AI POETRY USES

Exploration

The poetry produced by the system could be generated in many ways, by one person or many, to keep private or to share, generated entirely randomly or with some influences, such as using a keyboard to enter text or by giving the system other data with less of an explicit meaning.

Generated by one user for themselves

For example, on the backs of public transport seats, allowing users to generate poetry and regenerate individual lines of the poem in an attempt to make their commute more engaging and to get the user interested in the art of poetry or the science behind how the system works.

Generated by several users for themselves

Not shared, so only for the entertainment of the users who have generated the poetry. For example, a game similar to Exquisite Corpse or Cards Against Humanity in which users each generate their own lines or stanzas and then share them with the group. This could be in order to collaborate or compete.

Generated by one user to be publicly shared

For example, a social platform similar to Reddit with the potential to share user creations online or in the real world, such as on digital billboards or advertising space.

Generated by several users to be publicly shared

Collaborative generation to be published online or in the real world, as above.

Generated without human intervention

Users in this case can only generate entire poems, with no option to edit them.

Generated with human intervention

Users can generate entire poems and individual lines, meaning they don’t have to overwrite an entire poem in order to change a single line.

Totally random generation

Allows no customisation, essentially no user interaction.

Generated based on user-selected themes from a given menu

Little customisation and restricts users to specific premade ideas.

Generated based on text input

Allows for more control but does not make for a very interesting user experience.

Generated based on non-text input

For example, imagery of a user's surroundings, mood analysis from an image of the user's face, audio recordings, or nearby points of interest based on location data. This input system brings the real world and the generated poetry closer together, creating a more personal, intimate, and immersive system. These input methods may cause issues, however, as a server would need to store and analyse images or audio that may be inappropriate, non-consensual, or legally protected.

Human intervention rounds with users taking turns to generate a line or stanza

Allows users to each have a meaningful contribution.

Shake the device to regenerate poetry

More real-world interactions, rather than tapping a screen, for example, helps the user become immersed in the system and gives it a tangible feel.

Share poetry within the system

Adding a social aspect to the system would allow users to easily share their poetry.

Share poetry outside of the system

External sharing allows users to share their generations wherever they want to.

TARGET USERS

Personas

Joseph

Joseph is a 20-year-old mathematics student at the university of Lincoln. He lives with several friends in on-campus student accommodation, meaning he can walk a few minutes to and from his lectures, up to three times a day.

Joseph wants to have valuable interactions with technology, especially if it's something he can do with his friends. He doesn't want to just use an app that does the same thing as many others with just a different appearance.

He spends most of his free time, up to eight hours a day, on his phone using apps to take in media and talk to his friends outside of university. Joseph enjoys group projects and spending time with his friends, either in their accommodation or going out for the day.

Abby

Abby is a 40-year-old marketing manager in London, living with her partner in a house further out of the city. Abby commutes to and from work daily, travelling by train or bus for thirty minutes each way. Abby wants a less passive commute as she is bored of seeing the same signs and adverts each time she travels. She enjoys reading the information whiteboards as they often have poems or quotes written on them, changing frequently.

As she lives in London, she would like to go out around the whole city, but once she's been to the famous locations, there's not much left to see that appeals to her. She would like the city to give her a reason to keep visiting areas she wouldn't normally go to.

Abby uses few mobile apps, mainly standard utilities such as calls and texts. She does enjoy taking in art and browsing museums, but mainly in a few frequently visited locations.

Hannah

Hannah is a 25-year-old civil servant living and working in Leeds. She works from home in an apartment she is renting by herself. Hannah has recently moved to Leeds so wants to explore her new city and have more of a connection to her surroundings. Because of this, she wants to spend less time using her phone and more time 'in the real world'.

Hannah uses her phone for a few hours a day, mainly to talk to family back home, and spends a lot of her free time reading, writing, or streaming movies on her laptop.

FIRST CONCEPT

Device Session Reflection

This use context involves a popup notification alerting the user that their mobile device use has been uninterrupted for an extended period of time. The user is then prompted to reflect on their mood and the value of their session by generated poetry, influenced by the user's detected mood.

Scenario

Joseph is looking for a way to spend less time on his phone. He wants to find a system that helps him decide for himself when to stop, rather than simply setting a time limit and having his phone shut off access to applications.

