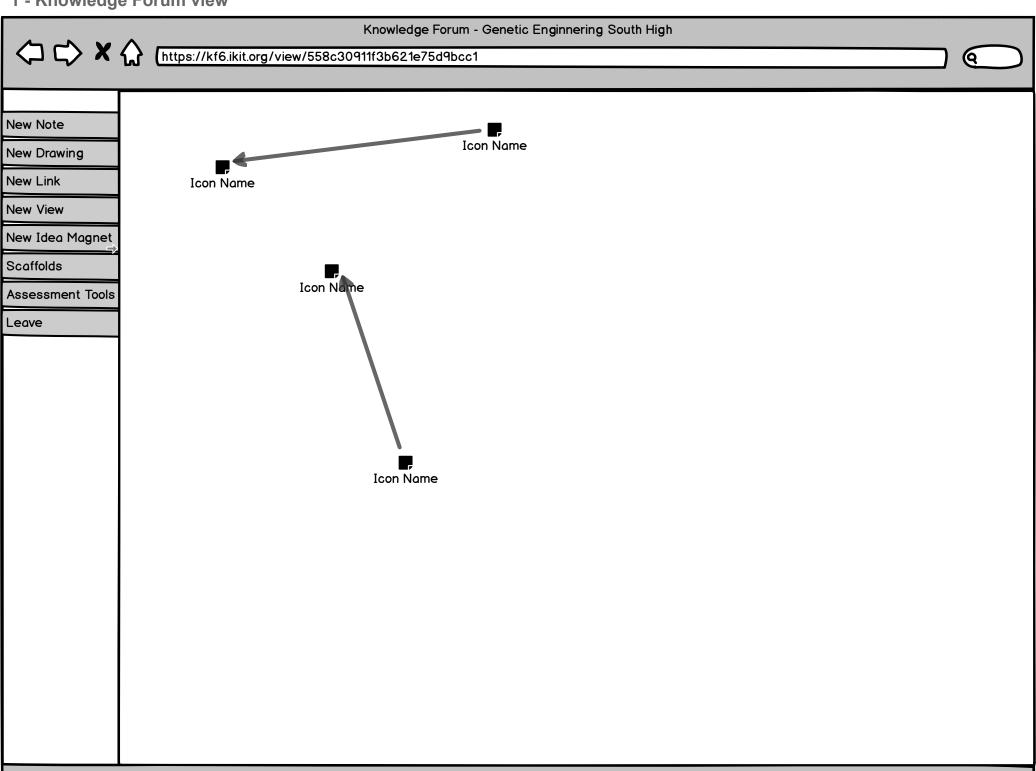
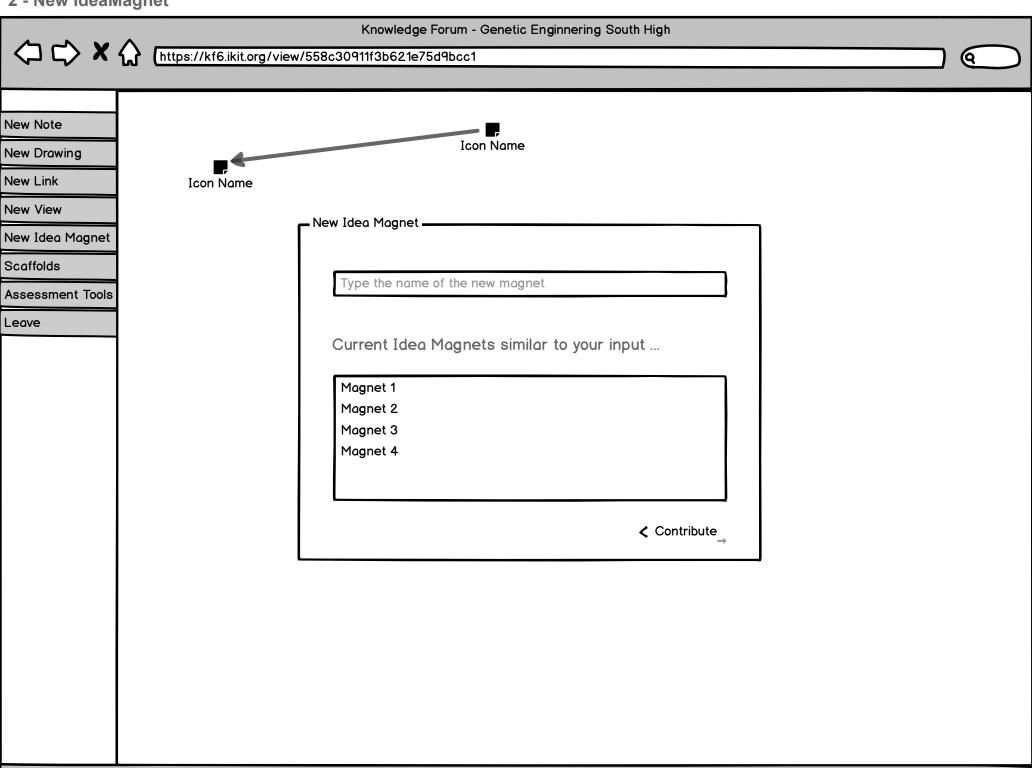
