KLEROS

CLAUSES, CONDITIONS AND LEGAL EFFECTS TO CONSIDER IN THE DRAFTING OF A SMART CONTRACT

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Summary

1. The New Era of Contracts.

The use of new technologies implies new approaches at the stage of preparing a contract and the negotiation between the parties. Both electronic contracts, and specifically smart legal contracts or smart contracts, are new tools that provide innovative benefits to contracting, one of them and the most mentioned is, for example, their automatic execution.

When creating these contracts, we can face different scenarios. One of them is the programming of a specific and "tailor-made" contract carried out by a system engineer, another option is the use of platforms to create a digital contract, the use of "templates" and other tools. For example Monax.io proposes: "Create a digital contract in under 2 minutes. Simply upload your contract, add your counter parties and sign. Set up reusable templates to best fit the processes of your business and keep versions under control. Close deals faster with embedded electronic signatures that comply with electronic signing regulations in major markets". Users can also track obligations across parties, generate and download reports, and other actions in a single place.

Attempts are being made to achieve a standardization of smart contracts, as is the case with the "British Standards Institute" (BSI), which opened the consultations and contributions to establish these standards: They mention that the PAS 333 aims to define the specification for legal contracts that are both human-readable and machine-readable, provide a technical and technology-agnostic basis for software development using smart legal contracts, and provide industry with a framework within which new or existing contracts can be digitized and connected to IT systems and data services. The specification would be a key step in creating a common representation of a legal contract that abstracts from any underlying technology and is flexible enough to be applicable to current and future "DLT" and tools.[1]

This is one of the first steps in trying to create an international contractual community where territoriality is no longer a barrier and immediacy prevails. On the other hand, "The Agreement Network" was one of the first initiatives. This platform seeks to use blockchain and new technological tools with the main purpose to increase the automation of legal contracts.

In the "whitepaper" it is mentioned that we are faced with "new products that allow the creation of scalable, compatible, automated and verifiable legal processes…. The Agreements Network opens the door to a solution based on a blockchain and smart contracts that enables production, consumption and obtaining income through legal products, without the need to acquire coding skills…. The Agreements Network contains the foundations of automated legal products. Using it, attorneys can build "Archetypes"

[1].https://www.hyperledger.org/blog/2020/04/09/british-standards-institute-opens-smart-legal-contracts-specification-for-public-contribution. Date: 3-10-2020.

from legal prose and processes that create, formalize, store and prove contractual rights."[2]
It is programmed within the public network of the Ethereum blockchain and the use of tokens as collateral, which contain rewards when creating new contract templates.

In the present work, a simple, non-exhaustive enumeration was carried out on some aspects to be considered in the previous stage and in the formation of an electronic contract ("contractware"), taking some mentions to consider and include in a Smart Contract and a Smart legal Contracts. Max Raskin holds it is "defined as the physical or digital instantiations of contract terms onto machines or other property involved in the performance of the contract. 3,4.

By instantiation, we mean taking the terms of the agreement and either writing them into previously existing software or writing them into software that is connected in some way to a machine that implements the contract."[3] As it will be mentioned in this paper, one of the aspects that the parties must consider in the drafting of the contract (especially a smart contract or smart legal contract) is how to resolve any breach or damage that may arise from the obligation between the parties.

2. Smart Contracts, Smart Legal Contracts and Digital Contracts

A digital contract, in general, is understood as one that includes any agreement between the parties created by any electronic tool or electronic data exchange between different computers. It receives the "electronic" term from the technological resources used.[4]

Smart contracts were first released in 1996 by Nick Szabo, but they were not popular until recent times. Its creator defines them as agreements that were executed automatically without human interaction, like the classic example of the vending machines, where coins are placed in the machine, one places the order and the selected product automatically comes out. It is very difficult to reach a consensual concept of Smart Contract. Usually they are explained with the expression of a simple automated code language with the structure of "if this then that (ITTT)".[5]

