Avoiding probate with a smart contract

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Madison Arcemont. Credit: Southern Methodist University, Hillsman S. Jackson

A recent graduate of SMU's Dedman School of Law has written computer language for a smart contract that, if adopted by courts, could make it much easier and less expensive for someone to sort out the estate of a loved one who dies without a will.

Madison Arcemont, who received her juris doctor degree from SMU in May, wrote computer code that would use blockchain technology to replace some of the work that must be done manually in what the law calls "intestate succession." That's the legal term for when a judge in the probate court system must oversee the payment of any debts and determine who can inherit the estate of a deceased person with no will.

It can take months, if not years, to complete intestate succession, even if no one disputes the court's decisions. And the price tag for this can also be expensive. The average price for court fees, attorney's fee, and other expenses can cost roughly 3 to 7 percent of the total value of the estate.

"Currently, intestate succession is decided by the courts on a case-by-case basis, even though the law is relatively formulaic, said Arcemont. "Turning over some of that responsibility to a smart contract can save the family of the deceased person a lot of time."

Before a judge can make a ruling on a case, it's up to a personal representative —usually a relative of the deceased assigned by the court—to actually determine how much an estate is worth and who in the family would qualify as an heir. Intestate succession laws lay out who should get what percentage of the estate, based on who is living.

Yet it can still be a daunting task for personal representatives to make sense of the legal instructions, which is why they turn to a lawyer for help. Arcemont's approach is a blueprint for simplifying the process, possibly eliminating the need for a lawyer.

How it works

A "smart contract" is created by using computer coding to build a document. Arcemont took the rules for her contract from the Uniform Probate Code and converted them into a series of "if/then...when"

statements with guidance from Carla L. Reyes, an SMU assistant professor of law who is a nationally recognized leader on issues raised by the intersection of business law and technology.

For example, if someone answers "yes" to the question, "Is this deceased person survived by a spouse?," the smart contract will then ask if the deceased person had children. If the answer is again, "yes," the program will ask if they had those children with the deceased person's current spouse.

If the personal representative answers "no" to questions about a spouse or kids, they will instead be asked questions like, "Is the deceased person survived by one or both parents?" and, "Are both of those parents alive?"

All of these facts allow the smart contract to put together a descendent tree that tells the personal representative who should get a portion of the estate and how much. The representative would then present this information to a judge for approval.

Computer coding strikes a balance between legal terms and everyday language

Arcemont used a program called [Lexon](link) to write the computer code. The program specializes in writing computer code in language that both the legal industry and a layperson can understand, while simultaneously performing the necessary computing functions.

Lexon also allows smart contracts to be stored using [blockchain](link) technology, meaning any information loaded into a smart contract by a personal representative or a judge would be saved on multiple computers instead of a single one. Because multiple versions are stored, a smart contract can't easily be tampered with and can be validated by several,

randomized computers to ensure the information is correct.

Arcemont noted that a smart contract can't cover every situation. For example, any family disputes about the information being entered in the smart contract would still need to be decided by a judge.

For courts to use smart contracts for intestate succession, computer code must be written to match the state's intestate succession law. Each state has its own succession laws, though 18 of them are modeled after the same law that Arcemont did in creating the computer code.

There would also be a fee involved with using these smart contracts. Lexon stores its smart contracts on a blockchain-based platform called Ethereum. This platform has a transaction fee when someone directs the smart contract to determine who the potential heirs are in an intestate succession case. This cost depends on a few variables for when the smart contract is run, but it can be as low as 15 cents.

Compared to the time and expense a smart contract could save a personal representative, though, Arcemont said this price would be minimal.

"Technology in this area could make intestate succession more accessible, affordable and efficient," Arcemont said.

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