**CLO2: Demonstrate** familiarity with an existing code of ethics in software engineering and apply it to simple case studies.

**Question1**: Identify most appropriate Intellectual Property rights for each of the following. [6]

1. Software Suite Helping Small Businesses in Indonesia Manage their HR Management Small businesses often struggle with payroll and human resources. In Indonesia, Fast8, a young startup launched a suite of integrated software to help SMEs and middle-sized companies systematize and automatize their HR management so they have more time to devote to their businesses. Fast8 has since focused on building software for the HR market, and in 2016, launched Gadjian, a cloud-based HR-integrated system offering an employee center, attendance records, shift scheduling, payroll, and leave management. Gadjian, which means payday, was designed to help SME owners and HR/finance managers of companies with less than 300 employees with their operational and administrative burdens. Other integrated applications followed Gadjian. Hadirr, an attendance management solution oversees the performance of mobile workers, remote employees, and multi-branch offices using geofencing and biometric face recognition technologies. Through Hadirr, employees can record their work attendance, and the system can monitor online timesheets, and employee work shifts, track field sales, and record overtime. Meanwhile, Payuung provides a one-stop shop for all employee benefits, including employee loans, insurance, and business financing support for business owners. The Fast8 suite automates processes and serves as a Fintech enabler, as it helps companies with health insurance, loans, and anything that can help them grow their business. Fast8 paid particular attention to its branding. “We registered all of our brands, and we really racked our brains to find brands that customers would relate to,” Afia said, explaining the choice of the name of their first product: Gadjian (payday). “It is catchy because people relate to it immediately.” “We were always concerned about copycats, so we registered our brands as soon as possible.” The company also wanted to register its unique source code to automate payroll.

Answer: Copyright

2. An object of this work is the provision of a method (i.e., software, firmware or hardware) to con trol and manage access to a flash memory so that the flash memory appears to the computer operating system 55 as a data storage device in which it is possible to read data from, and write data to, any flash memory location. A method that allows flash memory to emulate random access memories and allows existing computer operating systems to provide all other required support in the 60 same manner provided by standard random access memories and independent of the emulation method. Briefly, this invention contemplates the provision of a flash memory, virtual mapping system that allows data to be continuously written to unwritten physical ad- 65 dress locations. The virtual memory map relates flash memory physical location addresses in order to track the location of data in the memory. The flash memory physical locations are organized as an array of bytes. Each of the bytes in the array is as signed a number or address by means of which the byte is physically accessible, referred to herein as the physi cal address space. Each of the bytes in the array has a second address, called the virtual address space. A table, called a virtual map, converts virtual addresses to physical addresses. Here it should be noted, the virtual address space is not necessarily the same size as the physical address space.

Answer: Patent

3. While Google's search algorithm (its ranking algorithm) is a core component of Google's competitive advantage in the search engine market. Every year, Google makes thousands of changes to its algorithm to ensure it presents the most relevant results for search engine users. Additionally, the search engine giant constantly modifies its algorithm to prevent third parties from gaming the system and showing up higher on search results than they should. The impact is evident — Google remains the top search engine globally.

Answer: Trade secret

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**Question 2:** Identify each as either Submarine patent or patent farming also briefly justify accordingly. [4]

1. Symbol Technologies, et. al v Lemelson: Jerome Lemelson was described as a prolific inventor who filed a large number of patent applications, beginning in the 1950’s and continuing through to the 1970’s. Lemelson made few prototypes to confirm his inventions, and he did not directly commercialize any of his inventions. Rather, Lemelson allowed many of his broad technology based patent applications to remain pending at the USPTO. Over the years the applications were amended to include supporting data generated from subsequent developments made by others in the field and eventually, when the time was right, the applications were allowed to proceed to grant. Lemelson would then enforce royalty streams from products already on the market. The inventor eventually died in 1997, however, his practices were continued by his company; Lemelson Medical, Education & Research Foundation, Limited Partnership. At issue in one particular case were a number of Lemelson’s patents that related to machine vision and bar code identification technology. These applications were allowed to proceed to grant in the 80’s and the Lemelson Partnership then demanded significant royalty streams from any products that utilized this technology. While a number of companies agreed to the licenses offered by Lemelson, three companies; Symbol Technologies Inc, Cognex Corporation and Telxon Corporation, counterclaimed against the patents.

Submarine patent as the patent came to surface later without influencing or as such.

2. **TechSignal Corp.** is a telecommunications company that specializes in developing wireless communication technologies. Years ago, the company filed a series of patents covering a specific technology for **data compression** over 5G networks. At the time of filing, the technology was not widely used, but TechSignal recognized its potential in future mobile communication standards. After filing the patents, TechSignal began aggressively lobbying the **International Telecommunication Union (ITU)**, which is responsible for setting global telecommunications standards, to include their data compression technology as part of the 5G standard. They worked with industry committees and experts, ensuring that their patented method was seen as the most efficient and viable solution for compressing data in next-generation mobile networks. Eventually, the **ITU** and other relevant standards bodies accepted TechSignal’s technology as part of the **5G industry standard**. This meant that any company creating 5G devices, such as smartphones or network infrastructure, would need to use TechSignal’s patented technology to ensure their products met the standard. After the 5G standard was officially adopted worldwide, TechSignal began approaching every major smartphone and telecom company that was manufacturing 5G-enabled devices. They demanded substantial royalty payments from companies like Samsung, Apple, Huawei, and Nokia, arguing that their devices couldn’t comply with the 5G standard without infringing on TechSignal’s patents. Patent Farming