I’d implemented an initial version to verify my understanding of the requirements. You can unzip the file, and load the index.html in Chrome or Firefox.

The features of this version include:

1. Searching and highlighting the entities in the input area.
2. When mouse hover on the highlight text, a DIV with the description and image of the entity will show below the text. Since some images’ URLs are invalid, so the DIV will show the image only if it can be loaded successfully.
3. Currently you can paste or type text in the input area, but you need to click outside the input area to invoke the entity search function.

Some implement details:

1. I didn’t add any backend code, but loaded all entities in a js file. Since we only have 4000 entities, the text searching is still fast.
2. The content of DIV is editable, because the property of “contenteditable” is set to True. But it’s a really tricky to control cursor when there is some elements in the DIV, like span or div. When the text has been rendered, the cursor may move to random position. I know some solutions in some online HTML Editors like ACE which displays a fake cursor (the cursor is a shining vertical black div), or like editor in collabedit.com which puts a transparent textarea in front of a DIV that display the real content. But any solution is complex, I can try one of them, but two days maybe not enough.

Do you think I am on the right direction? Are there any parts I did wrong? Please tell me asap. I will use rest time to finish other features, resolve some issues, and submit the final version tomorrow.