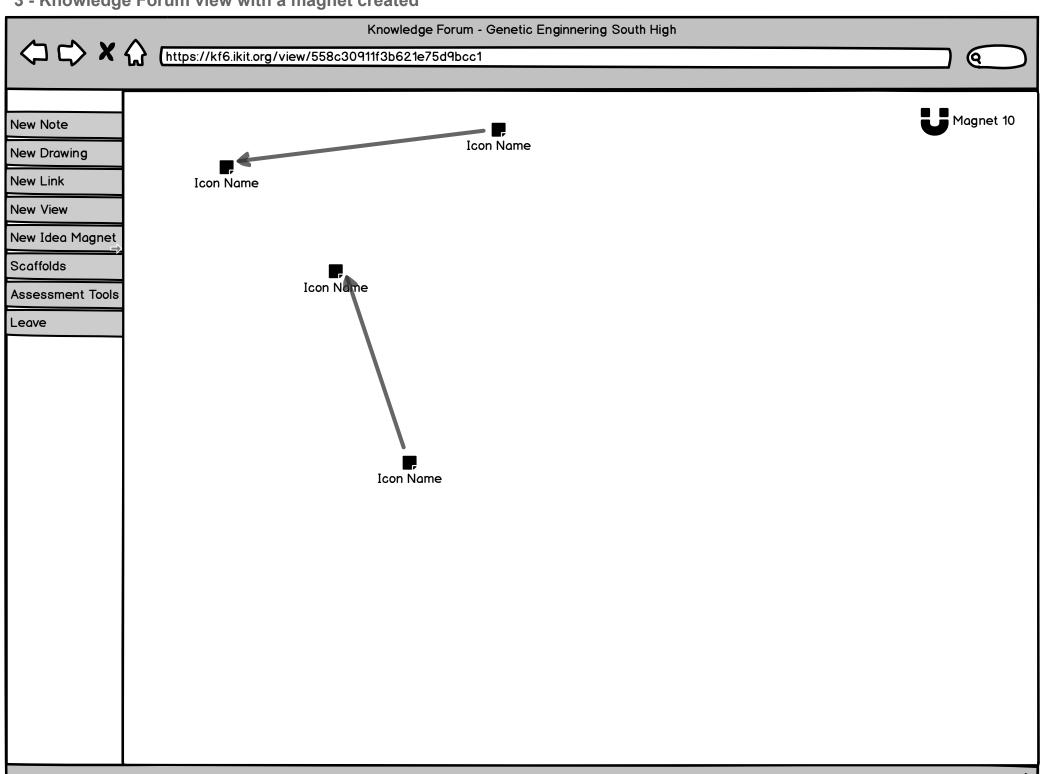
1 - Knowledge Forum view