He uses this system to give himself the chance to reflect on how he's feeling while using his phone. The system notices that Joseph has been using his phone for the time limit he set for himself, but instead of closing his apps, a message appears and prompts Joseph to reflect on the time he's spent on his phone. On tapping the message, the system detects Joseph's mood and a poem, generated based on that mood, is displayed with the hopes that it will help Joseph reflect.

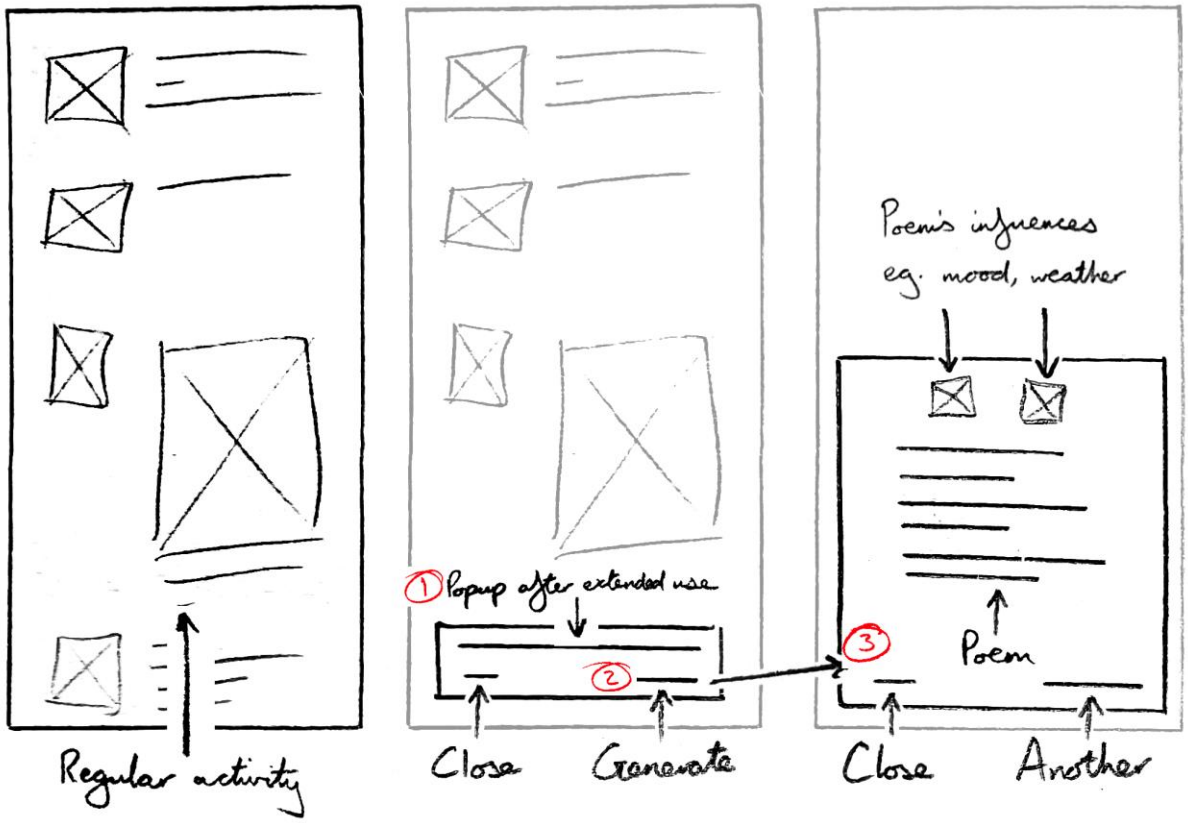
If he thinks that the session has been of value to him, he simply closes the message and carries on as before, with the system waiting again for the time limit to pass. If, upon reflection, Joseph decides that his time would be better spent doing something else, he can personally decide to stop using his phone, rather than simply having access to applications revoked (which he could overrule anyway).

Joseph prefers this way of cutting down on time as it lets him decide for himself which sessions are useful, and which are not. However, he would prefer the poetry to be influenced by his phone usage or his surroundings.

