improvCues

Musical Creativity and Ideation with Machine Learning

Peter Bennett
University of Bristol

Jordi Solsona Belenguer
Stockholm University

Martin Murer
University of Salzburg

Schmiede '19

SJordi

improvCues came from a project developed at **Schmiede '19**

"a cooperative prototyping environment, focused on the arts, hacking and entrepreneurship"

"I have noticed that giving artists salt, stones and twigs can make them feel calm in the rough sea of life. Presenting shown on a television, I propose a project that attempts to find gender by looking at the audiences chest."

NOSTALGIA BOT
v4.1c
Trained on a limited set of old Schmiede projects, NostalgiaBot conjures up new ideas based on it's hazy memory of past success and won't listen to your new project ideas.

Please TYPE A NEW PROJECT IDEA to help train our AI bots:

All ideas welcome: old or new, simple or complex, restrained or wild. Hit return to submit your idea ... one of the bots will then reply above with a brand new idea of it's own.

These AI bots have been trained extensively on many Schmiede projects. You may recognise elements of your own project. Could this be the start of a new collaboration? How do you feel about an AI helping in your creative practice? Would you share creative credit with this bot? Is your human creativity threatened? ... have you been replaced by a machine?

Schmiede Project Generator
by Jordi, Martin & Pete
Team Pack, 2019

Project Idea Bot

I suggest a project constructed from industrial grade beamers, screens and some magic in such a way so that the audience feels exhilarated and fun. The project will develop upon the ideas started in previous Schmiede project "Paint Pendulum".

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Schmiede Project Generator
by Jordi, Martin & Pete
Team Feral, 2019

we interviewed many of the artists to form a database of ideas

then used this corpus of ideas to generate new ideas using markov chains

"An artwork exploring digital terrorism through the beauty of ice based poetry."

SMITH BOT
v8.2a
This is the most advanced bot and generates projects based on an extensive memory of past projects.

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Schmiede Project Generator
by Jordi, Martin & Pete
Team Feral, 2019

"Making art in the river."

FORGETFUL BOT
v2.3b
This bot has a short term memory (probably from drinking too many €1 beers) and only remembers the last few ideas.

Please TYPE A NEW PROJECT IDEA to help train our AI bots:

All ideas welcome: old or new, simple or complex, restrained or wild. Hit return to submit your idea ... one of the bots will then reply above with a brand new idea of it's own.
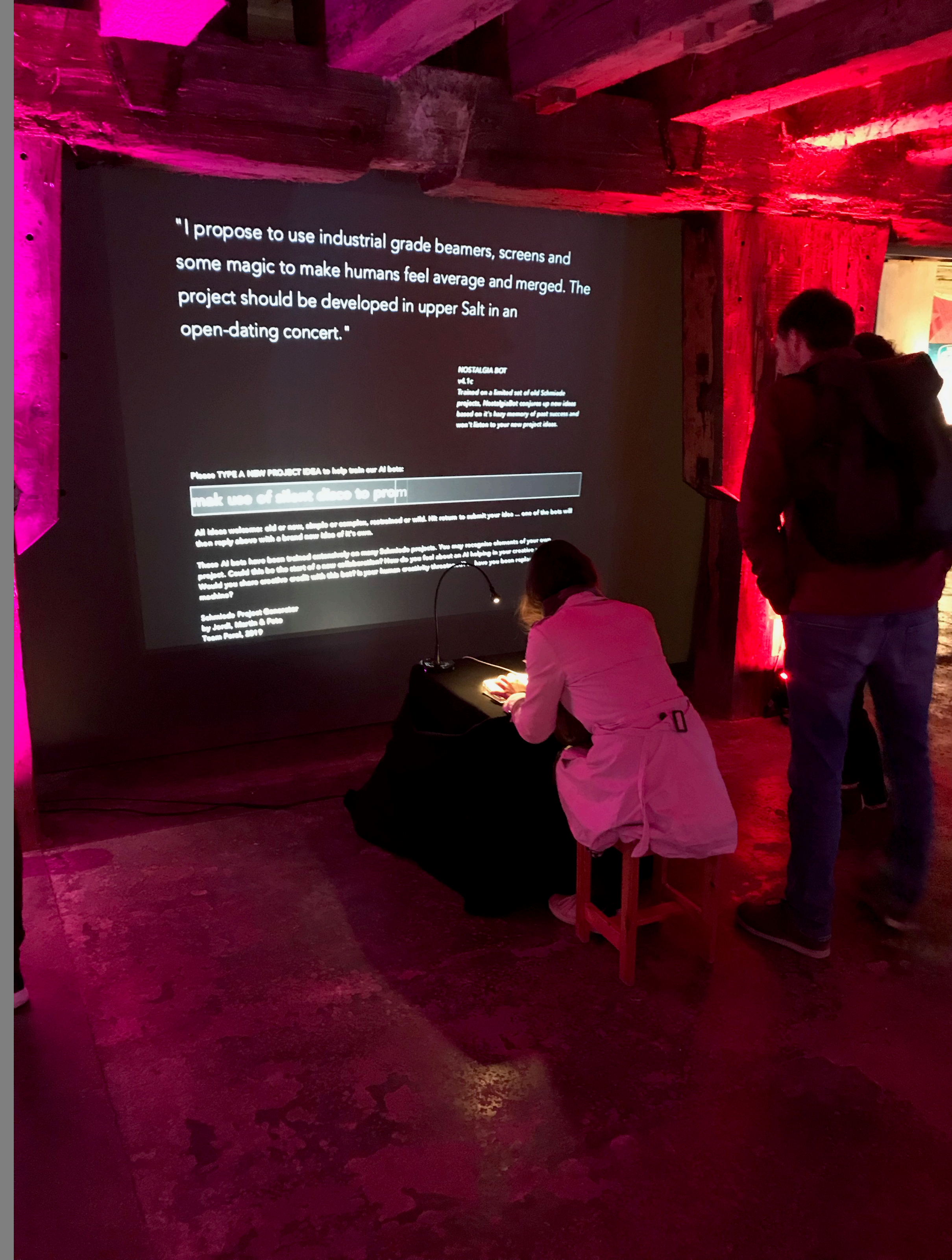
These AI bots have been trained extensively on many Schmiede projects. You may recognise elements of your own project. Could this be the start of a new collaboration? How do you feel about an AI helping in your creative practice? Would you share creative credit with this bot? Is your human creativity threatened? ... have you been replaced by the machine?

Schmiede Project Generator
by Jordi, Martin & Pete
Team Feral, 2019

but… an unexpected outcome!

what we designed for solo interaction turned out to be very social and performative

"ideation performance"

"A small stage filled with microphones. This is a really great idea is to make music from smashing plates. It will use mobile phones."

SMITH BOT
v4.2a
This is the most advanced bot and generates projects based on an extensive memory of past projects.

Please TYPE A NEW PROJECT IDEA to help train our AI bots:

A project which involves food

All ideas welcome: old or new, simple or complex, restrained or wild. Hit return to submit your idea ... one of the bots will then reply above with a brand new idea of it's own.

These AI bots have been trained extensively on many Schmiede projects. You may recognize elements of your own project. Could this be the start of a new collaboration? How do you feel about an AI helping to your creative process? Would you share creative credit with this bot? Is your human creativity threatened? ... have you been replaced by the machine?

Schmiede Project Generator
by Jordi, Martin & Pete
Team Feral, 2019

"A firework based artwork to melt all the snow artworks."

FORGETFUL BOT
v2.3b
This bot has a short term memory (probably from drinking too many (1 beers) and only remembers the last few ideas.

Please TYPE A NEW PROJECT IDEA to help train our AI bots

200 rats to

All ideas welcome: old or new, simple or complex, restrained or wild... with your ide... then reply above with a brand new idea of it's own.

These AI bots have been trained extensively on many individuals proje... ...ugics elements project. Could this be the start of a new self-aware bot? Now do you th... ...d helping in your cre... Would you share creative credit with this bot? Is your human crea... ...... have you been rep... machine?

Schmiede Project Generator
by Jordi, Martin & Pete
Team Feral, 2019

questions raised

can training machine learning be a performance in itself?

can machine learning tools be an equal creative partner?

does machine learning have to be 'intelligent' to foster creativity?