One of the most widely accepted definitions is the one mentioned by Carlos Tur

[2] https://agreements.network/files/an_whitepaper_es_v1.0.pdf Date:3-10-2020.
[3] https://georgetownlawtechreview.org/wp-content/uploads/2017/05/Raskin-1-GEO.-L.-TECH.-REV.-305-.pdf Date: 2-10-2020
[4] Heriberto Simon Hocsman "Negocios en Internet", editorial Astrea, Universidad del Rosario, 2013, Buenos Aires, p.79.
[5] Larry, A Dimatteo, Michel Cannarsa y Cristina Poncibò, "Smart contracts and Contract Law", book "The Cambridge Handbook of Smart contracts, Blockchain Technology and Digital Platforms" , Cambridge University Press, 2020, p. 23, and Catchlove "Smart contracts: A New Era of Contract Use" y Cong & He "Blockchain Disruption and Smart Contracts".

Faúndez, who refers to "smart contracts" as simple execution programs or "algorithms", and that "smart legal contracts" or "smart legal contracts" are defined astraditional contracts that take the computing benefits of these "Smart contracts", for example their automatic execution, preserving all the characteristics and content of a "traditional" contract made on paper. As mentioned, the expression "smart contracts" wrongly includes the word "contract". The "smart legal contracts" or smart contracts allow us to establish a clear difference between the underlying software and the true electronic contract with obligations between the parties.[6]

We are not facing a new contract, but rather a new tool for contracting with electronic means that allows the "pacta sunt servanda" to be applied (in order not to leave the future of the contract to the discretion of one of the parties).

3. Conditions to Consider When Drafting the Contract.

The smart contract preparation stage can be considered one of the most important stages of the entire process, that is why it is important to have adequate advice and a meticulous and conservative structure. Beyond the fact that not all possible developments can be considered, it is important to have some aspects considered prior to their execution. Thinking about the possible consequences is important to accurately represent the will of the parties.

Different situations may arise when the parties agree on this kind of contracts, some of them are: a) hiring an engineer to program the contract with the conditions agreed by the parties, b) using "templates" (the contract is already created in a platform and parties will just "fill the blanks", this can happen in services contracts or similar that are simple and do not need to hire an engineer to program the contract, but rather to use something low-cost that does not require many specifications – similar to the acceptance of the "terms and conditions" on a web page), and c) using platforms where the contract is "uploaded" in alphanumeric language to be stored in the blockchain or cloud.

As mentioned, Monax.io is one of the platforms available that offers this service, another one is Clause.io: "Using Clause, you can build workflows around contracts to automate business processes, including verification checks on signatory status, storing the state of changes over time, reconciling and associating data with external systems, and more. A digital contract is a document with Smart Clause® instances and an associated workflow. A Flow™ defines a business process as a series of steps. Together, a contract becomes a seamless part of your business infrastructure, not just a document sitting in your inbox or cloud storage."

[6] "Smart contracts", Carlos Tur Faundez, Reus Editorial, 2018, p. 24.

It is important that the platform has a "friendly" interface, providing the complete information, in a comfortable and simple way and allowing easy interaction with the user. The "front-end" of the platform must contain all the essential and necessary information, considering that in many cases the parties that will use it do not have the basic computer technical knowledge to understand it.

This is an aspect to consider in order to prevent inequalities between the parties. The advertising and explanation offered in the "platform" of smart contracts must be carefully selected and analyzed by the parties who decide to select this tool to contract. On the "back-end" of the platform they must consider the same aspects.

Always respecting and without violating any law such as the protection of personal data, consumer protection, among others. The exhaustive and detailed study of the "product offered" and study of the process of consummation, perfection and termination of the contract is important on the drafting.

A) Consent: Electronic Signature and Timestamp. Perfection and Custody of the Contract.

Consent is a key element of any contract. It is important that the "identity tool" is accepted by the parties and represents each one of them in an acceptable way. However, this aspect could be one of the most vulnerable points. Most of the international and national regulation provides the concept of the electronic signature (simple, advanced and centralized custody) as an identification tool.

A number of regulatory aspects have to be considered, not only for the obligations agreed by the parties, but also to study the different options offered in the market for electronic contracting platforms, the protection of personal data privacy and consumer rights, among others. All these are rights which must be respected.

