Software Engineering

Novelty of the Project

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Novelty of the Project:

- **Name of the Project :**
  Bug Similarity in Heterogeneous Networks (Research)

- **Unique Approach:**

  Nowadays the world is all connected with various technologies and one such is the social networks like Instagram, Facebook ,etc. Many of them are connected with their friends through such sites. A user connected to such sites is always in search of making new friends. In many social networking sites like Facebook, there is always a tab where any user can see their friend suggestions suggested by Facebook. And to be honest these friends' suggestions are most of the time true. But how does Facebook know this possibility that a user might be his/her friend? This led our group into this project which tries to use the similar approach in tracing and identifying bug relations.

  In facebook if we consider a user as a node then the relations between any user can be considered as edge. Thus the whole structure looks like a graph. The characteristic of an edge and node is completely different, thus called Heterogeneous graph. The bugs have different types of relationships. Therefore we have tried to predict the relationship possibility for each kind of relationship type for

any pair of bugs. Therefore we have devised an algorithm that takes input from all the previous relationships between the bugs and predicts the extent of any new relationship between any new pairs of bugs similar to the technology used by any Social networking sites.

- **One of the Kind:**

  Features are:

  1) **Similarity Prediction**- Given any pair of bugs the algorithm can predict the probability of these two bugs to have any kind of relationship in future.
  2) **Type of relationship** - Given any pair of bugs the algorithm can predict the probability of the type of relationship they are going to have in future. The one with the highest probability is generally the type of relation or edge the pair of bugs is going to have.