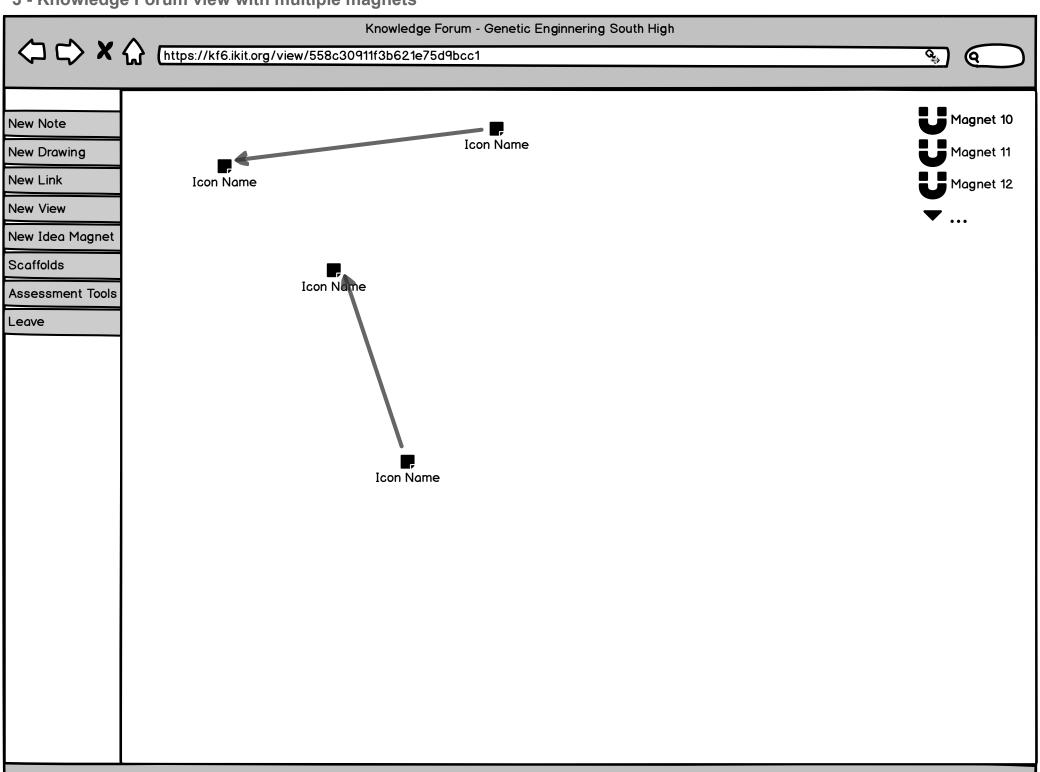




3 - Knowledge Forum view with a magnet created



3 - Knowledge Forum view with multiple magnets





http://www.beliefnet.com/news/is-genetic-engineering-ethical.aspx

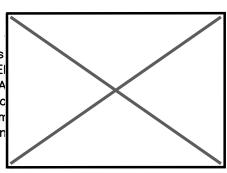


Is Genetic Engineering Ethical?

Recent advances in science have reignited this long-standing debate.

By Stephanie Hertzenberg

Genetic engineering has been a topic of varying contention was new fuel thrown on the fire with a series of experiments Interspaced Short Palindromic Repeats or CRISPR. CRISPEI variety of systems that can target specific stretches of DNA particular portions of the genetic code or insert new genetic genome. The precision of CRISPR allows geneticists to permit genetic code with previously unheard of accuracy. This technoccurring abilities of some bacteria.

