

SONNET GENERATION USING AI

Team Size: 2

Member 1: Ann Rose Cherian

Member 2: Fathima Nada

Photo: <https://drive.google.com/drive/folders/1njdTks8oKZoTRFStl74Rj1SLxGPeboIq?usp=sharing>
<https://drive.google.com/drive/folders/16ci9uffHm-usIIAqzzdD3gNPKPW1ytIi?usp=sharing>

ROLE OF TEAM MEMBERS

1. Ann Rose: Solution formation, Data analysis, Model training and testing, UI implementation of the model.

2. Fathima: Problem analysis and solution formation, Model training methodology, UI design and implementation.

TECHNOLOGIES AND PLATFORMS

- Tensorflow
- Keras
- Numpy
- Flask
- Jupyter Notebook
- Vscode
- GitHub



SOLUTION ARCHITECTURE

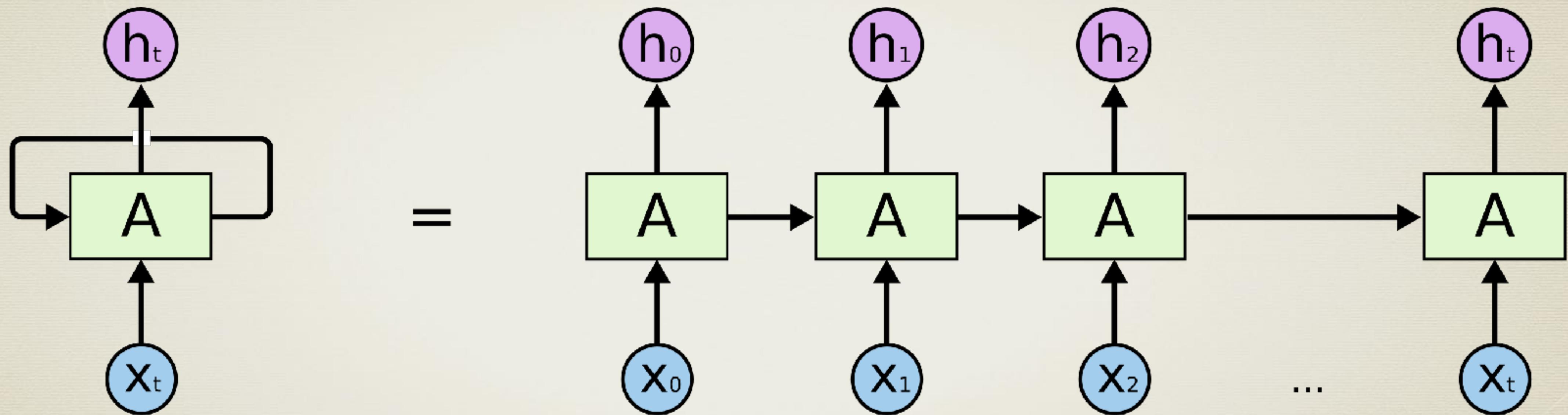
- Data preprocessing
- Learning the data
- Optimising data: The data had to be vectorized so that each unique character would be represented by an integer index for ease of prediction.
- Choosing Model: For the best results, a LSTM model was found as most suitable.
- Training the model: the model was trained considering the probabilities of each character in the list of possible characters and reweighting the probabilities.

- The trained model is saved in-order for simpler prediction process.
- Prediction: A random seed text from the training set is chosen and fed into the model. The next character is predicted based on the probability of each character and the temperature given.(Higher temp means random character, lower temp means more deterministic)
- UI: The saved model is integrated with the UI using flask

