The issues that we decided to work on are knowledge representation issue and natural language resource issue. The ontology we are using is Harry Potter. When we generate the text to represent the knowledge of an instance of a class, in the default setting, the sentences generated are only based on the relationships defined in the topology. For example, in the Harry Potter ontology, we define a property called isChildof, and also define that Harry Potter is a child of Lily Potter and James Potter. The sentence generated to describe Harry Potter is “Harry Potter is child of James Potter and Lily Potter”. It uses “is child of” only because that it is the name of the property without knowing the meaning of the sentence. That is, if we give the different know of the property, it will use the different terms. This is not a good way to represent knowledge of an object, and it is a significant issue. Therefore, we decided to work on this issue to make the natural owl to generate meaningful sentences for each object by defining Lexicons, NL names and Sentence Plans. In addition, the basic Harry Potter ontology does not have much information about Harry Potter. We can provide more classes and entities to enrich the knowledge about Harry Potter.

We plan to create a sentence plan for each object property. Harry Potter ontology has 9 object properties that are forUseType, isChildOf, isHouseMemberOf, isHouseOf, isOwnedBy, isOwnerBy, isOwnerOf, isParentOf, isStudnetOf, and isTeacherOf. For property isOwnerof, the sentence plan that we create is Property Owner + Verb (we create a new verb called toBe which will describe in next paragraph) + String(an) + Noun (we create an noun call owner) + preposition (of). Once we create the sentence plan, we associate this sentence plane with property so that each time the property is used, it will use this sentence plan instead of using the name of the property. In this way, we give the meaning of the property. It makes the sentence more readable and meaningful.

We also plan to create Lexicons for each member of the properties. For example, isChildof contains a member called Harry Potter so we create a noun Lexicon for Harry Potter. In the Lexicon, we will identify that Harry Potter is a male and singular. Therefore, each time we want to refer Harry Potter, we will use he instead of he/she. Moreover, since it is singular, the verb follows Harry Potter will be singular form.