix hex.docs fetch

whisk — fish /Users/resudek/ELIXIR/whisk — -fish — 70×13

```
~/E/whisk ><>
```

mix hex.docs fetch package

whisk — fish /Users/resudek/ELIXIR/whisk — -fish — 70×13

```
~/E/whisk ><>
```

[“eex”, “elixir”, “ex_unit”, “iex”, “logger”, “mix”] retrieve the version that matches your current elixir version.

Dependencies in your app will fetch app version.

Defaults to latest version unless you specify.

mix hex.docs online package

whisk — fish /Users/resudek/ELIXIR/whisk — -fish — 70×13

```
~/E/whisk ><>
```

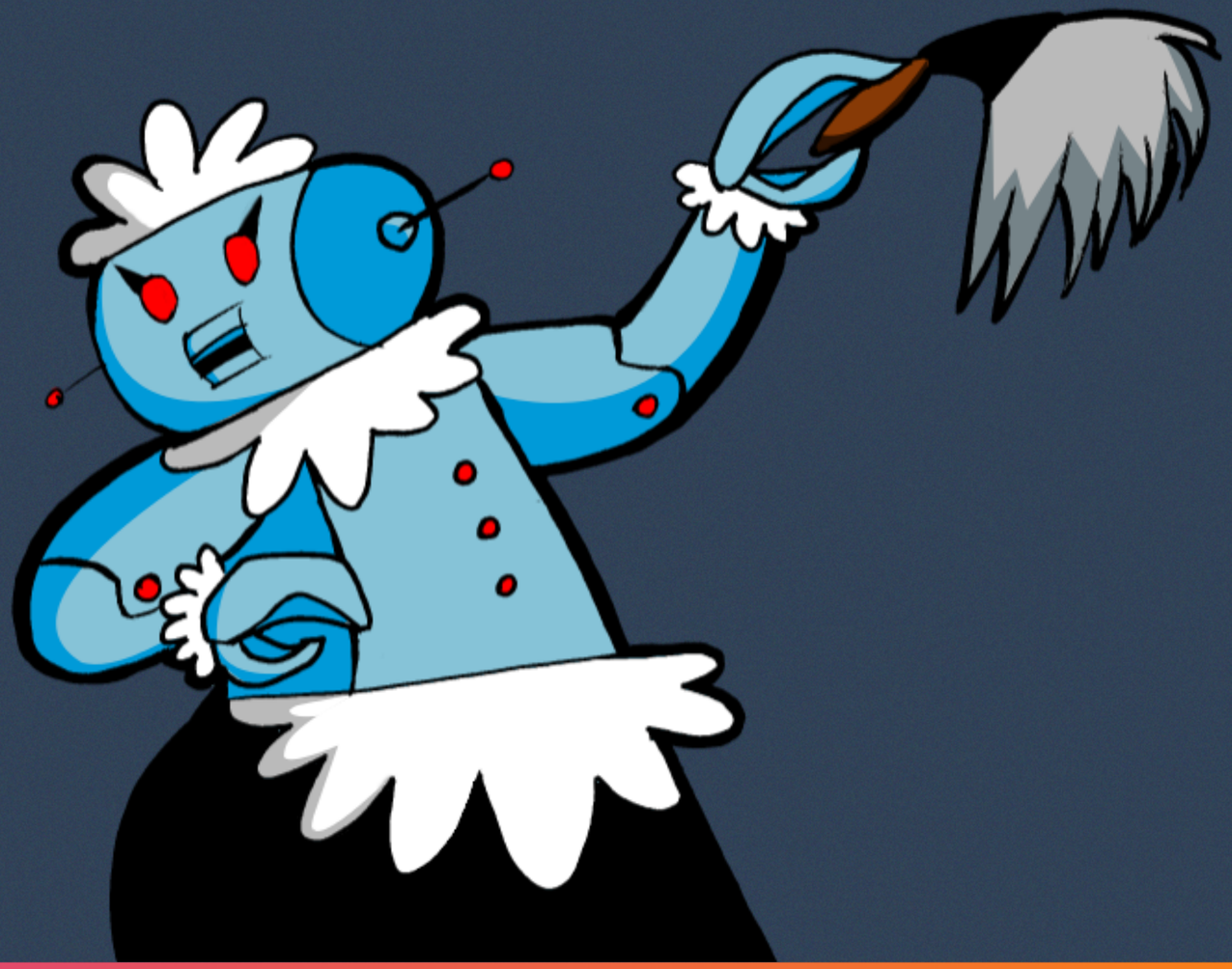
mix hex.docs offline package

whisk — fish /Users/resudek/ELIXIR/whisk — -fish — 70×13

```
~/E/whisk ><>
```

Mon
Tue-Thur
Fri-Sat
Sunday

Housekeeping



mix hex.audit

whisk — fish /Users/resudek/ELIXIR/whisk — -fish — 78×17

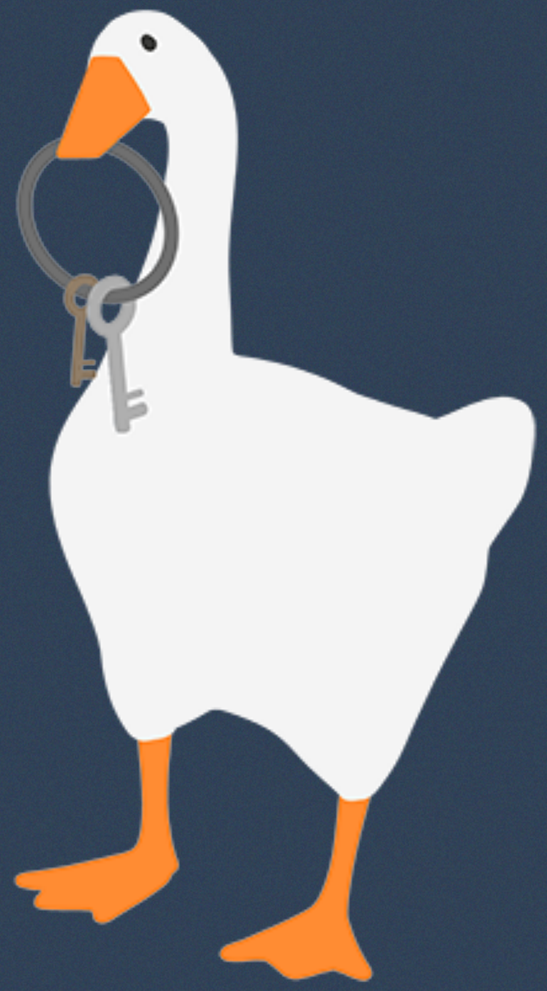
```
~/E/whisk ><>
```

mix hex.outdated

whisk — fish /Users/resudek/ELIXIR/whisk — -fish — 68×15

```
~/E/whisk ><>
```

Security



Enhanced UI

ecto_sql 3.2.1

SQL-based adapters for Ecto and database migrations

Links

Online documentation (download)
GitHub

License

Apache-2.0

728 downloads this version
8 465 downloads yesterday
214 651 downloads last 7 days