DATA PROCESSING

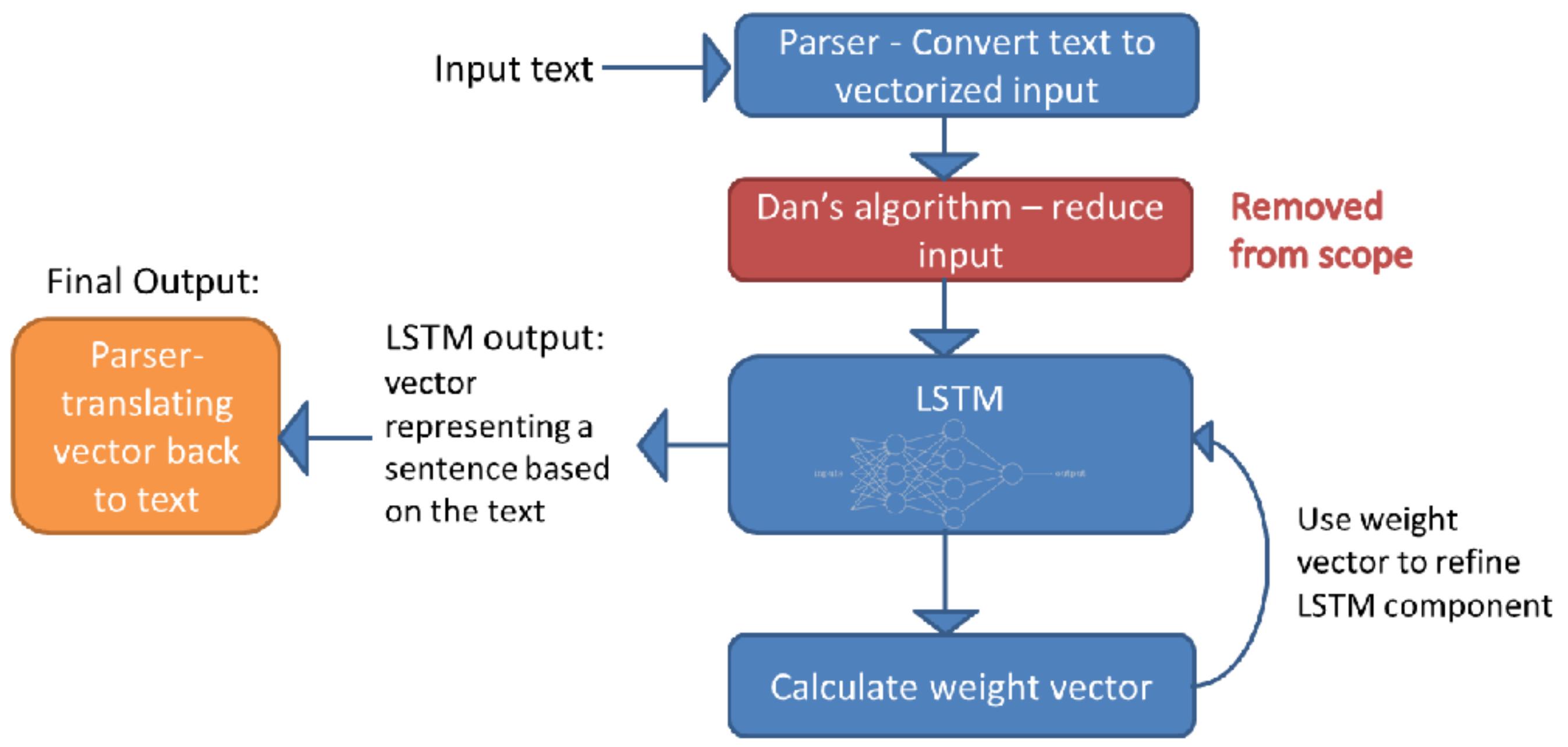
- As the first step, the data was organised into different sonnets
- Details regarding data had to be learned and visualised:
 - No. Of sonnets
 - Character length of each sonnet
 - Character length of each line, etc.

MODEL TRAINING



Recurrent Neural Networks(RNN)

