## **NSF** Proposal Summary

Title: Universal Permanent Number

Hugh Ching, Northwestern Polytechnic University

Universal Permanent Numbers (UPN) are universally distinct, permanently existing integer numbers from minus infinity to plus infinity. They form a unique set of distinct integers, each of which represents a permanent entity. The design of UPN is based on the consideration of a number system to infinity in time and space. Almost all the number systems today are incorrectly designed because they are either not universal or not permanent, or both because of the lack of the consideration to infinity. The recent growing trend of globalization makes the need of NPU apparent and start to expose the long-term defects of all the existing number systems.

The main difficulty of UPN is that numbers are hard to remember than, say, English-like representations. The invention of UPN in this proposal is based on the invention of completely automated software, which can remember UPN for the user of UPN.

Universal Permanent Number can sprout an entirely new industry akin to the real estate industry. The intellectual property of UPN, in fact, should be treated exactly like real property. Every UPN can be resold and should be appraised, recorded, titled, insured, represented by brokers, even taxed, etc. just as for every parcel of real estate. In many ways, this intellectual property should be considered more valuable than real property because it is associated directly with knowledge. One main function of UPN is to give each piece of knowledge a universal, permanent integer name, so that the knowledge can be globally searched. Search engines should be designed for the search of knowledge based on UPN, not just news. UPN is thus an integral part of the foundation of knowledge, especially, when the knowledge is stored in the form of software. The ultimate form of knowledge as software is DNA, which is ultimate completely automated software and contains the wisdom of the universe from the infinite past. The amount of knowledge contained in DNA is unlimited, and so is the Universal Permanent Numbers.

Universal Permanent Number is one of the first correct products of the Age of Life Science. Today, several large companies have already reached market capitalization of hundreds of billion dollars because they are producing nearly completely automated products, which are incorrect products of the Age of Life Science. The number of UPN transacted can easily reach trillions. Selling just a dollar per number can bring the market capitalization up to the trillion dollar range. The service sectors associated with UPN, as in the case of real estate industry should be of equal size. The new industry of UPN should open the eyes of world to the wealth lying in intellectual properties, far beyond the material world, based on complete automation, which characterizes life.

**Intellectual Merit:** UPN is the key in the elimination of technical barriers in knowledge usage. It can be used to represent all the technical barriers to knowledge application, and it is then remembered by completely automated software, not the user. This is one of the greatest contribution of the software.

Broad Transformative Impact: Education is reduced to teaching knowledge, not technical barriers.