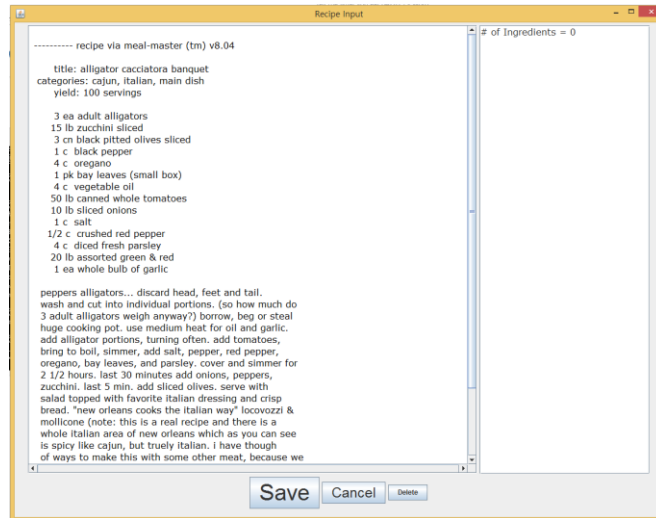
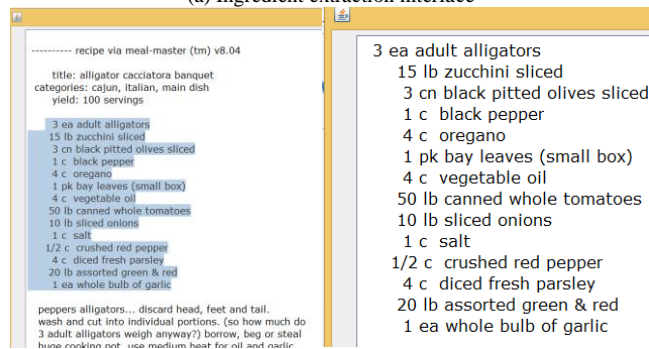


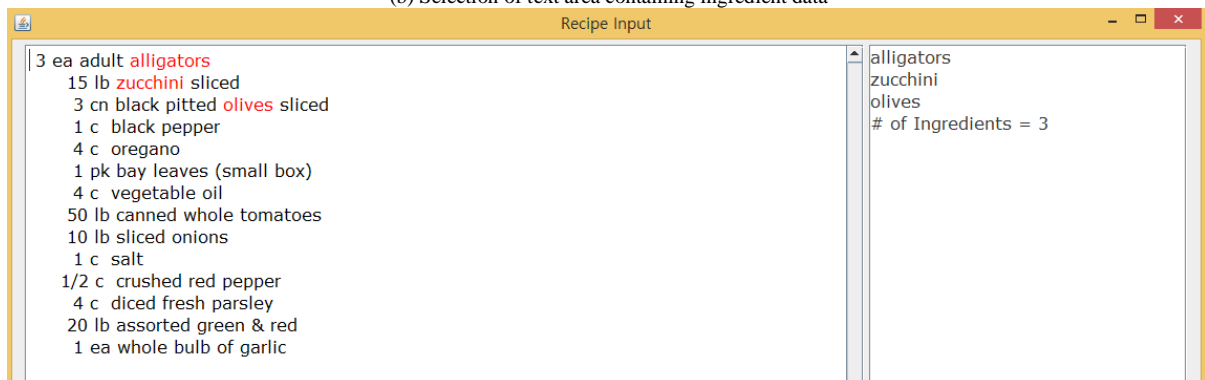
The system displays the recipe text in the left panel and the extracted ingredients in the right panel. The first step is to select the regions of text containing the ingredients (in this recipe, 3 ea adult ~ bulb of garlic). This is done by the human, and the system subsequently shows only the text in these regions. Working from these reduced texts, the human then manually selects ingredient names and the system stores the accumulating list of ingredients in the database. After an initial cold start, the system partially extracts ingredients based on the human's choices and gradually improves its performance over time. Figure 2 shows examples of automatic extractions.



(a) Ingredient extraction interface

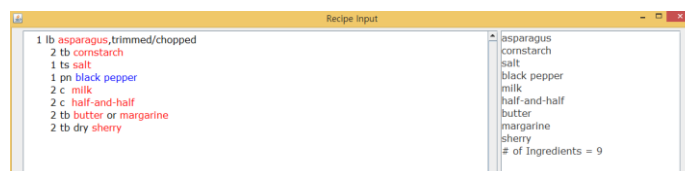


(b) Selection of text area containing ingredient data



(c) Annotation of the ingredients

Figure 1. Ingredient extraction from recipe text



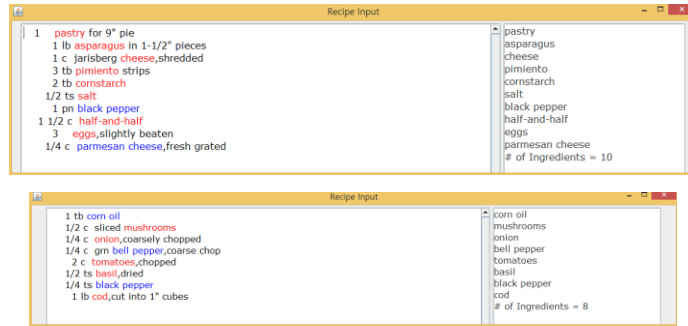


Figure 2. Examples of automatic ingredient extraction from recipes using the database (blue indicates that the ingredient's name contains two words)

TABLE 1. AN EXAMPLE CONVERSION TABLE FOR "AVOCADO"

| Name | Replacement |
|----------|-------------|
| avacado | avocado |
| avaccos | avocado |
| avacodo | avocado |
| avocadas | avocado |
| avocado | |
| avocados | avocado |