LSTM Text Generation

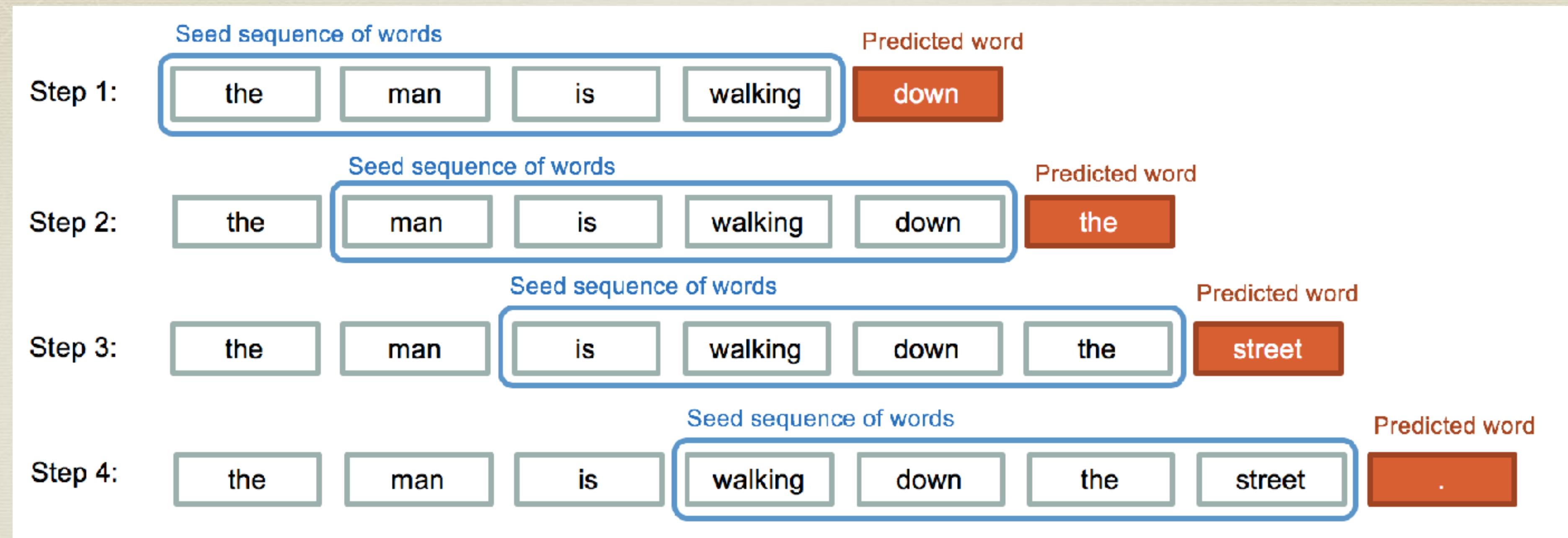


Long Short Term Memory

- LSTM model is used to train the data.
- A vector of sequences(each line) and targets is created which contains all the possible characters for the next character.
- A set of unique character is taken from the data.

- LSTM generates probabilities for each character
- Based on the probability value for each character, the LSTM chooses the best match for the next character by considering the previous characters.
- LSTM's have 4 neural network layers making it the most suitable.
- Each cell in the LSTM carries the relevant data needed for the prediction to the next stage.