4 913 912 downloads all time

Versions (17)

3.2.1 November 2, 2019 (docs)
3.2.0 September 7, 2019 (docs)
3.1.6 June 27, 2019 (docs)
3.1.5 June 13, 2019 (docs)
3.1.4 May 28, 2019 (docs)
Show All Versions

Dependencies (5)

db_connection ~> 2.1
ecto ~> 3.2.0
myxql ~> 0.2.0 (optional)
postgrex ~> 0.15.0 (optional)
telemetry ~> 0.4.0

Audit Logs

2019-11-02 Publish documentation for release 3.2.1

Config

mix.exs

```
{:ecto_sql, "~> 3.2"}
```

Checksum

4790973b261f95141259

Build Tools

mix

Owners

wojtekmach
josevalim

Publisher

josevalim

Dependents (122)

ex_machina, ecto_enum, dataloader, guardian_db,

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Audit Logs

2019-11-02 Publish documentation for release 3.2.1

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Have I Been Pwned Integration

hex

Find packages

Packages Pricing Docs supersimple

The password you provided has previously been breached. To increase your security, please change your password.
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supersimple

Owned packages

alphabetify 1.1.0
chameleon 2.2.0
dark_jason 0.1.8
meetup 0.1.2
supersimpleorg / address_us 0.3.0
supersimpleorg / alphabetify 1.1.1
supersimpleorg / chameleon 2.2.2