Oblique Strategies - Brian Eno & Peter Schmidt (1975)
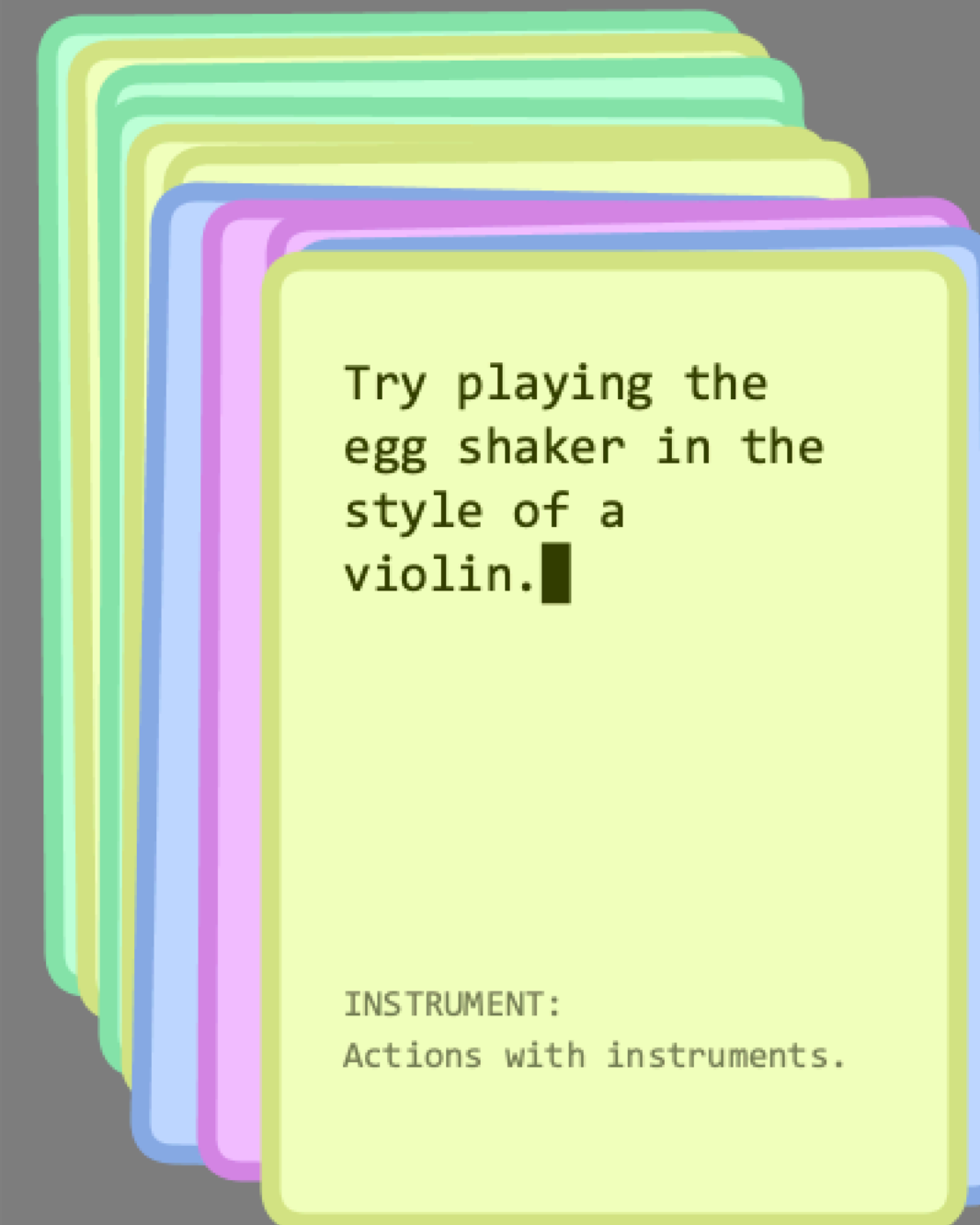
Project Idea Bot + Oblique Strategies

↓

improvCues

closing the loop

table full of instruments, percussion, noise toys

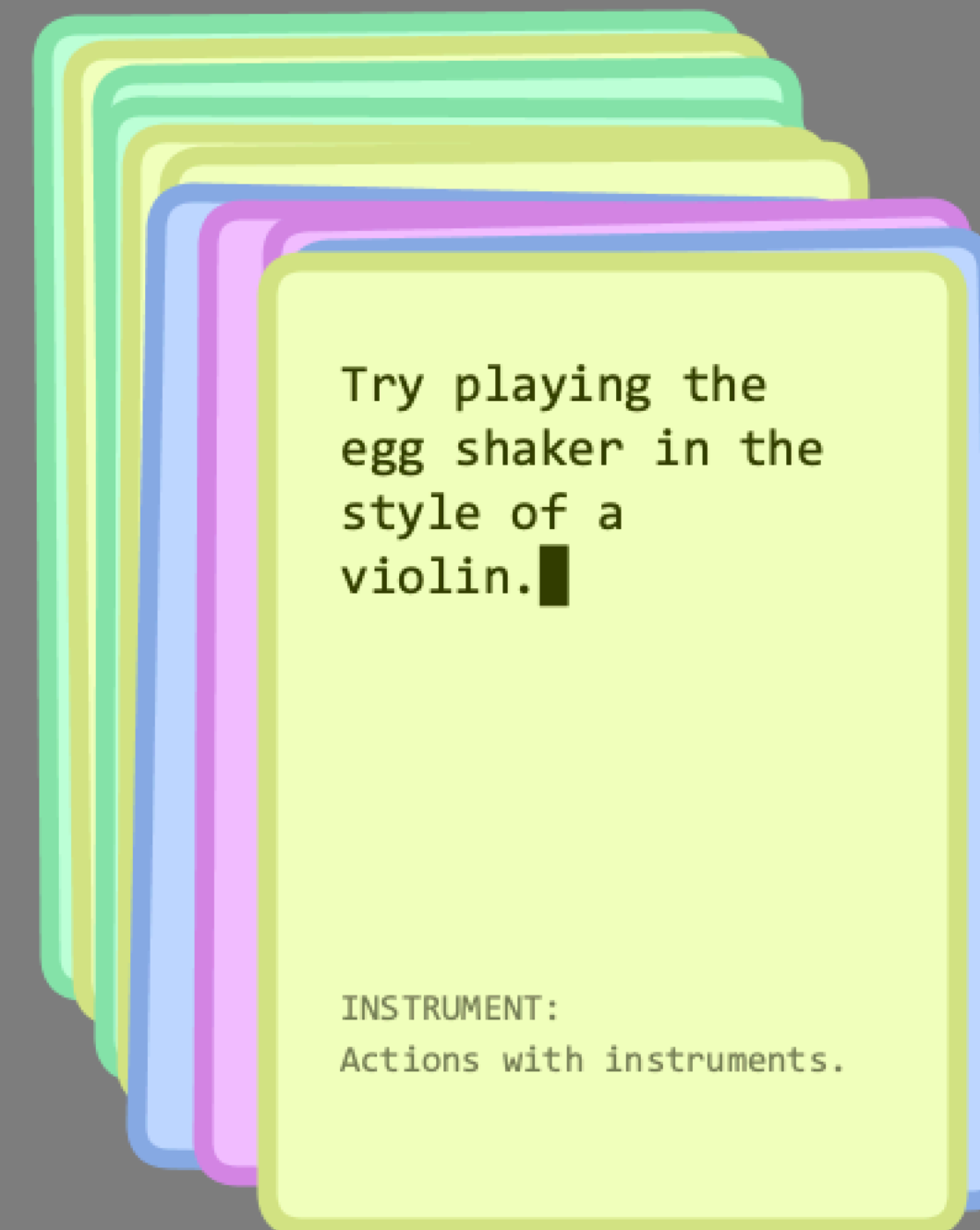**aim is to create an environment for explorative improvised music**