Refined concept

Considering Joseph's viewpoint, the system should be able to generate more personal poetry. Poetry based on the activities a user has been doing would aid their reflection and generating based on their current surroundings (e.g. weather or nearby locations) could help them consider alternative activities.

These additions do bring up further privacy considerations, beyond the use of the user's camera. Poetry based on a user's activities requires the system to monitor their phone usage, while poetry based on a user's surroundings require the system to have access to the user's location data. A workaround to this would be allowing the user to choose what factors are used in generating the displayed poetry.



1. After extended mobile use, the popup appears on the user's screen.
2. The user can then close the popup or generate a poem.
3. A poem is generated for the user who can then exit or generate another.

SECOND CONCEPT

Public Transport Seating

This use context involves an electronic screen mounted on the back of seats on public transport. A touch screen would display poetry generated with no specific characteristics. The system gives the user the options of changing the selected line and regenerating it, thus allowing the user to interact with the system and collaborate with the algorithm on a poem.

Scenario

Abby wants a less passive commute with a way of incorporating her interest in literature. She uses this system to engage a little more with her surroundings. Presented with a screen mounted on the back of the seat on the bus behind her, she is then prompted to generate a random poem. Once a poem is generated, Abby reads it in full and decides whether or not

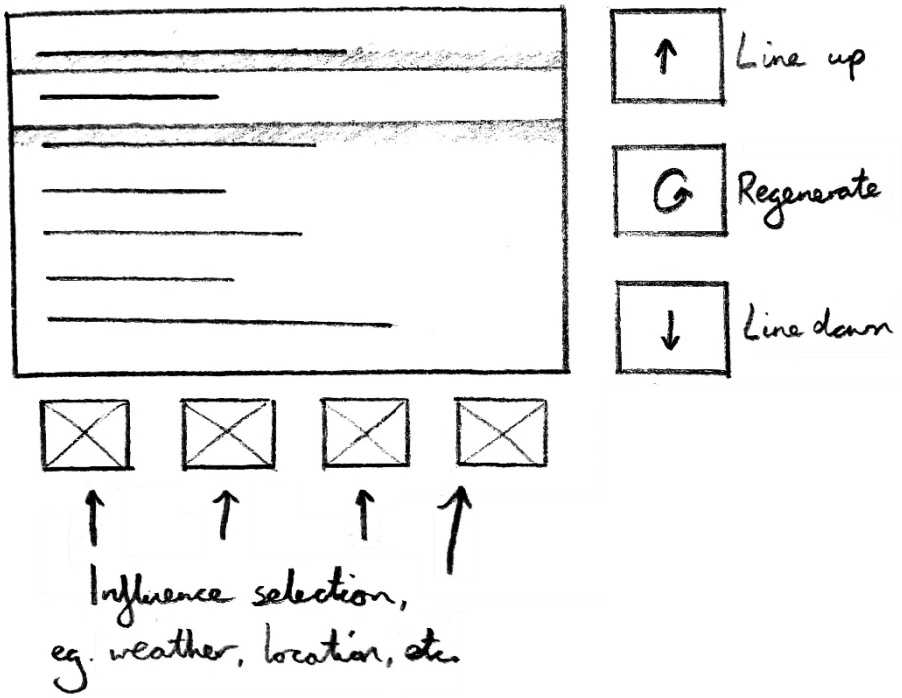
she can relate to what it says. Today's weather is rainy and cold, but the system has generated a poem that feels more like it's about summer.

Abby does like a few lines of the poem, though, so she decides which to keep and which to rewrite. Swiping an individual line away from the centre of the screen tells the system to replace it with a newly generated line. Abby doesn't use much technology, especially touch screens, so a touch screen system in this case may not be the most accessible method of interaction. After generating a poem to her liking, Abby then stops using the system. Her commute finished and someone else gets on the bus, takes her seat, reads her poem, and starts the process again.

Refined concept

Abby's main issue with the system was the accessibility of the touch screen. Although intuitive to some, they do require the user to have experience to be able to quickly realise what is needed in the way of their input. A basic screen with physical buttons would make the system more accessible, and certain screen types, such as those using e-ink, could also improve the visibility of the screen's contents. The system would need a button to regenerate a line and two buttons for line navigation.