We also need to take into consideration whether in these contracts there is a bilateral relationship between the parties or if one imposes on the other all the conditions of the contract, for it to take or leave.

Within this line, artificial intelligence and / or artificial thinking come into discussion about whether machines can effectively make these types of decisions. In the case of Kleros, there is a "hybrid" process including automation and also human intervention.

Article 11 of the Model Law of Electronic Commerce of UNCITRAL / UNCITRAL establishes the validity of the offer and acceptance by electronic means and distinguishes two elements, the objective and the subjective. The objective elements are three: "data messages or data message (DM), understood as the information sent, received or filed or communicated by electronic, optical or similar means, such as, among others, the electronic exchange of data (EDI), electronic mail, telegram, telex or telefax. B) the electronic signature… c) the information systems. Any systems used to

generate, send, receive, file or otherwise process data messages shall be understood as such."

Another issue to consider is what happens in the case of the defect of consent, where one of the parties is missing some information or mediating the error, fraud, or other figures that would not allow for a valid legal "consent" of the party, the contract being void or mediating liability. This is why all the information that can be specified in the contract serves to prove the knowledge that the parties had.

In addition, when it comes to identifying users ,it is also important to apply due diligence methods such as "KYC" and "AML" to respect international control standards.

The digital or electronic signing, in the Article 1 of the Model Law on Electronic Signature establishes: "This Law will be applicable in all cases in which electronic signatures are used in the context of commercial activities. It will not repeal any legal norm aimed at consumer protection."[7] The regulation of the electronic signature, as well as its requirements and effects, is already a subject regulated in almost all countries of the world and widely known.[8]

This is one of the reasons that it is always helpful to mention the signing tool chosen by the parties, and that they have knowledge about it and it is accepted by them.

We need to understand that the context is very different when we speak of countries with the common law system than with the civil law system. Generally, in the first one,

[7] https://www.uncitral.org/pdf/spanish/texts/electcom/ml-elecsig-s.pdf Date: 4-10-2020.

[8] For example: (i) Germany, issued its digital signature law on August 1, 1997 and by Law of January 1, 2002, and also establishes the regulation of distance contracts.- "(1) Distance contracts are those contracts on the supply of goods or the provision of services concluded between an entrepreneur and a consumer using exclusively distance communication techniques, except that the perfection of the contract does not take place within the framework of a sales or service provision system organized for distance selling. (2) Distance communication techniques are those means that can be used to initiate or conclude a contract between a consumer and an entrepreneur without the simultaneous physical presence of the contracting parties, especially letters, catalogs, telephone calls, faxes, emails. electronic, as well as radio, television and media services in general. (...) ".
(ii) In the United States, it is recognized that the action of the American Bar Association, an organization that brings together the main lawyers of that country, had a great influence on the dissemination of the need for the issuance of regulations pertaining to digital signing. The "Digital Signature Guidelines" are a matter of permanent consultation and reference in these cases.
(iii) Spain had its legislation on electronic signature from Royal Decree-Law 14/1999 and issued Law 34/2002, on services of the information society and electronic commerce (known by its acronym LSSICE); France introduced various modifications to its Civil Code through Law 2000-230, of March 13, 2000;
(iv) Italy, by Decree of the President of the Republic of November 10, 1997, No. 513 and of the President of the Council of Ministers of February 8, 1999, issued the technical rules for the formation, transmission, conservation, duplication, reproduction and certification of computer documents.
(v) England sanctioned the "Electronic Communications Bill" of January 26, 2000 and Peru issued Law 27,269, of April 2000, on Digital Signatures and Certificates. These are just some of the examples that I can mention, since the electronic signature today is recognized by almost all governments and international organizations as a valid signature with legal effects. It is important to take this into account since documents can be signed in different countries where the electronic signature that we must recognize is regulated.
All mentioned in: Information Security Commitee, Electronic Commerce Division, Digital Signature Guidelines, 1996, A.B.A., Sec. SCI & TECH., disponible en www.abanet.org/scitech/ec/isc/desgfree.html Date 4-10-2020.

simple signatures are accepted without many formalities, however, the second stands out for its sovereign solemnity in the processes, and fundamentally, higher requirements are required to prove identity.