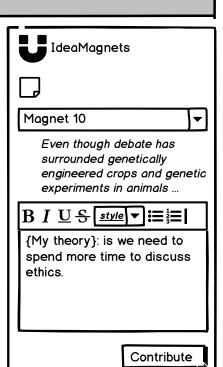


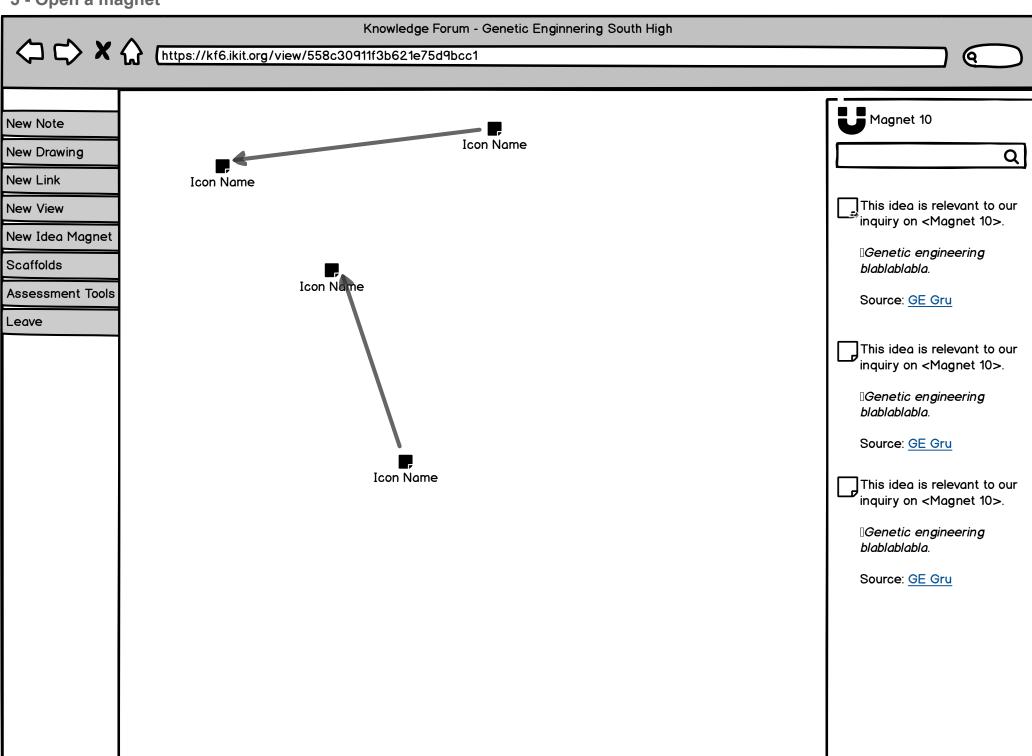
Even though debate has surrounded genetically engineered crops and genetic experiments in animals, for most people, the controversy surrounding genetic experimentation has been largely ignored. The ethics of genetic engineering, however, are back in the spotlight.