Further additions could include feeding the system user-selected data to influence the poetry, such as local weather, events, or location data. As the interaction is private between one user and the system (though debatably also between the users one before and one after the current) on public transport, location and weather data are by no means implicated in privacy concerns.



THIRD CONCEPT

Public Broadcast Boards

This use context involves a generated poem, influenced by current events including weather or news stories, broadcast in place of advertisements on screens on public billboards.¬¬ The poems' characteristics may also be influenced by the day's date, for example, celebrating culturally significant poets' birthdays.

Scenario

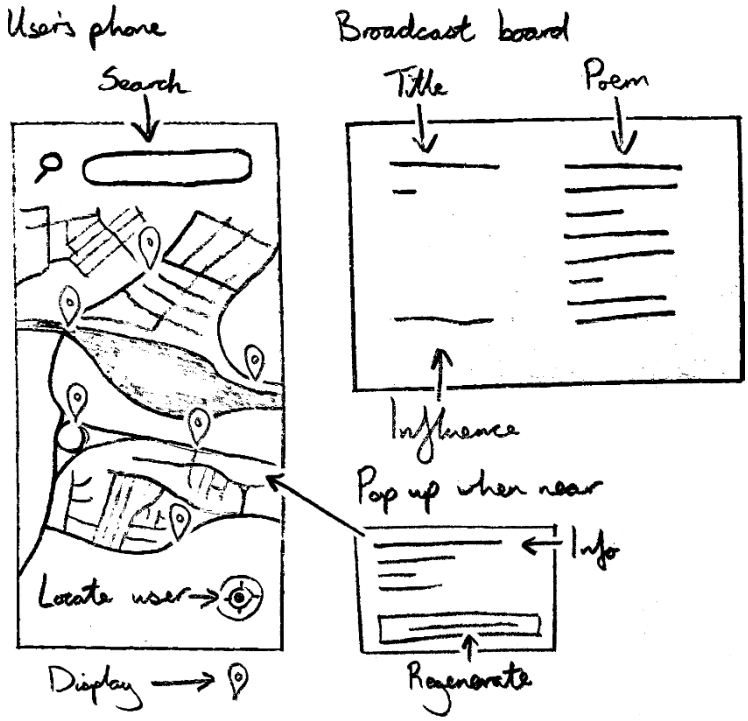
As this system is public and passive, with no human interaction, any scenarios regarding the system will be extremely short. Hannah would simply come across these poems in public spaces and not be able to interact.

Hannah wants to explore her new city, so would prefer if she could have a map of all of these poems, and potentially have some influence over their content. As she uses her phone often, her preferred method of interaction would be via a mobile application.

Refined concept

Adding a map feature would enable users such as Abby to not simply stumble upon these broadcasts but be able to go out and find any that may be in places of interest or about particular topics.

Users could also regenerate poetry on nearby displays, giving them some control over the output text.



FINAL CONCEPT

Reflection Companion

The chosen concept is a mobile application which expands upon the third concept. While the third concept was simply a reflection of the user's current device session, this concept will allow the user to reflect on how they spend all of their time. By reading periodically generated poetry based on their own activities, users will be able to reflect on the time they have spent since their last poem and consider whether or not that time was well spent, hopefully encouraging healthier habits and better spent time in the long run.

Scenario 1

Joseph wants to have valuable interactions with technology and wants to cut down on his device usage as he uses his phone for up to eight hours a day. He decides to download the application as he has seen that it encourages users to spend their time more intentionally and mindfully, so he hopes it can help him get out of his habits. Once the application has downloaded, Joseph allows it access to all of his data so that he gets the most personal poetry the system can generate.

While using the application, Joseph receives a sensitive text message and proceeds to have a personal conversation. The system has no way of knowing that Joseph does not want that conversation to be analysed in the poetry that he receives, so it includes it in its corpus when generating Joseph's next poems.

In future versions, Joseph would like to see a way to tell the system not to analyse certain parts of his day, such as deleting a certain amount of time's data from the system's storage.