we base our metaphor around a deck
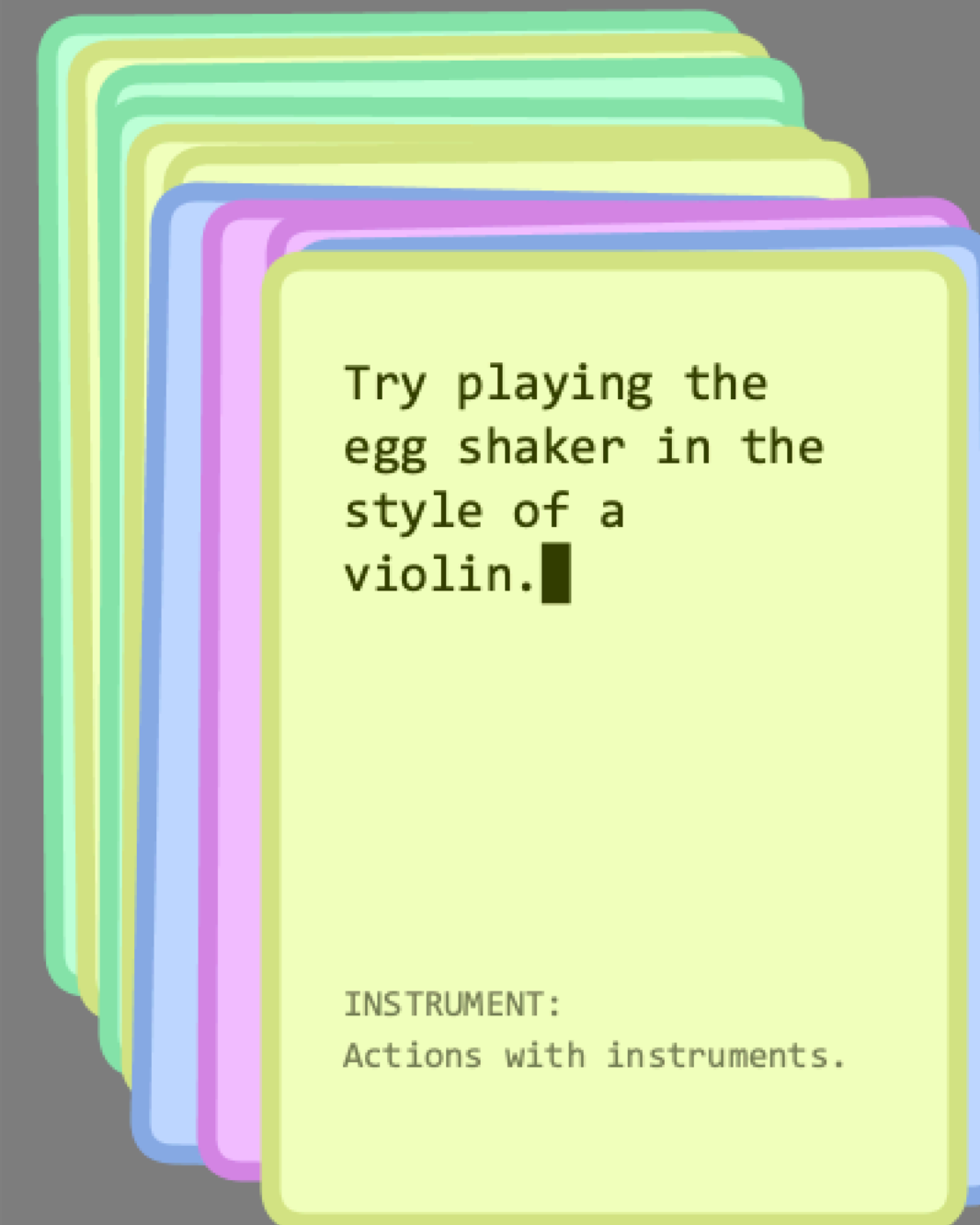containing four types of card...

Honour thy error
as a hidden
intention.█

OBLIQUE:
Oblique strategies and
obtuse inspiration.

The sound of fresh
snow crunching
underfoot._

SOUND:
Scenes, imagery and
sounds to recreate.

Try playing the
egg shaker in the
style of a
violin.█

INSTRUMENT:
Actions with instruments.

Ordered cartoon
trades. Pass sound
around the table
in order._

GAME:
Rules, games, tasks,
challenges.

we base our metaphor around a deck
containing four types of card...

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↑

oblique

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↑

sounds

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Rules, games, tasks,
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instrument

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GAME:
Rules, games, tasks,
challenges.

game ➡
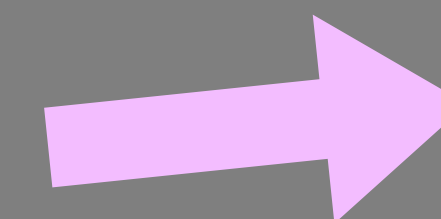
unstruction manual

ways to possibly use the system, but
please improvise your own!

improvCues

Can machine learning stimulate creativity in improvised performance? How could machine learning fit in to your own musical practice?

Start by following the three prompts on the right using the available instruments. Discuss the prompts with your fellow players. Do they spark new creative ways of playing?

Find the glockenspiel and pluck it.

INSTRUMENT:
Actions with instruments.

The sound of a falling leaf.

SOUND:
Scenes, imagery and sounds to recreate.

Solo: Start of a solo for the cued player(s). No one else plays.

GAME:
Rules, games, tasks, challenges.

SOUND:
Scenes, imagery and sounds to recreate.

Feeling inspired? Add a card to the deck!

As a trade for your idea, improvCues will generate two brand new cards using machine learning.

(1) Press [TAB] to choose which blank card you are writing on.
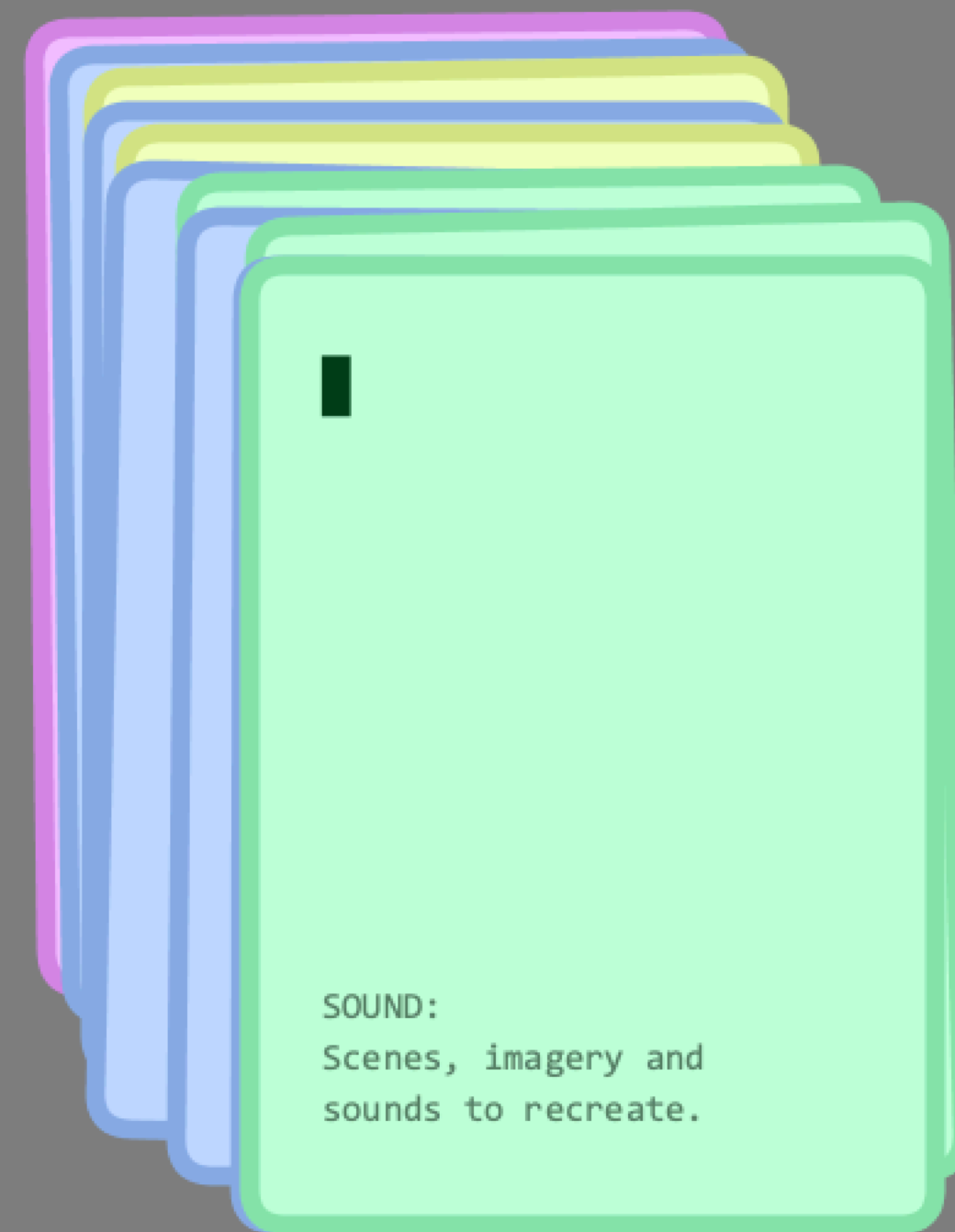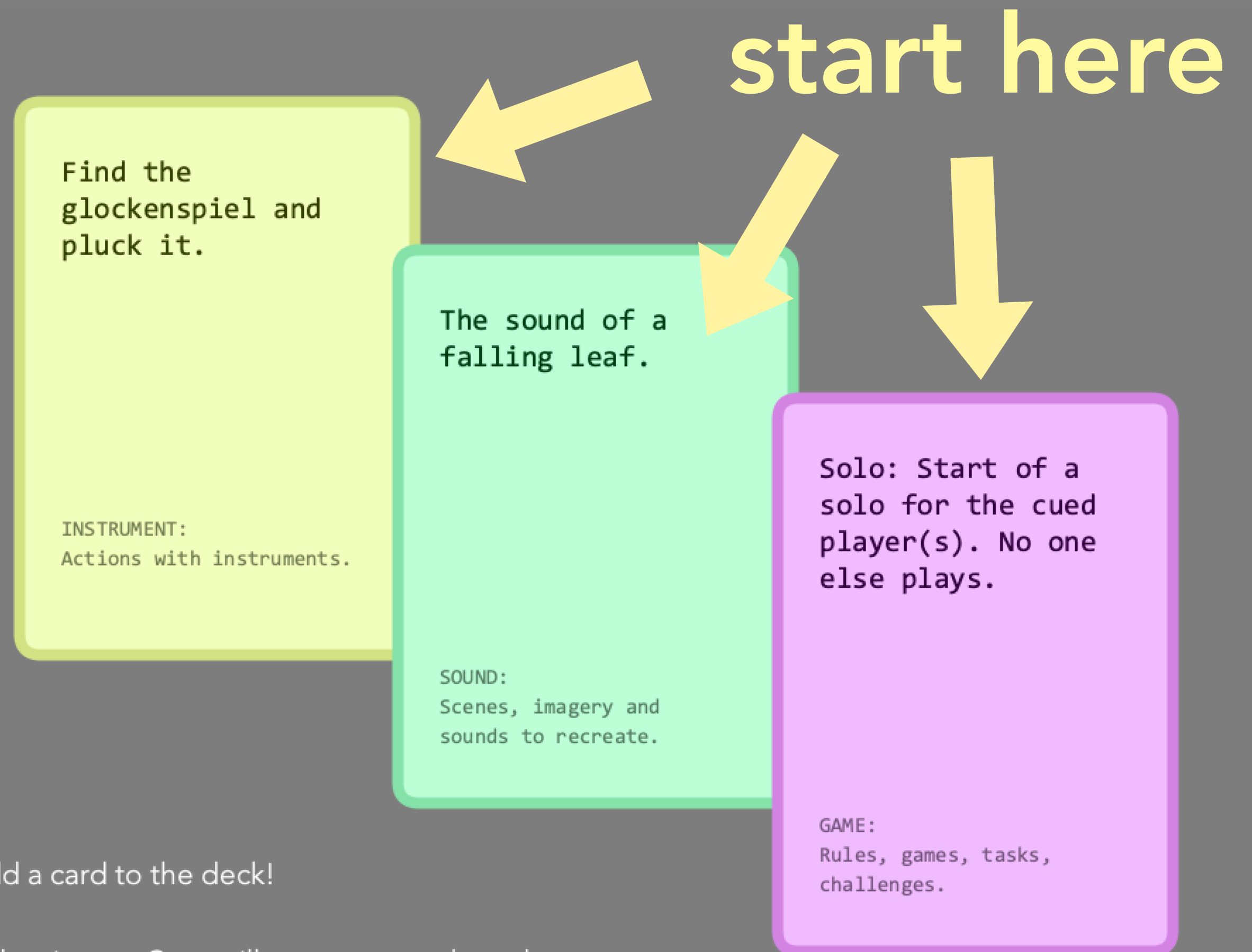
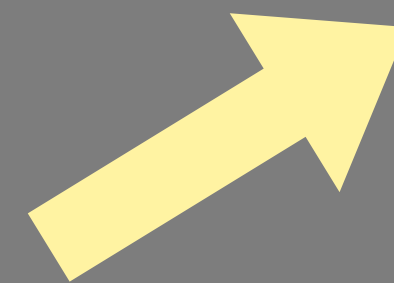(2) Press [RETURN] to submit a new card to the deck.

