The software profession is unique among skilled professions in today’s world in that one does not necessarily require an official degree in computer science in order to become a software developer in the software industry. Actuarial scientist, nurses, civil engineers all need licenses and certifications to practice in their field for money. Enforcing the same structured path is wrong for software professionals right now. There are clear examples of non-traditionally educated software professionals that have done a lot of good for the profession and industry as a whole.

A profession, for sake of this paper, is a vocation that requires a high level of education and practical experience in the field. Professionals are paid money. In our society right now, we expect professionals to be able to correctly identify and find solutions to problems and take actions for the good of their clients. While the software profession is a profession, it is not a mature profession. There is no standard industry certification exam, no licensing required, college degree not required, apprenticeship not required, membership in professional society optional, and no specific requirements for continuing education. Because it is not a mature profession, software developers cannot be held to the same accountability as mature industry professionals. Software developers are mostly not part of a professional organization so there is no legal enforcement in place to which has the power to officially take a developer’s rights to develop for money away. If a doctor has his medical license taken away for negligence or malpractice they are not legally allowed to practice medicine anymore. A distinction though is that most software does not concern top secret data or have people’s lives directly or indirectly depend on it. For many Department of Defense and government jobs software developers need to pass background checks. This is not checking their competence as software developers though. This is checking to make sure they will not be malicious against the United States of America. Is it necessary to require all software professionals to get a bachelor’s degree and pass a bar exam or similar?

The software profession does not need more formalism at the moment. A meritocracy is how the software profession is currently. People are paid for their ability and proven previous work. Being able to produce results for the customer is the main thing that matters for employability for software developers. This often means learning new and fresh languages and techniques on their own time and cost. Requiring membership into a professional organization, requiring a bachelor’s degree, requiring entrance exams is a bad idea for the software profession. One of the best things about software is how open and free it is. Anyone that has electricity, internet, and a computer can begin learning about software. It is up to the software company, and ultimately the responsibility of the customer buying software to choose the correct software development company, to produce a professional product up to quality and ethical standards.

Computer scientists may be responsible for handling a lot of data that affects many more people than themselves. In this sense they have a personal ethical responsibility to society to not be malicious with societies’ data. A similar responsibility to society could be why professions such as public accountants need to be certified by a state regulations agency because they could do a lot of harm. Carpenters need to be certified in most states also; a carpenter’s errors may cause houses to fall with people in them causing the homeowner to die! Even yoga instructors have a formal training called Registered Yoga Teacher (RYT) that is internationally recognized. Certified public accountants and carpenters undoubtedly have a responsibility to their customers that goes beyond a simple transaction, so more regulations are inherent. One downside of certifications and licenses is that it provides customers with a false sense of security. There are a lot of bad and malicious doctors, accountants, and yoga teachers out there that are certified and licensed, but still are out to cause harm. They are able to use their certifications and awarded education to gain trust that should be earned mostly through experience.

Sports players are professionals that require no formal training in their sport in order to become a good and successful professional. Sport is a very big industry but poses little threat to citizens lives. This industry does totally fine with no formal training of its professionals, although there are player’s associations and codes of ethics for the big four American sports leagues that have the power to ban players from practicing their sport for money in their league. This could be a good model for software development to follow that awards performance without requiring a formal education or certification and being able to enforce a code of ethics.

David Goldberg and Sundar Pichai are two examples of great software professionals that have no college degree in computer science (no formal training) and are successful. Goldberg is known for genetic algorithms and is the third most cited computer science writer although his college degree is for civil engineering. Pichai is CEO at Google although he has zero formal training in computer science also. This is evidence to the fact that one does not need a formal requirement to be a standard software professional, or in the case of Goldberg or Pichai an exceptional software professional. Writing software is based on logic, so people that have logic-based thinking patterns already will acclimate quickly to the field. Being able to do logical analysis is the main requirement to be a solid software engineer. There is no need for formal training of software professionals because one does not really need rigorous training to become a software professional.

The questions of being able to keep top secret information secret or trying to harm the public are not in the scope of questioning if formal training is appropriate for computer science. The problems of malicious software developers are a problem of ethics of the individual developer. Formal training will not help this but belonging to a professional organization that has the rights to ban one from making a living, such as players organizations in professional sports, could enforce ethics more strongly.

Making it harder to become a software professional by enforcing more requirements than what is necessary to be a software professional will hurt the entire industry. Nobody likes to go to the doctor because they have a lot of regulations they must follow that makes the experience very impersonal. The software profession is unique in the way that people are compensated for what they do currently rather than their qualifications and what they have done in the past. Software needs as many passionate people involved in it as there can be, and then it needs even more people! With more interest in software, the entire software industry will continue to see huge growth as it has for the past 40 years, which is what makes it perhaps the most unique and attractive profession.