Scenario 2

Abby uses the system to be more productive in her daily life. She isn't at all tech savvy so simply downloads the app and leaves it running in the background, without ever checking its settings. Once Abby receives her first poem, she is surprised to see quite how personal it is, even writing in her own way of talking. As Abby hadn't read the app's privacy policy or looked at any of its settings, she didn't realise how much data was being gathered and analysed to produce the poetry the system generates.

Abby would prefer to have been able to learn more about the system's inner workings and be given the opportunity to fine tune the settings before any poetry is produced. This would greatly increase her level of comfort using the app as she can give clear consent for the system to access certain aspects of her life.

Scenario 3

Hannah enjoys using the app and feels as though her bespoke poetry allows her to reflect well on the activities she performs throughout her life and how long she spends on them. Because of this, Hannah is interested in reading other users' poems and sharing her own to see how their experiences compare.

As the concept (and thus the app) currently has no sharing functionality, Hannah takes a screenshot of her generated poetry and sends it to her friend who does the same in return. The pair are confident that their own poetry has had a positive effect on their lives and when reading it, they have a clear connection to it and can reflect easily on their recent activities.

When reading each other's poetry, however, the two users have no connection and often do not understand what is meant by certain parts of the poem. As such, to their disappointment, they find little value in sharing their poems as there is no context to the experiences the other user has recently had.

Persona and scenario reflection

The personas used (and thus their respective scenarios) are each built around a key consideration for the system's design. The first persona focuses on control, the second on consent, and the third on sharing. Although these points are arguably the most important aspects to consider, they aren't necessarily the only ones. By using these exaggerated personas and scenarios, gaps within the exploration can be noticed - for example, simply discussing each persona's main focus means less obvious events and consequences of using the system are missed.

Such considerations include more longer-term usage, in addition to the first time use cases in the scenarios above. To gain a more detailed insight about how the system would fit into users' lives, scenarios in different contexts must be developed in which personas' main focuses should be considered to a lesser extent. While these scenarios may not impact the final concept to the same extent as the more focused scenarios, they will give a very important look into the system as part of daily life.

Scenario 4

Abby is sat in a café with a friend she hasn't met up with for a couple of years. Over a few hours, the pair discuss their current life events, what the other has missed, and what they intend to do next. The conversation is long and detailed, and the pair feel reconnected by the end of it.

Before Abby and her friend leave the café, Abby's phone sends her a notification from the reflection companion application. She opens it and reads the poem that has been generated for her. The system has analysed not only Abby's daily life over the past few days

but has also been greatly influenced by the conversation that has just taken place. Abby finds that the system has picked up on a large part of her conversation and has written a poem that Abby feels is a nice reflection on her rekindled friendship. Abby decides to save the poem to read again later.

Abby's returns to the poem the next day but finds that she has forgotten some of what was spoken about, so does not have such a close connection to the poetry as she did before as her screenshot contains just her the text of poem.

Scenario 5

Hannah has used the system for three weeks and in that time has decreased her mobile usage and increased her daily productivity. She now mainly uses her mobile phone for communicating with her friends and colleagues and her generated poetry reflects that her time is spent achieving more and having longer, more genuine, conversations.

Hannah is very pleased with how the system has impacted upon her life so decides to screenshot the poetry that she feels she can connect to the most and would like to be able to look back on these poems in the future.

In Hannah's first week, she spent nearly all of her time at home scrolling through social media or streaming shows on her phone. The system recognised that her activities were not very varied and the only time she left the house was to go to her local shop. Hannah's poetry for the week was usually quite similar, with themes of the shows she had watched and the common topics her peers shared on social media. Reflecting on this poetry made Hannah realise her life was almost entirely just what she was watching and reading.

In her second week, Hannah spent less time indoors and decided to meet up with her friends more often. While at home she still streamed TV shows but visited a friend's house or went to a café with a friend at least once a day. Her poetry showed a wider variety of topics as she had had many long conversations over the week. Hannah realised that her time was spent a lot more intentionally that week and her poetry felt a lot more interesting to read.

Hannah's third week involved very little time sat watching her TV or scrolling through her phone. Spending more time outside both on her own and with friends, Hannah's daily life was more varied and social. She decided to visit places she hadn't been to before and took lots of photos of herself and her friends. At home, Hannah used her time to do more productive things than scrolling such as listening to podcasts and watching educational videos. The third week's poetry showed a huge change from her initial poetry, including lots of natural themes and poetry about the places she had been to. The system collected topics from Hannah's podcasts, videos, and conversations along with location and mood analysis of her photos and generated poetry about happiness and exploration.