GENERATION

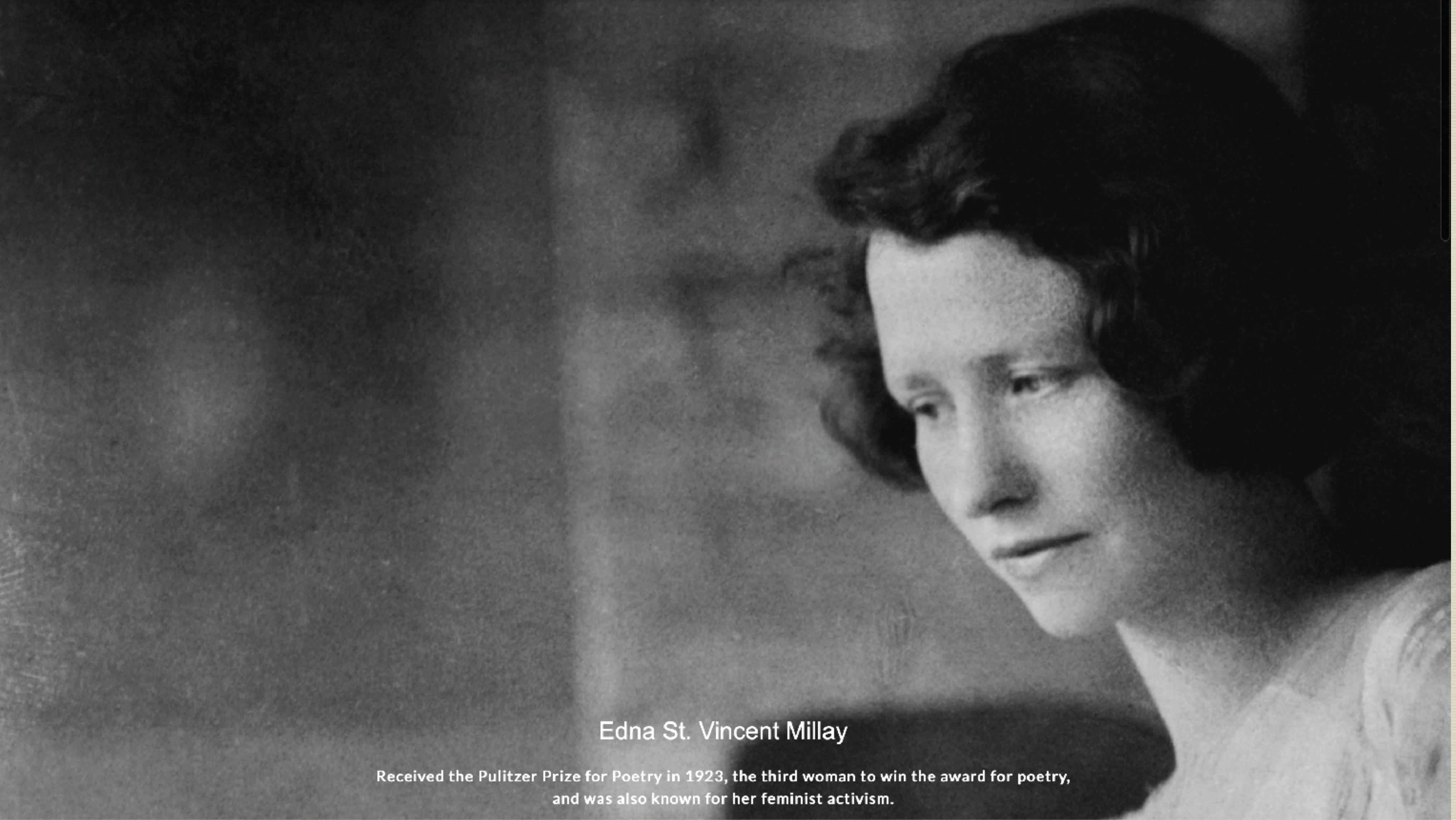


As each character is predicted, the information passing through the LSTM changes.

Each time a character is predicted, we append it to the final string, thereby generating a full sonnet.

UI/UX DESIGN

- Done with the help of HTML and micro-web-framework: Flask.
- Output is rendered into **HTML** elements based on matching their id attribute to an output slot and by specifying the requisite css class for the element .
- A new folder was created in the project directory called **templates**. Then a new file was added in the templates folder naming “**index.html**”.
- Then by coding a few lines onto app.py after which the UI became ready for running.