(3) Stuck for ideas? Press [ESCAPE] to shuffle deck and draw three existing cards.

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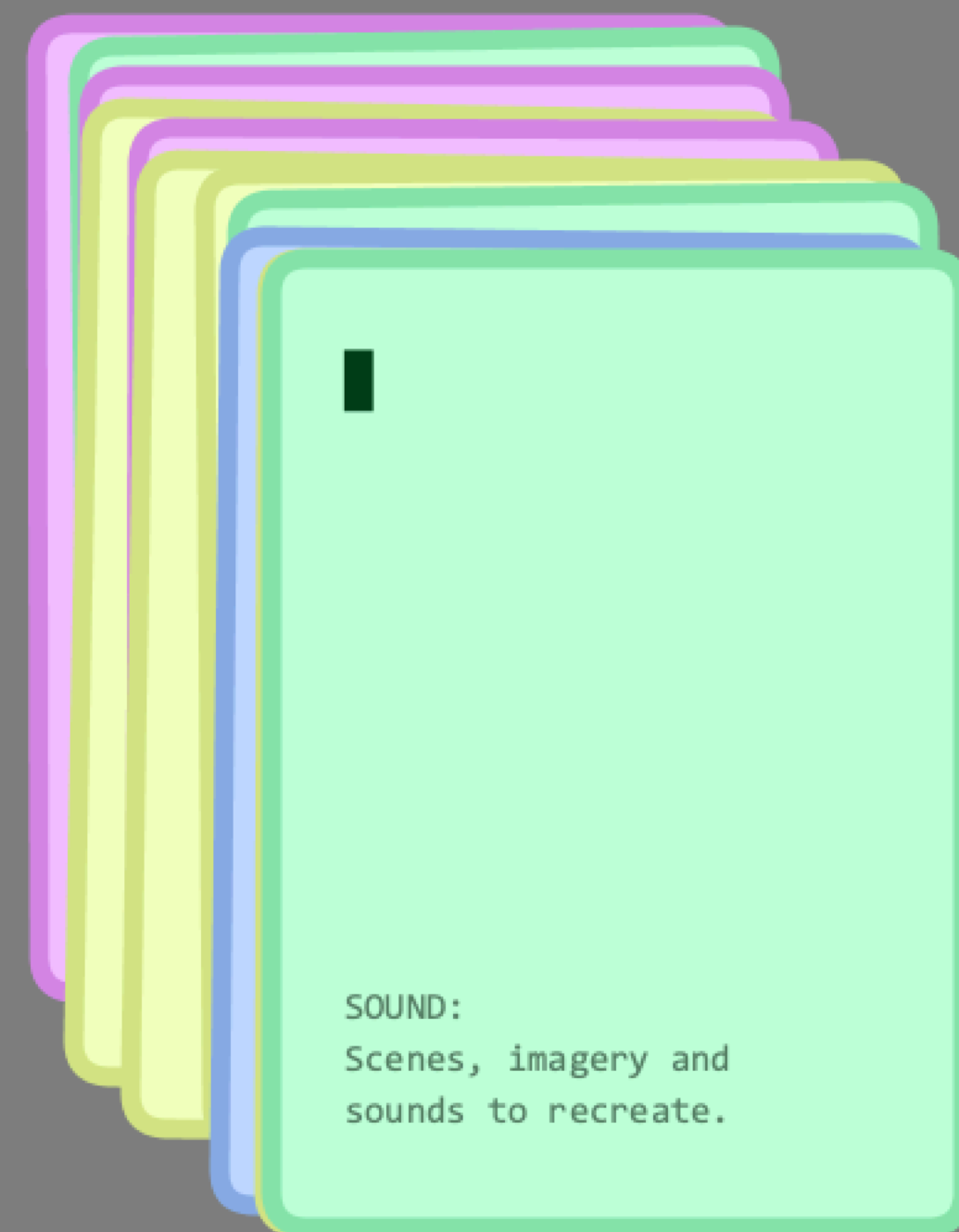
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Change ambiguities to specifics.

OBLIQUE:
Oblique strategies and obtuse inspiration.

Dappled sunlight on a warm earth.

SOUND:
Scenes, imagery and sounds to recreate.

Find the white keyboard and turn it around in your hands.

INSTRUMENT:
Actions with instruments.

SOUND:
Scenes, imagery and sounds to recreate.

Feeling inspired? Add a card to the deck!

As you type out your idea, improvCues will generate two brand new cards using machine learning.

(1) Press [TAB] to choose which blank card you are writing on.