After a few weeks' use, Hannah reflects on her saved poetry and can see that her daily activities have drastically changed over time and feels that her time is now spent a lot better than it was before.

Refined concept

Reflecting on the above scenarios can show the users' potential pain points, allowing the refined concept to attempt to solve those issues.

Scenario 1 gave rise to the idea of 'deleting history' from the system, allowing a user to go to a page in the application and tell the system to not analyse data from a certain time period. Because of this, the refined concept has a dedicated section within the application to remove a certain period of time from the system's memory.

In scenario 2, Abby didn't realise quite how the system worked, and allowed it to begin its process from the moment she had downloaded the application. Consent is extremely important and, as the system will be using the personal data of its users, a huge legal risk without clear, constant consent. In the final concept, users will be able to completely stop the system and will not be able to begin using the system until they have read an explanation of how it works.

Scenarios 3 and 4 raise two issues with the same cause. As the application currently has no in-built saving or sharing functionality, users resorted to taking a screenshot of their screen to keep for themselves or to send to another person. Because the poetry is so heavily influenced by the user's current happenings, reading it out of context may leave the reader unsatisfied with the poetry as they have no indication of the events that influenced its themes. The final concept should have a specific functionality to allow users to save and share poetry, along with important information about the context in which it was generated. Such information includes the date and time of generation, the user's location history, any topics detected in the media they consume or conversations they have, and any results of running image analysis on their recent camera roll. Though this information is highly personal, it is required to understand the poetry's meaning. The user will be able to select what information is saved when saving a poem, so they are in full control of what information they are saving permanently or sending to others.

Scenario 5 proved mainly successful, but suggested a feature be added to allow users to immediately record their feeling toward the period of time that was analysed to generate their poetry. Using this feature will allow users to see how their mood changed over time to get an objective view of whether the system is working for them.

The actual interaction between the user and the system takes place during the generation and collation of the user's data before the notification is displayed. Poems generated by the system are influenced by the user's usage of their device, such as their location, camera and microphone data, incoming and outgoing messages, calls, which apps they use, and what they do within those apps. There is also potential to know more about who the user has been in contact with during a particular session if their contacts are also using this system.

The amount of data gathered on a user's activities would have a great deal of influence in the user's experience. A constant stream of all of a user's data being analysed throughout a device use session would give the system a comprehensive dataset to be

influenced by, allowing it to generate much more accurate and personal poetry which the user may be able to strongly relate to. Such a dataset, however, is hugely invasive in the user's life, being an ever-present observer, constantly monitoring everything the user does, sends, or receives.