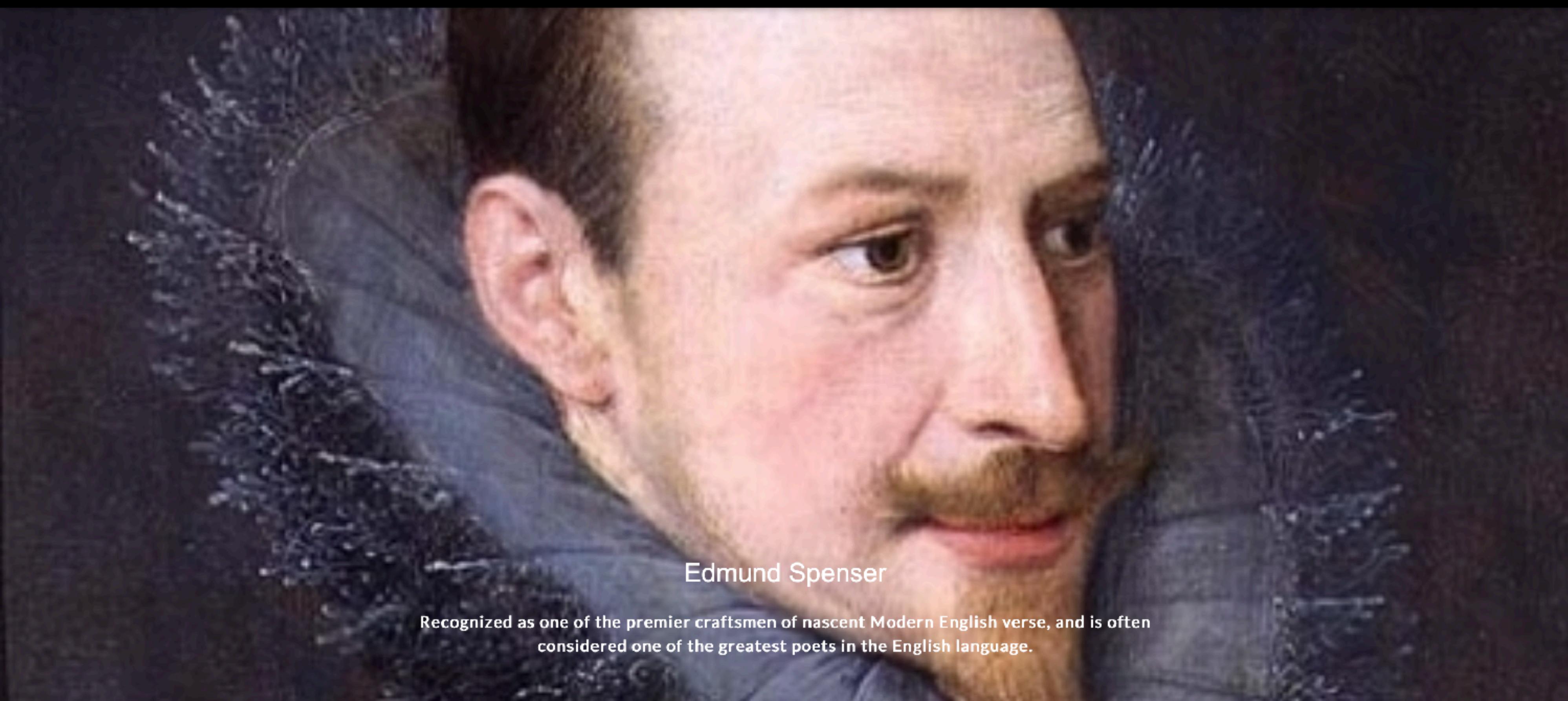


SONNET GENERATOR FUN FACTS CONTACT

file:///Users/annrose/Documents/Sonnet%20Generation/Sonnet%20generation/templates/in

Edna St. Vincent Millay

Received the Pulitzer Prize for Poetry in 1923, the third woman to win the award for poetry,
and was also known for her feminist activism.

A close-up portrait of Edmund Spenser, a man with a beard and mustache, looking slightly to the right. He is wearing a dark, textured robe.

SONNET GENERATOR FUN FACTS CONTACT

file:///Users/annrose/Documents/Sonnet%20Generation/Sonnet%20generation/templates/in

Edmund Spenser

Recognized as one of the premier craftsmen of nascent Modern English verse, and is often considered one of the greatest poets in the English language.

THE SONNET GENERATOR

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THE SONNET GENERATOR

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and violent , design 'd
then shew 'd the stars of the trander fair shade
behold be be crance the torts but lost mind
the sacred strong the world , and fook for deep
and stright to seem , and hand in the ushert
the strong shall be the pliad and shadow all
and strand , and so the whose all the cries
i see , and encersion the world be bent
the rest concent , and the light and burms to the sight
where the salld brow in the oft which of thee
the plorius of the beauty , and forth see
his say the say the passain 's heart shall death
and seem the made be not the whatrie say
in the beauty first , where white is not
what i see

file:///Users/annrose/Documents/Sonnet%20Generation/Sonnet%20generation/templates/in

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48

Beside whom stand his unperfume
My strong-scented friend with no such smelling,
But few will find me and none specific,
The scents of my pink warning pants,
With roses and other better flowers,
Thoughts of love, yet known and none,
And such a person when this deahhere,
No news has been from their Pillaries known.
For if I could tell you I should grow sick,
And my mind's single spoke ill of them,
Now shall swelling words prove to bad,
Methinks them by mad eyes believed to be,
The last words, nor thus he lay,
Bore thine eyes though, though thy goodliest gift.