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press ESC to shuffle and draw 3

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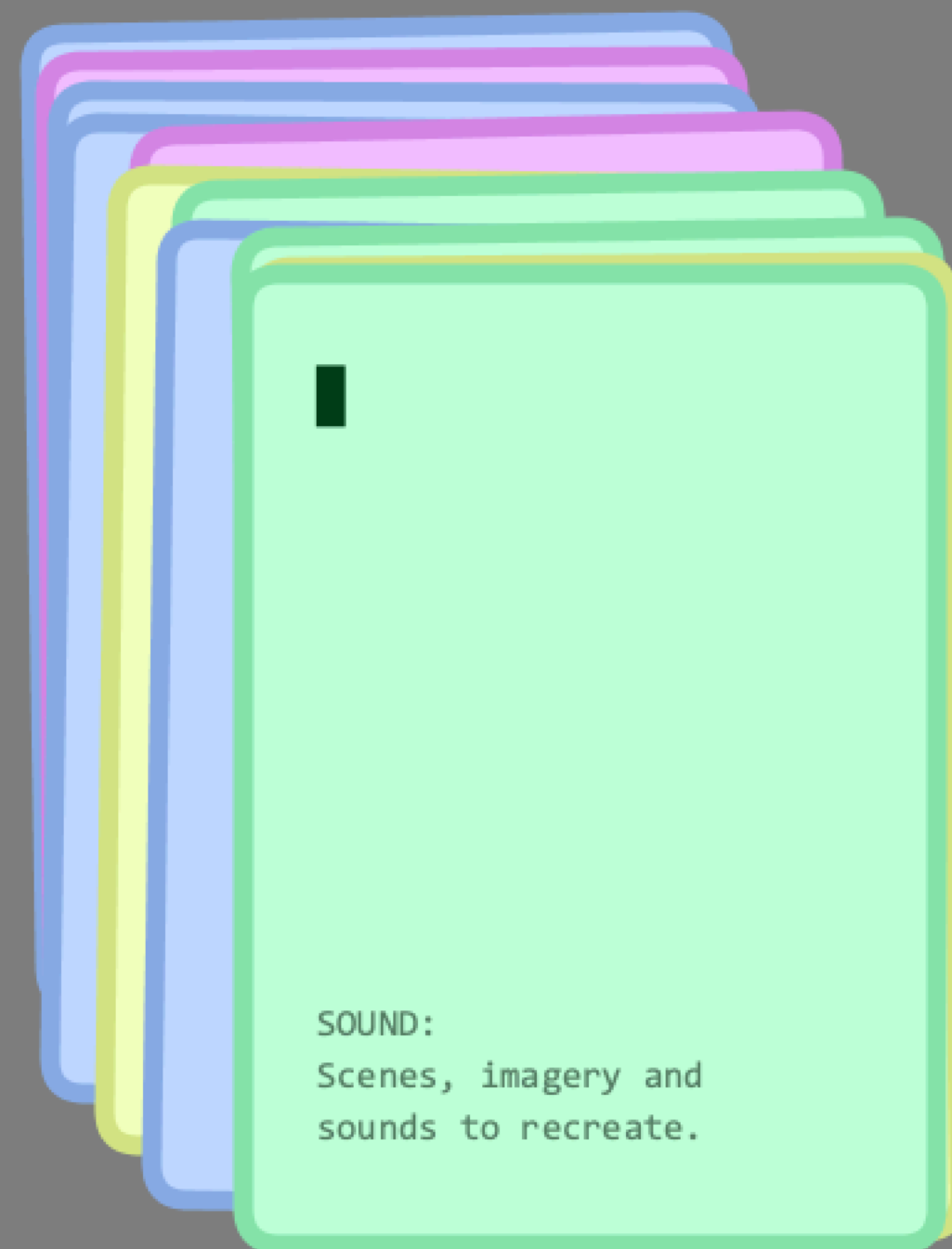Try playing your instrument in the same way as a guitar.

INSTRUMENT:
Actions with instruments.

Cartoon Trades:
All solos stop.
Everyone plays
sound fragments.

GAME:
Rules, games, tasks,
challenges.

Play the sound of
one hundred tuning
forks all ringing
at the same time.
Repeat a few
times.

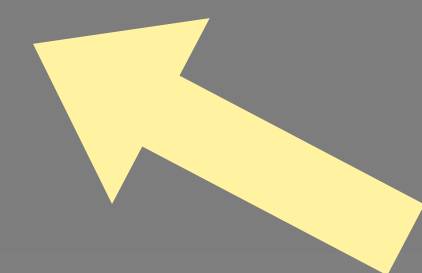SOUND:
Scenes, imagery and
sounds to recreate.

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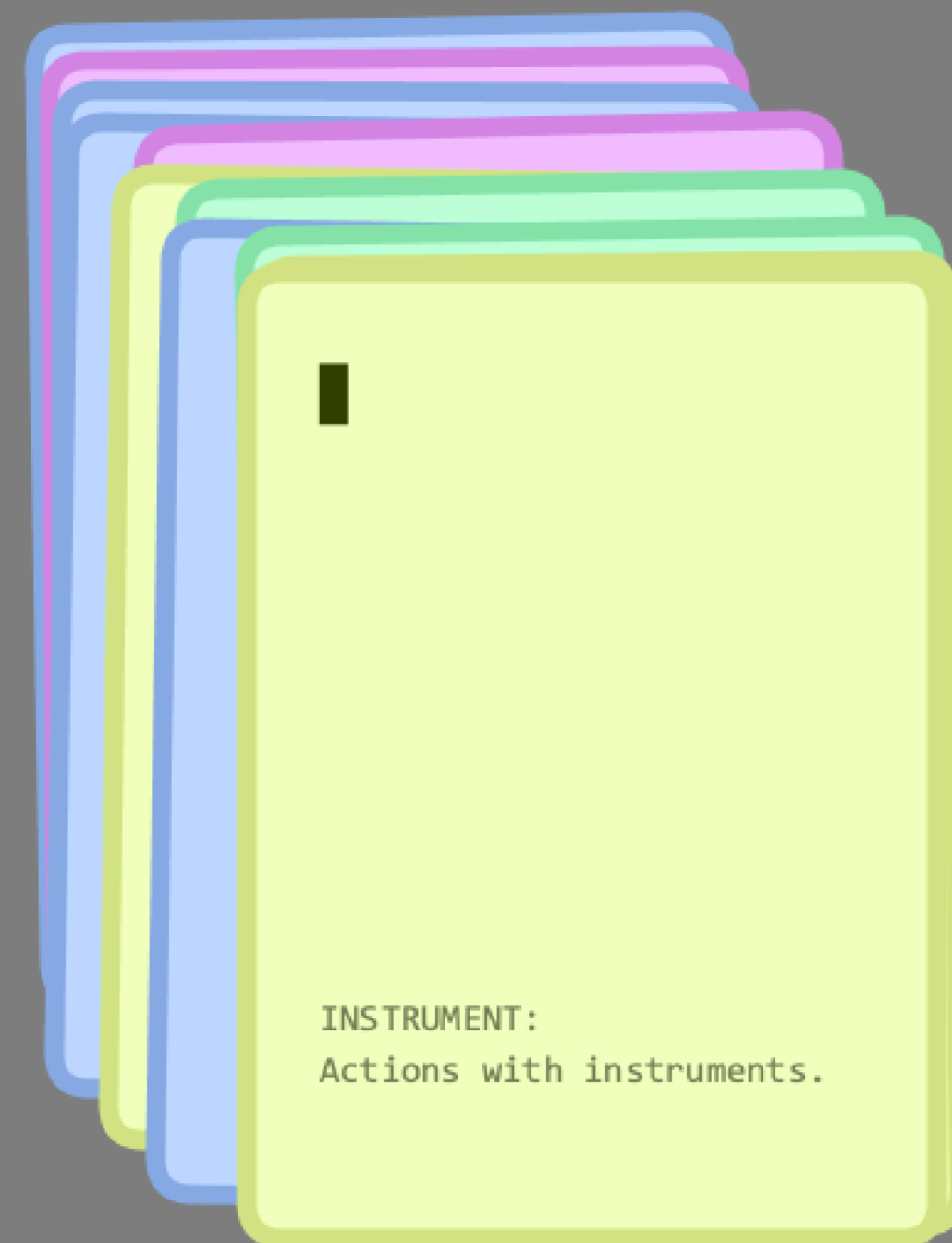(3) Stuck for ideas? Press [ESCAPE] to shuffle deck and draw three existing cards.