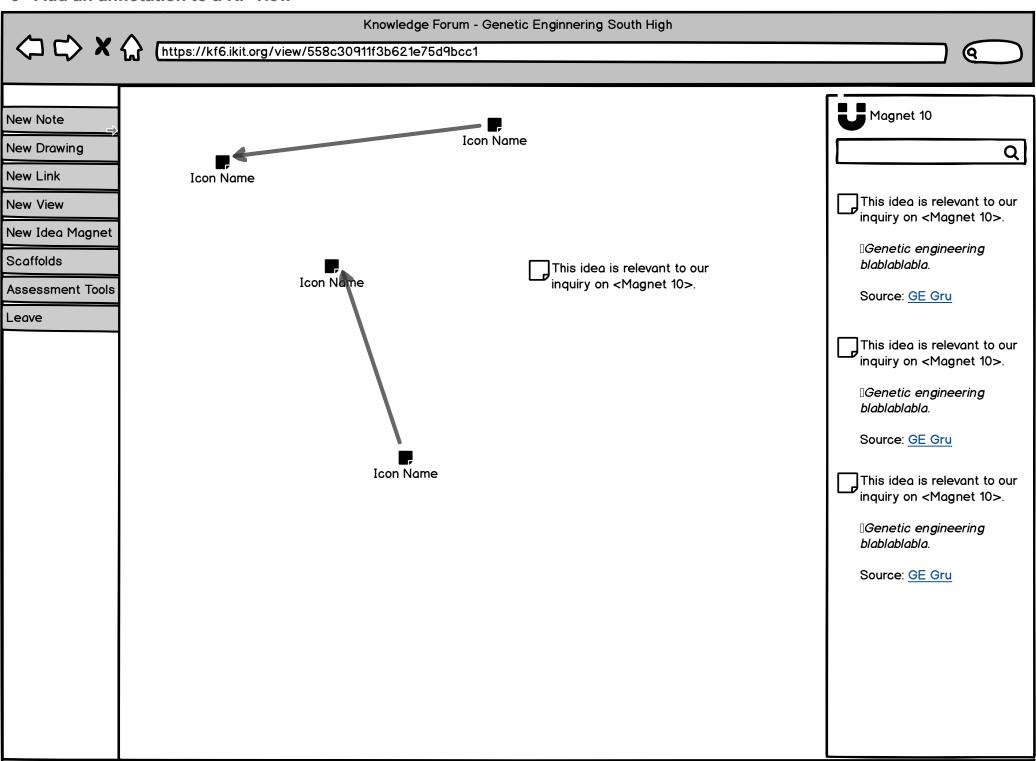
Early this year, a team of scientists successfully performed genetic modification on a fertilized human embryo using CRISPR. In vitro fertilization and gene therapy have involved elements of genetic engineering nearly since their conception, but the CRISPR experiments are the first time humanity has been confronted with human germline genetic modification. Germline modification is used to refer to genetic changes that would be passed down to an organism's offspring. Any genetic alterations done to a parent would appear in children and grandchildren. Naturally, this has once again raised the guestion of whether genetic engineering is ethical.

Books have been written on the ethics of all sorts of genetic engineering, but the controversy reignited by the CRISPR studies focuses on genetic modification of humans. For decades, accurate and feasible human genetic engineering was something out of a science fiction novel. Depending on a person's opinion on genetic modification, genetically engineered humans were a distant fantasy or specter that loomed centuries down the road.

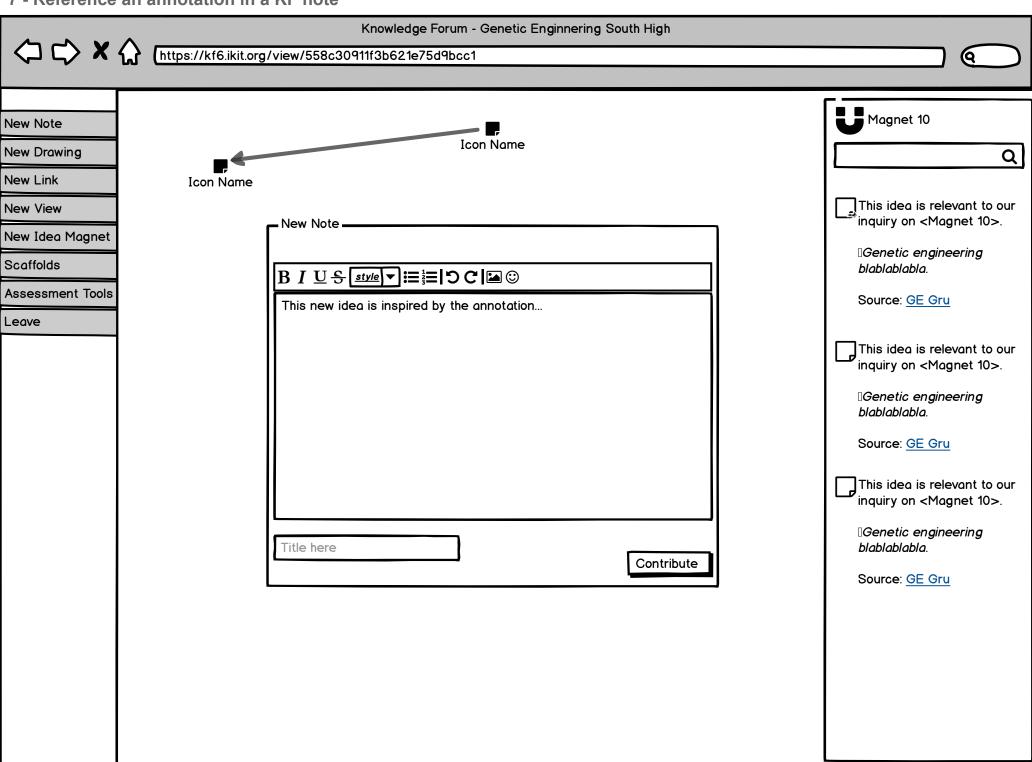
The CRISPR experiments did not use viable embryos and so no child has resulted from the study, but the CRISPR team proved that genetically modified humans were possible. The ethics of