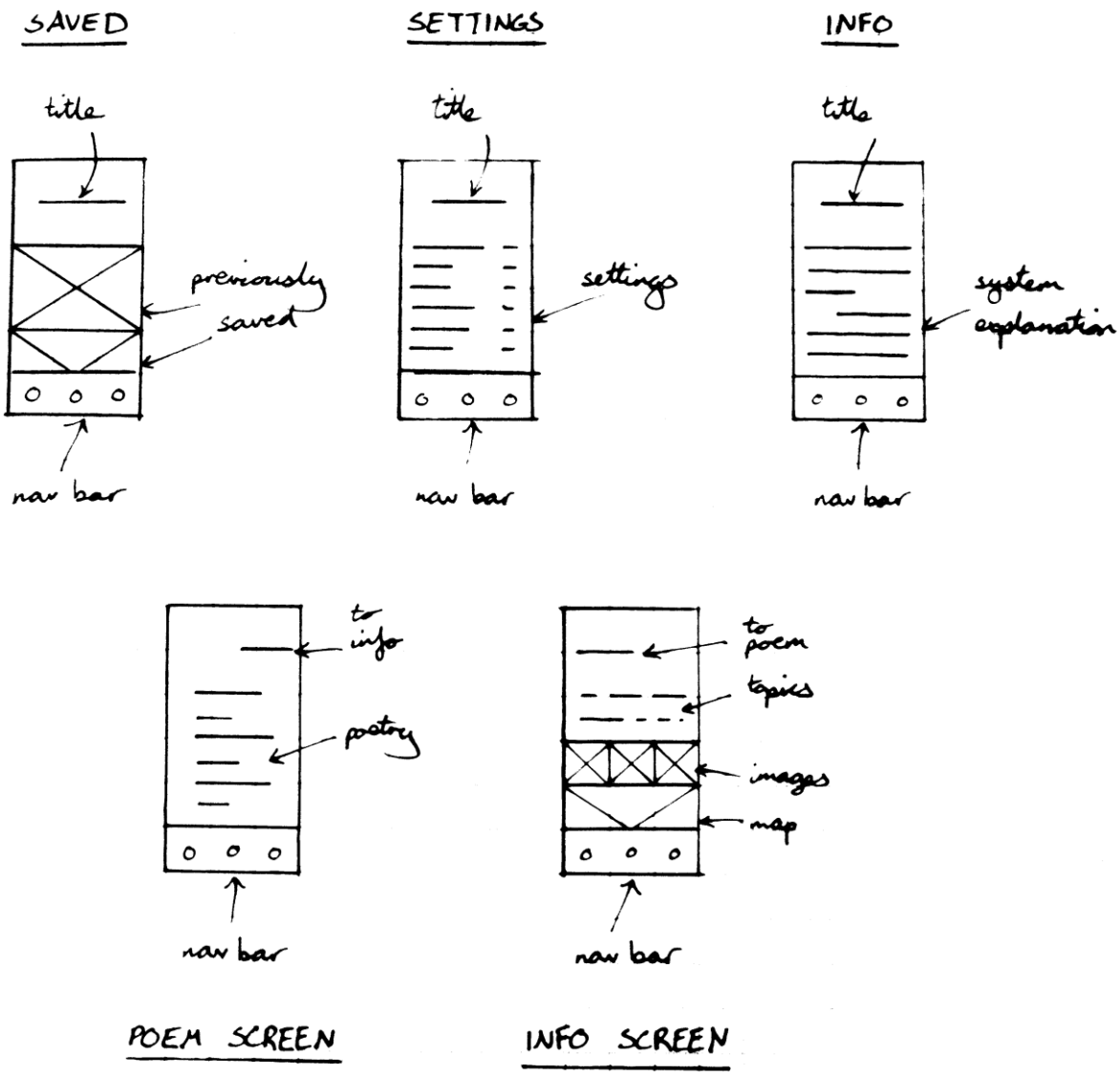
On the other hand, generating poetry only from data gathered at the moment the user decides to generate a poem gives extremely little for the system to base its generations on. This means the system cannot offer such bespoke poetry and the user is unlikely to find much meaning in the poetry they are shown.

Somewhere in the middle of the two scenarios above, the system periodically takes data and finally generates a poem. The poem in this case is not guaranteed to mean much to the user, but the amount of data taken would certainly make many users more comfortable than sharing everything. To compromise, the user will be able to select the frequency at which data is collected and specify what type of data is off-limits to the system.

To make this concept a reality, the ideal library to use would be OpenAI's GPT-3. GPT-3 is a text generation tool that would give some of the best standard AI writing currently possible. Its very human-like writing style can easily pass for legitimate human-written literature and it can produce such text from very little input. However, because GPT-3 uses text from all across the Internet as a corpus it can be biased, and often controversially so. As it is an artificial intelligence system, it has no intention in its writing or semantic knowledge of the text it outputs – it is purely probabilistic. GPT-3 currently requires a large amount of time, storage, and computational power to train, so the only realistic way of writing to the user would be with its standard Internet-influenced corpus, rather than attempting to copy the user's communication style.