SOUND:
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sounds to recreate.

choose card type with TAB

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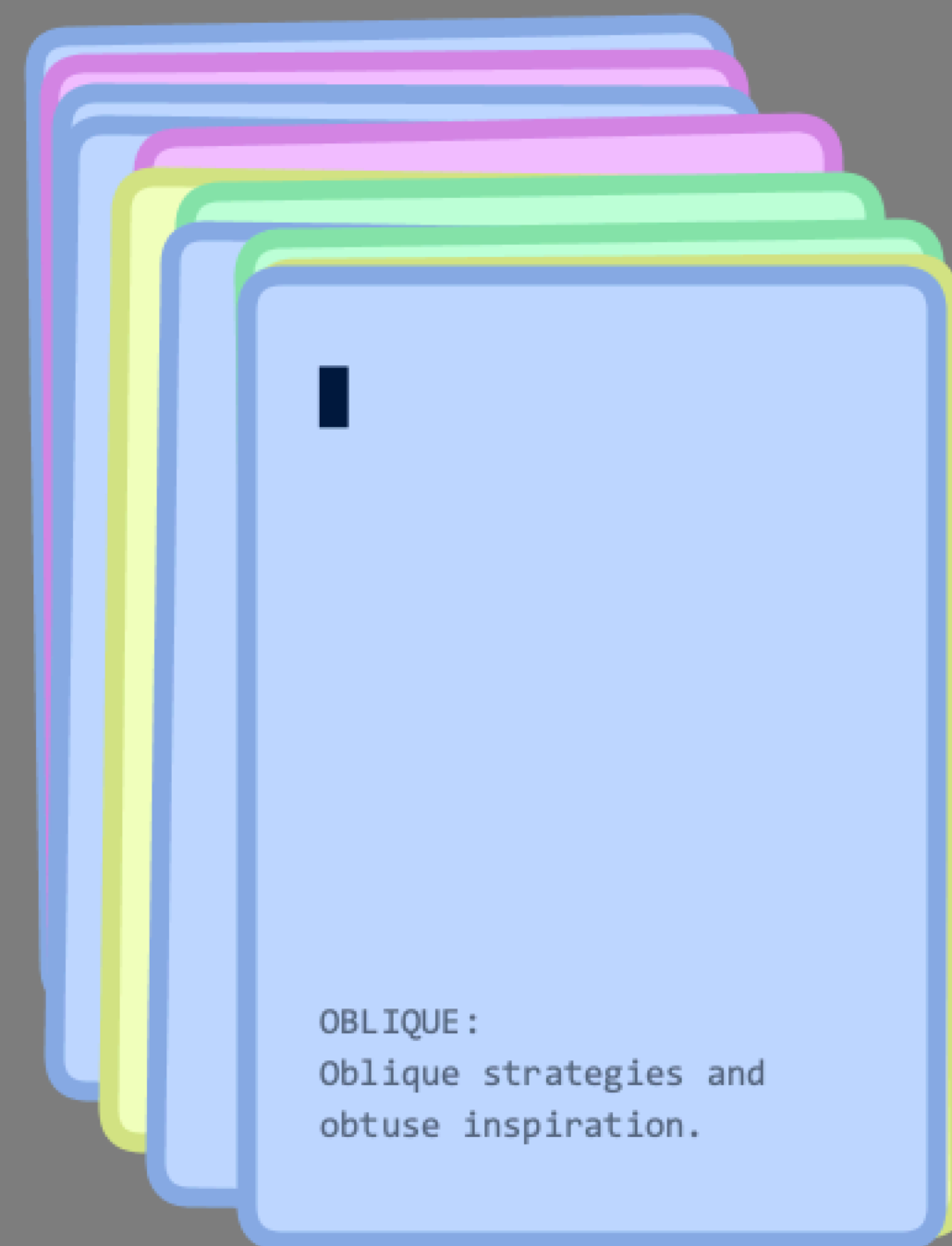(2) Press [RETURN] to submit a new card to the deck.

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GAME:
Rules, games, tasks,
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SOUND:
Scenes, imagery and sounds to recreate.

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OBLIQUE:
Oblique strategies and
obtuse inspiration.

choose card type with TAB

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Rules, games, tasks, challenges.

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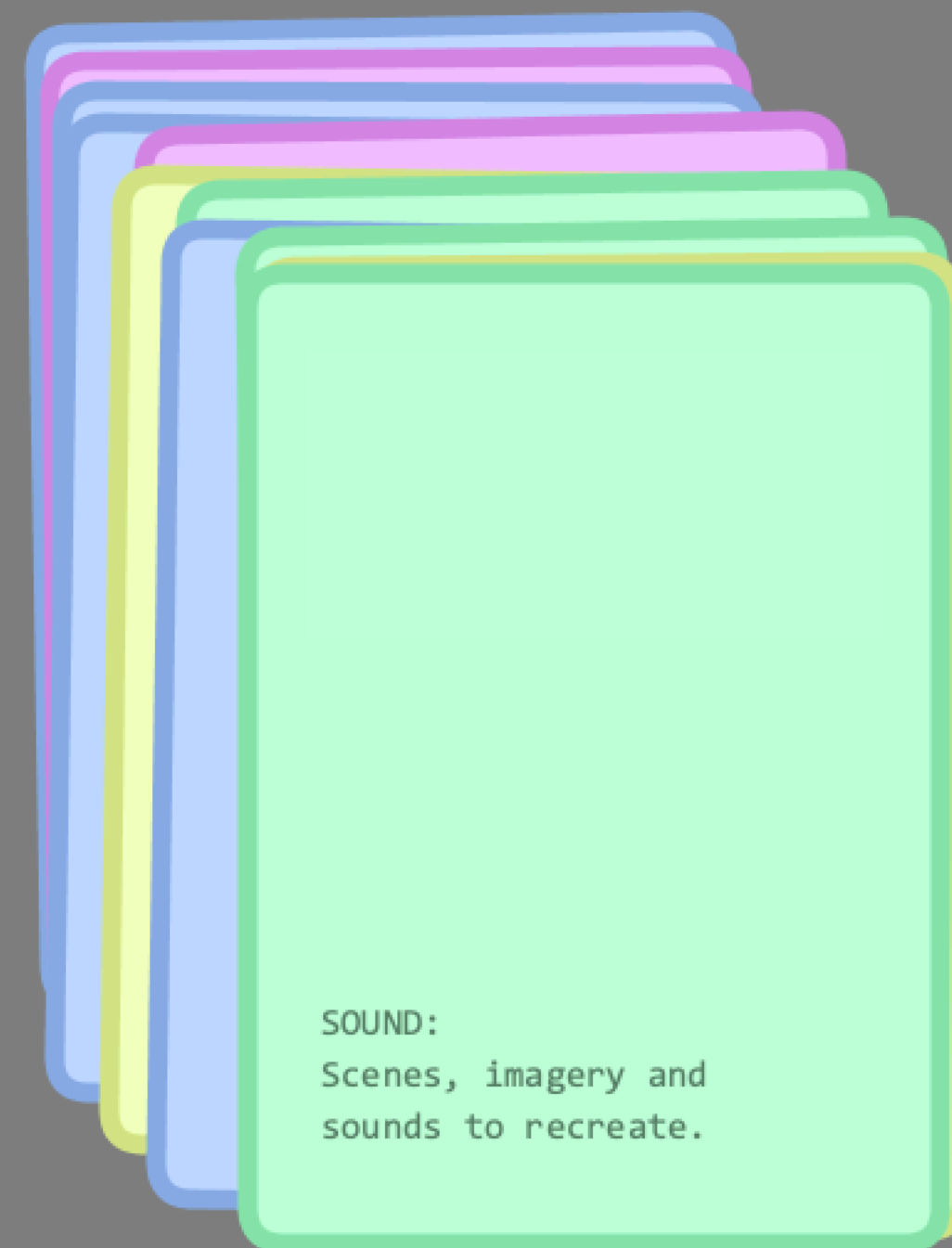(2) Press [RETURN] to submit a new card to the deck.

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GAME:
Rules, games, tasks, challenges.

Play the sound of one hundred tuning forks all ringing at the same time. Repeat a few times.

SOUND:
Scenes, imagery and sounds to recreate.

A marble rolls

SOUND:
Scenes, imagery and sounds to recreate.

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type a new cue here

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INSTRUMENT:
Actions with instruments.

Cartoon Trades:
All solos stop.
Everyone plays
sound fragments.

GAME:
Rules, games, tasks,
challenges.

Play the sound of one hundred tuning forks all ringing at the same time. Repeat a few times.

SOUND:
Scenes, imagery and
sounds to recreate.

A marble rolls down a wooden

SOUND:
Scenes, imagery and
sounds to recreate.