mix hex.package diff

whisk — fish /Users/resudek/ELIXIR/whisk — -fish — 79×18

```
~/E/whisk ><>
```

Coming Soon

Web-based diffs

```
+ {<<"version">>,<<"1.1.2">>}.
```

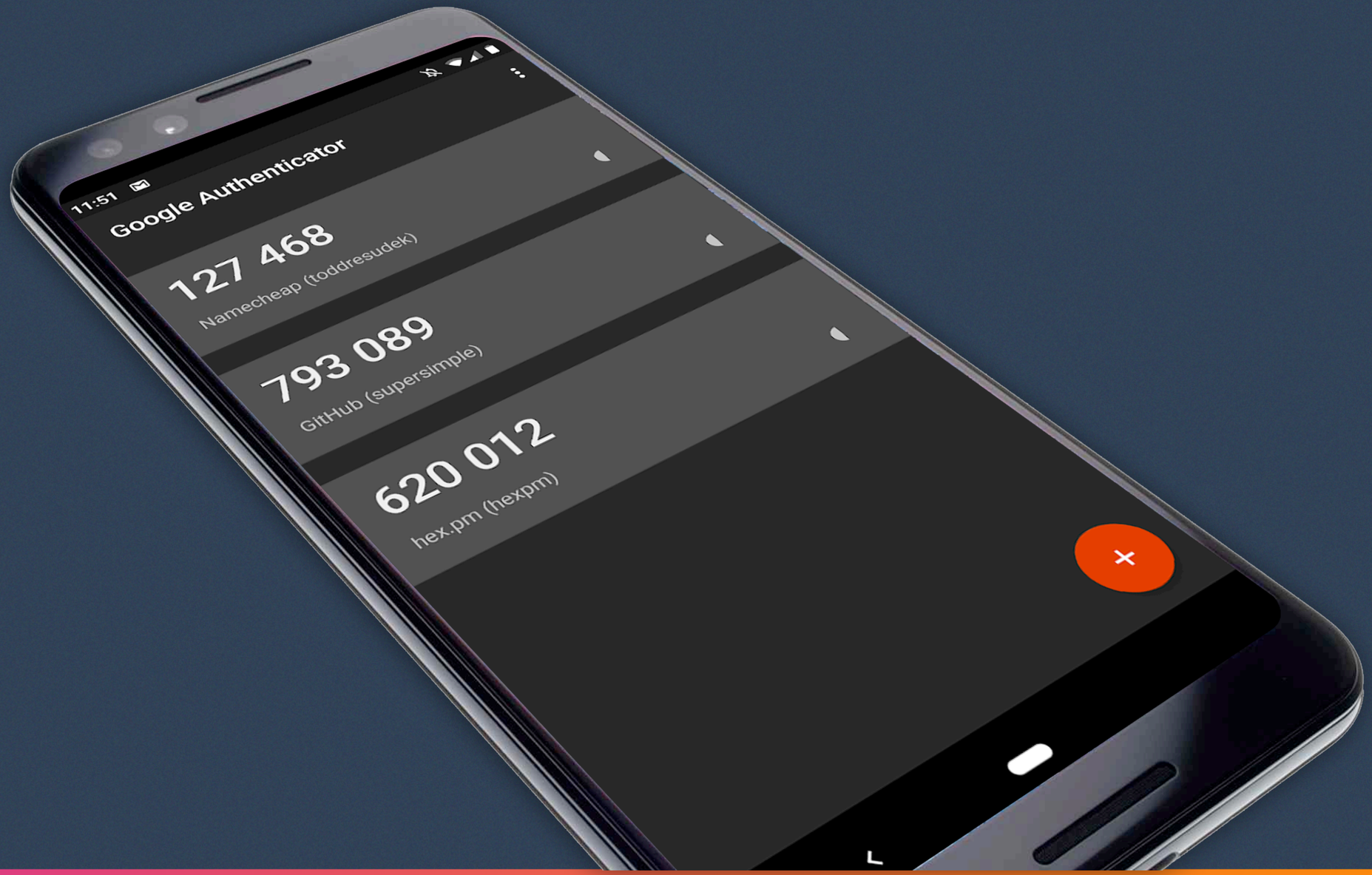
lib/jason.ex CHANGED

```
@@ -207,7 +207,7 @@ defmodule Jason do
207 207     end
208 208   end
209 209
210     -   defp do_encode(input, %{pretty: pretty} = opts) do
    210 +   defp do_encode(input, %{pretty: pretty} = opts) when pretty !== false do
211 211     case Encode.encode(input, opts) do
212 212       {:ok, encoded} -> {:ok, Formatter.pretty_print_to_iodata(encoded, pretty)}
213 213       other -> other
```

mix.exs CHANGED

```
@@ -1,7 +1,7 @@
1 1 defmodule Jason.Mixfile do
2 2   use Mix.Project
3 3
4   -   @version "1.1.1"
    4 +   @version "1.1.2"
5 5
```

2FA


11:51
Google Authenticator
127 468
Namecheap (toddresudek)
793 089
GitHub (supersimple)
620 012
hex.pm (hexpm)

THE BIG ELIXIR