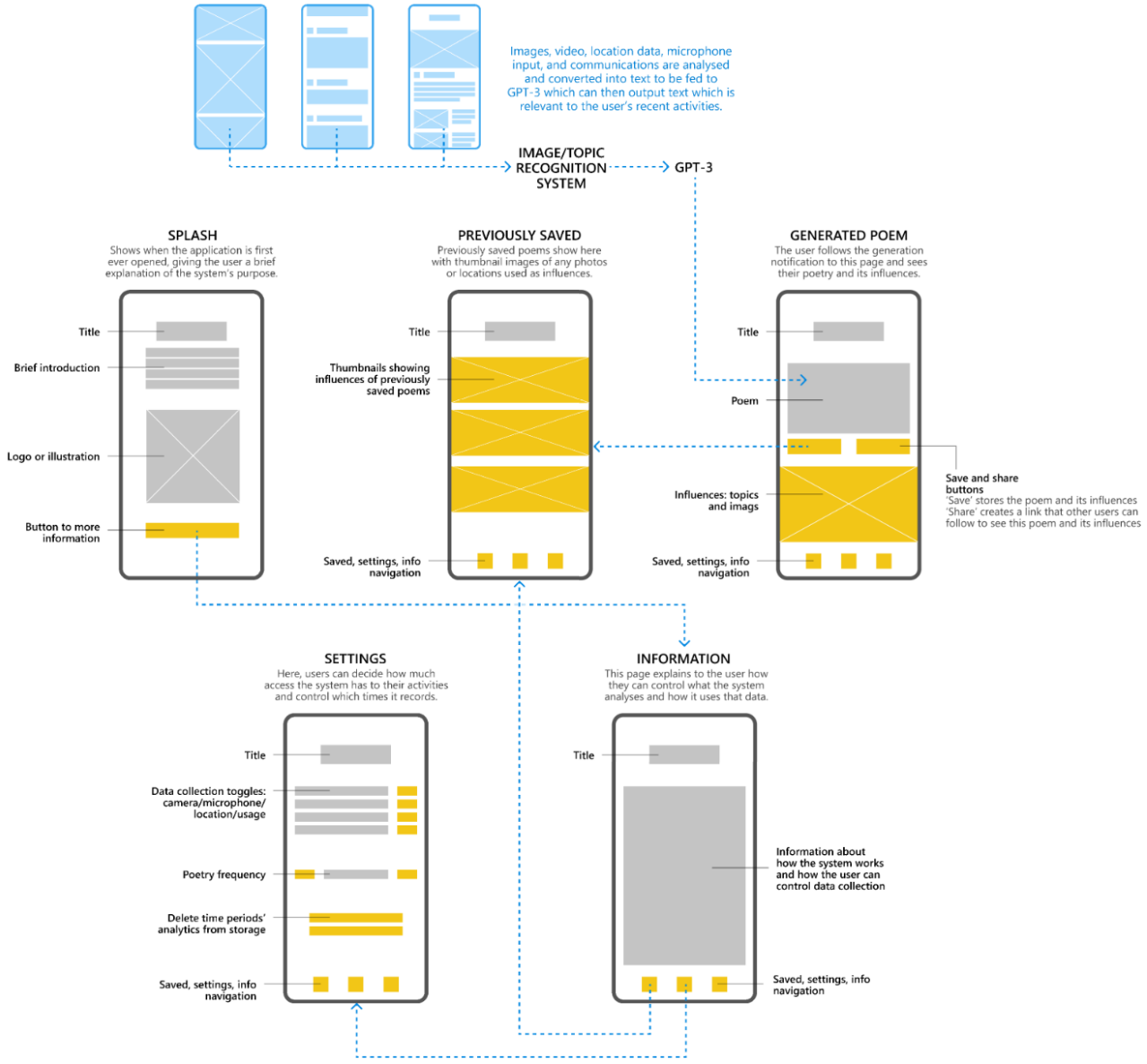
Data would be transferred to GPT-3 from the user's communications, watched content, and photos. Running photographs and watched content from the user's device through an object recognition algorithm could tell GPT-3 what the user has been taking photos of or what mood a subject's face is portraying, while running them through another processor could select a general image mood from the hue and saturation. Users' calls and texts could be run through a speech to text system, then given to a topic modelling system to give GPT-3 an idea of the topics and context of a user's communications. Though potentially computationally demanding, these approaches would give the user the most bespoke poetry available at this time.

Low fidelity sketches



While the sketch as a whole seemed to fit the refined concept, in future designs, the poem screen and its info screen were combined for clarity and ease of use. A splash screen was also added to greet users on their first use of the application.

Interaction diagram



High fidelity mock-up