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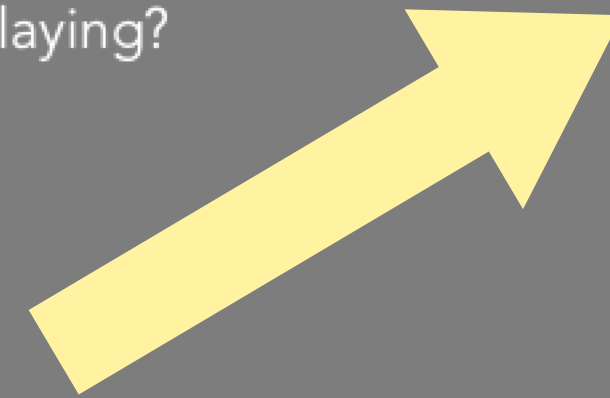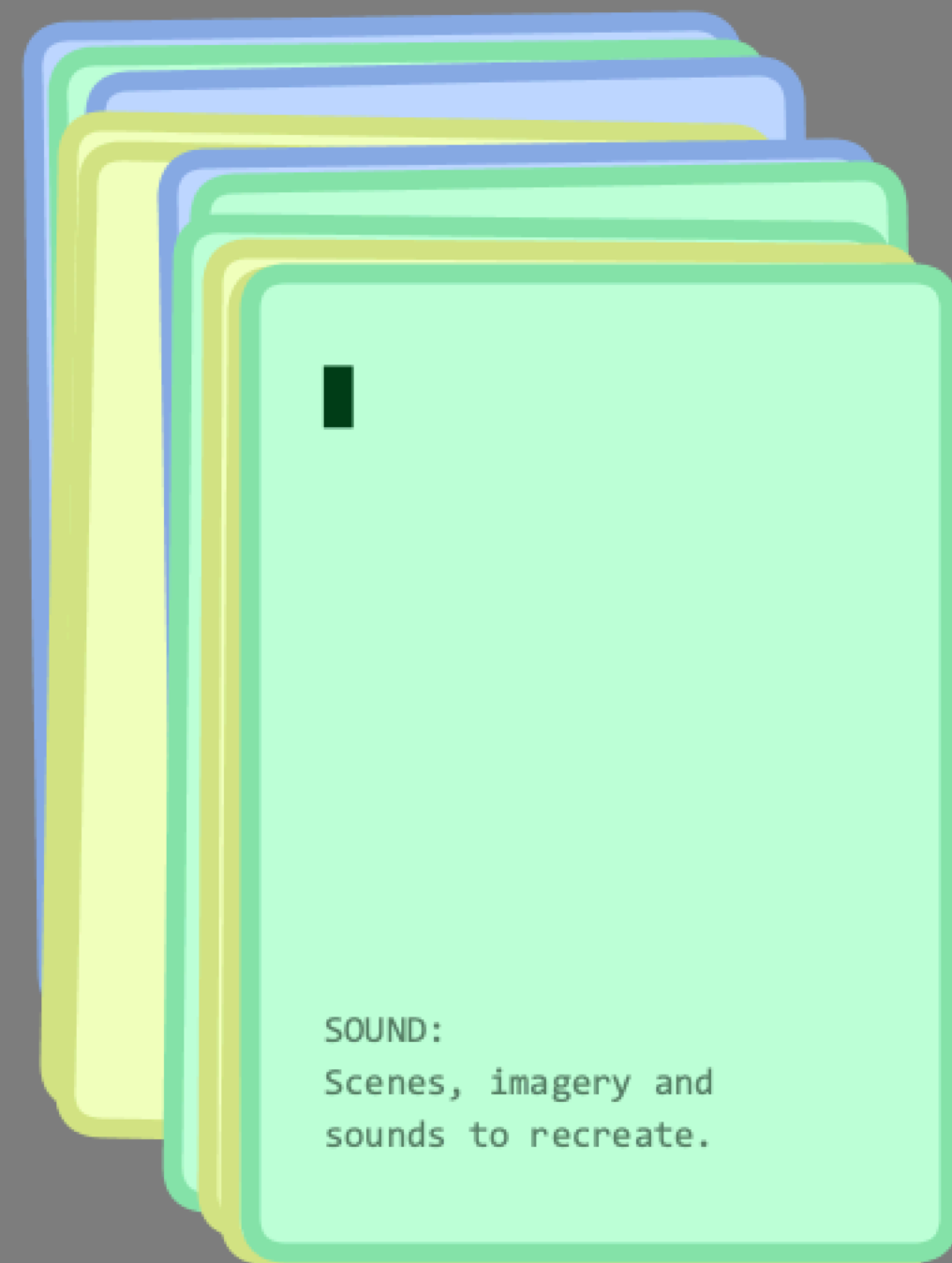Play the sound of one hundred tuning forks all ringing at the same time. Repeat a few times.

SOUND:
Scenes, imagery and sounds to recreate.

A marble rolls down a wooden staircase.█

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hit enter to submit

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A marble rolls
down a wooden
staircase.

SOUND:
Scenes, imagery and
sounds to recreate.

Can you see a toy
synth and play it
with your eyes
closed.

INSTRUMENT:
Actions with instruments.

play the sound of
a rapid succession
of short, sharp,
hard sounds.

SOUND:
Scenes, imagery and
sounds to recreate.

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new cue moves to play area

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A marble rolls down a wooden staircase.

SOUND:
Scenes, imagery and sounds to recreate.

Pool: All those currently playing, fade, end improvisation must change radically. Pool: store the instructions at the same time.

GAME:
Rules, games, tasks, challenges.

SOUND:
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GAME:
Rules, games, tasks, challenges.

Play the sound of tuning in a forest.

SOUND:
Scenes, imagery and sounds to recreate.

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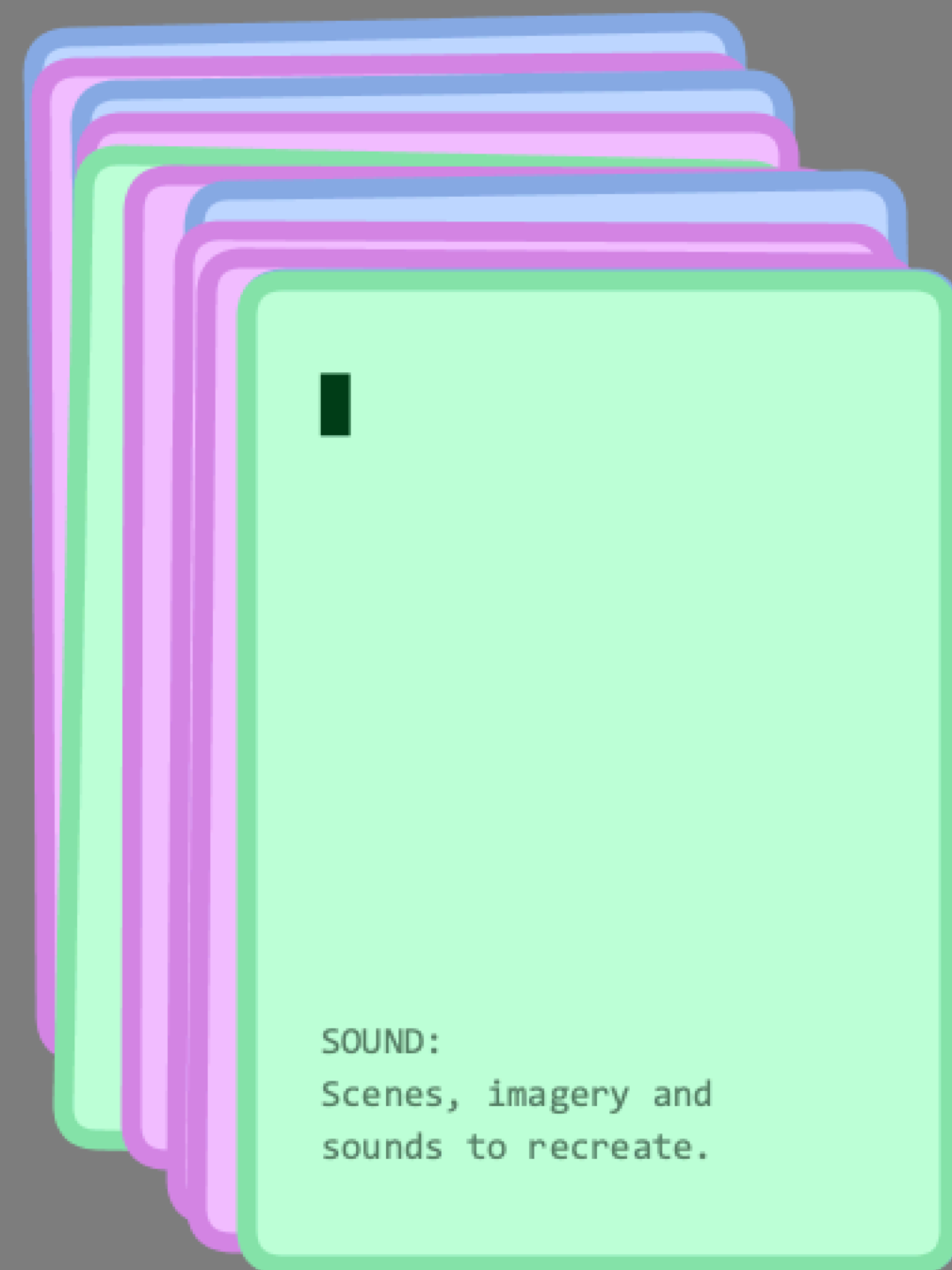(1) Press [TAB] to choose which blank card you are writing on.