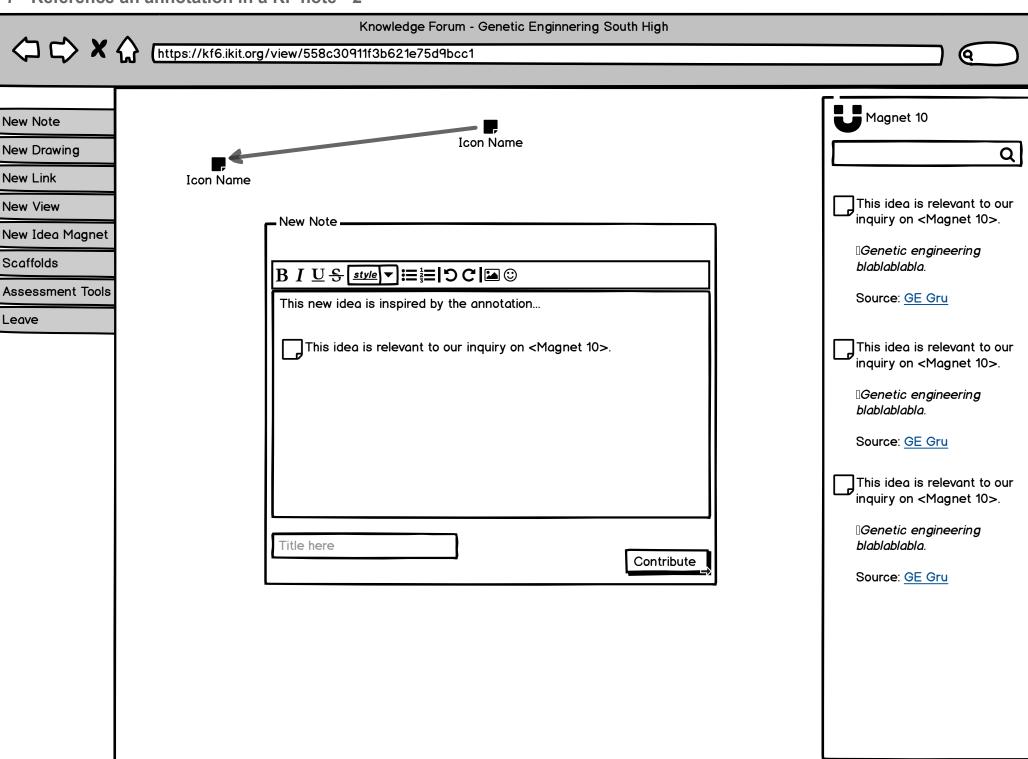




7 - Reference an annotation in a KF note



7 - Reference an annotation in a KF note - 2



7 - Reference an annotation in a KF note - 3