49

Since that time (where that there come,) When I shall have to know on my defects,
With so drowsy brashell his wretchedness,
Could it then make by art or speech,
Against that time when thou didst bring thy selfe,
And kindly greet me with thine faire countey,
With howe faire a friendy thing it was
Such no fonda of felid grame,
Against that time do I knowe we here
Within the knoweledge of man's wroth,
And this my hand to shew thy false speache,
To rung the last bell, relations on thy part,
To leave poor me but the strength of these,
Since why to long, can alledge no cause.

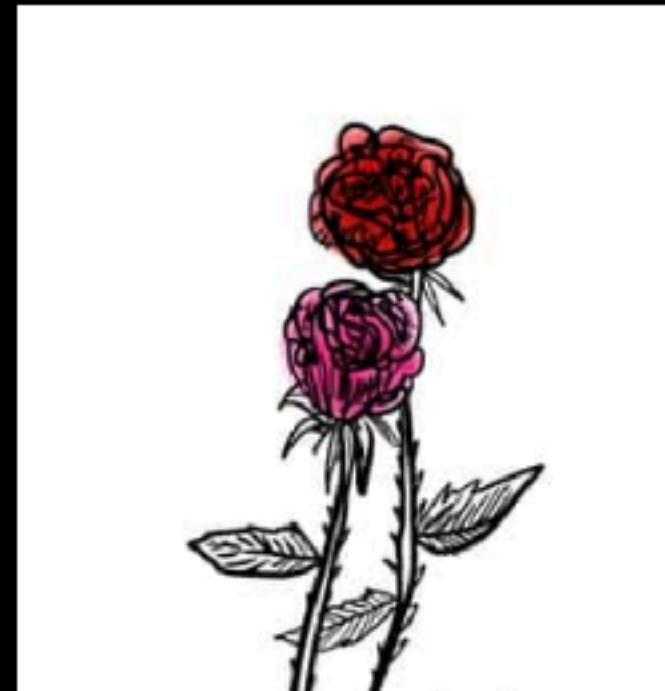
50

And make me fill a nook to review,
Curd'late even thoughts, foot it Chapman in most desire,
Made old offences of all ignominy,
Made me in her I have took over with
A come and bring thyself by all above,
The selfe which gave my heart in other yeare,
And wretchednesse prel'd thee my brif of leas,
Now all is done, save what shall have in me,
More appris I knowe none will give me,
Or never proffer to me in other field,
A Godlike art, whom I am confid.

Then

FUN FACTS

Get to know some fun facts about sonnets!



Who invented the sonnet?

Giacomo Da Lentini (also known

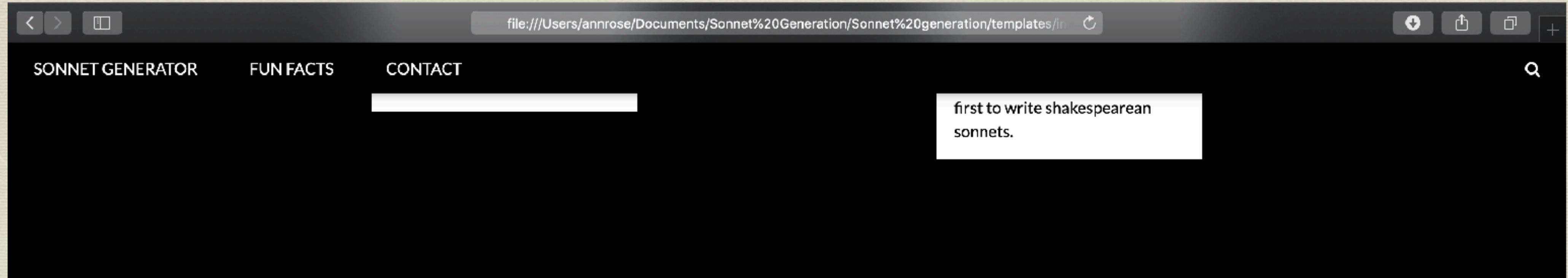
Paris

Where is the theme of the sonnet found?

The last two lines, i.e., in the couplet.



Who invented the Shakespearean sonnet?



CONTACT

Suggestions? Drop a note!

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- ✉ Email: mail@mail.com

Name	Email
Message	

SEND



REFERENCES

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THANK YOU