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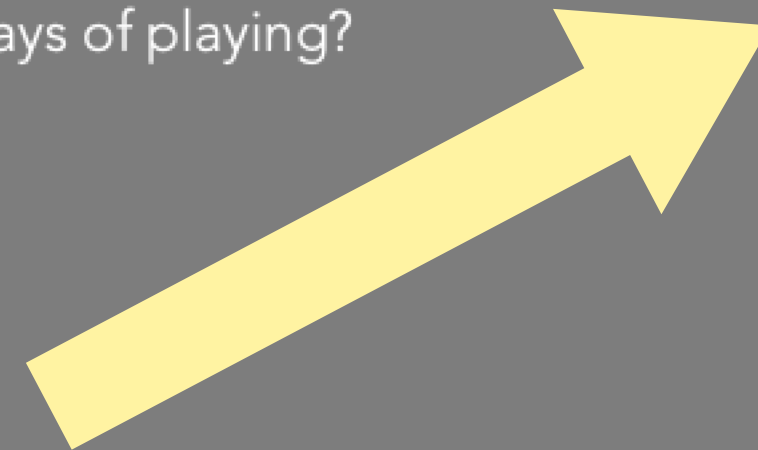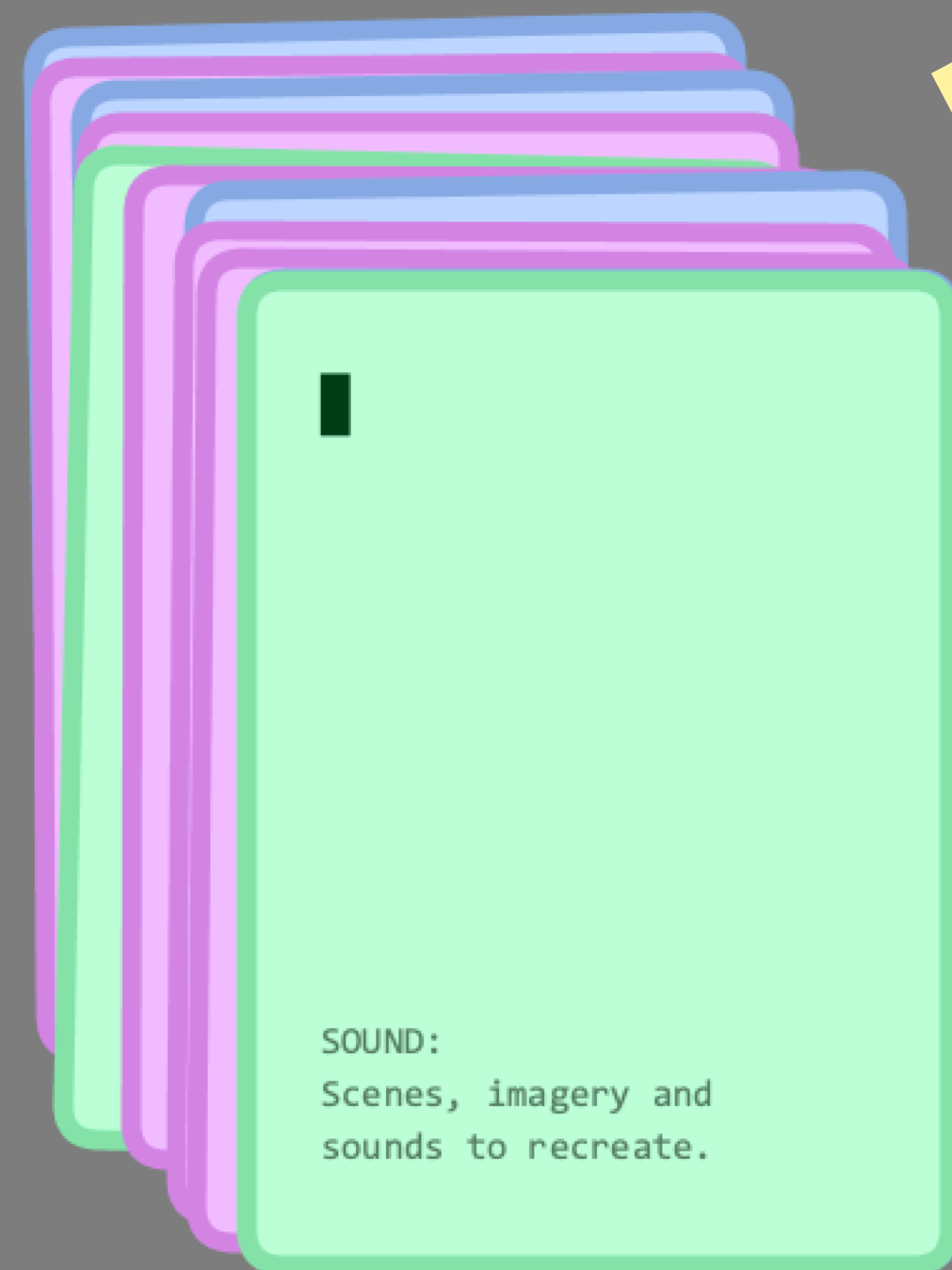(2) Press [RETURN] to submit a new card to the deck.

(3) Stuck for ideas? Press [ESCAPE] to shuffle deck and draw three existing cards.

SOUND:
Scenes, imagery and sounds to recreate.

trade - two new cards generated!

improvCues

Can machine learning stimulate creativity in improvised performance? How could machine learning fit in to your own musical practice?

Start by following the three prompts on the right using the available instruments. Discuss the prompts with your fellow players. Do they spark new creative ways of playing?

Feeling inspired? Add a card to the deck.

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surprise

creative loop between composer, players and machine learning

A marble rolls down a wooden staircase.

SOUND:
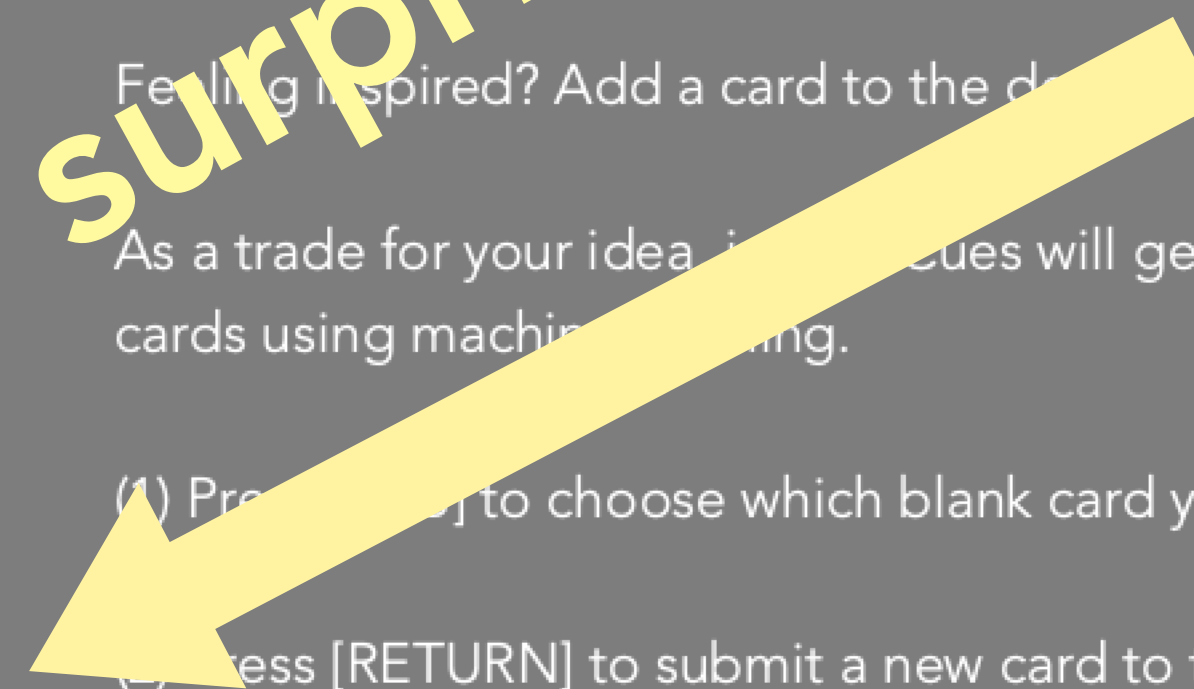Scenes, imagery and sounds to recreate.

Pool: All those currently playing, fade, end improvisation must change radically. Pool: store the instructions at the same time.

GAME:
Rules, games, tasks, challenges.

Play the sound of tuning in a forest.

SOUND:
Scenes, imagery and sounds to recreate.

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Scenes, imagery and sounds to recreate.

design decisions

trade - you don't get new cards for free

ambiguity - no set way to play

game cards - let the system also create new rules
on how to use itself

future work

different machine learning per card (e.g. letter level text)

open environment - not fixed to three card layout

physical prompts - use a robot to draw onto cards (tangibility)

improvCues

please come along and have a play!

players, writers and audience welcome :-)

Find the thumb
piano and talk
into it.

INSTRUMENT:
Actions with instruments.

Use cliches.

Deliberately play
the wrong notes.