The possibility of being able to choose within these different tools for consent, granting the same legal effects as a simple signature in paper or even with certification of signatures (as the one made by a notary public)[9] it is a great advance to balance face-to-face contracting with the digital one.

It is useful to conclude that the advanced digital signature has certain important characteristics and that they display legal effects giving users the identification and authorship of the act, express consent, proof and grants solemnity and immutability to the act or document. Many of these features for example are mentioned in the American Bar Association's "Digital Signature Guidelines".[10]

This point has several questions, regarding the validity of foreign electronic documents, the electronic signature from abroad countries, the need for digitization of process and other aspects that are currently in question.

It would be necessary to mention how the contract is signed. For example, if each party signs at home, it will be considered as a "distance contract", as well as it can be granted simultaneously and in person by both parties in an office of a professional with their electronic signatures.

Establishing the custody of the digital contract is important to know where its "original" is located. Usually the important information is uploaded to the blockchain or platform, and the "original" contract can be placed in a proxy of another platform. It depends of the programming of the contract.

The "time stamping" or "time stamp authority" can algo be used and gives a certain date and time to the document created. It is regulated at the international level by the ISO IEC 18014 standards.

Currently, other ways of identifying users are contemplated and that they can provide their consent, such as biometric data, the use of "IoT" (e-tokens, mobile devices) and others.

B) Dispute Resolution "ODR" - "ADR".

One of the clauses that is always important to agree on in any type of contract is the Resolution of Conflict in case of any controversies between the parties. The competent jurisdiction and court can be established, as well as the selection of alternative methods

[9] Some countries had regulated different types of signatures, such as Uruguay with the law number 18.600 where there is a : simple signature, certificate one (that is call "advance") and a digital identity. https://legislativo.parlamento.gub.uy/temporales/leytemp7096145.htm Date 4-10-2020.
[10] http://www.kuner.com/data/articles/signature_perspective.html – Date 4-10-2020.

for the resolution of conflicts (mediation or arbitration).

Resolution platforms are considered "oracles" based on blockchain technology. Kleros is one of them, developing the entire process online.

The "Online Dispute Resolutions" (ODR) and the "Alternative Dispute Resolutions" (ADR) at the European Union has promulgated several directives and regulations to include a harmonious regulatory framework for extrajudicial resolution in dispute lines. The "ODRs" took to some extent the experience of the "ADRs". These aspects are already regulated, for example, by the European Union in the Resolution of the European Parliament dated February 16, 2017 (2015/2103 INL) with recommendations from the Civil Law Commission on robotics.

On several occasions, these platforms also provide some other services that can be useful for the good performance of the contract. One of the warranties in using Kleros is that these processes always contain some instance for human intervention on certain human criteria of the conflict. These solutions are faster, more efficient, and with lower costs.

In this case, it is key that the parties already establish all the necessary guidelines for Kleros, as well as contemplate in their escrow account different amounts of any assets or virtual value to be able to compensate the parties and make payment for the process.

In online resolutions, Kleros is a blockchain based ODR / ADR conflict resolution platform built on Ethereum. This platform offers different services that can be used in a digital contract. We will mention some of the products and when it is effective to use it. It is used mostly in low value contracts where the traditional judicial system is too expensive to consider as an option.

Parties can already establish in advance what can happen and have a guarantee in case of conflicts that is maintained in the Escrow account that will be mentioned. The parties must define the number of arbitrators and the type of court. Kleros developed different courts to deal with different types of cases:

The arbitrators are owners of their tokens called Pinakion (PNK), where they receive their rewards when they vote as the majority in the resolution and are specialized in each matter.

Kleros white paper mentions the following example:

"Alice is an entrepreneur based in France. She hires Bob, a programmer from Guatemala, on a P2P freelancing platform to build a new website for her company. After they agree on a price, terms and conditions, Bob gets to work. A couple of weeks later, he delivers the product. But Alice is not satisfied. She argues that the quality of Bob's work is considerably lower than expected. Bob replies that he did exactly what was in the agreement. Alice is frustrated.

She cannot hire a lawyer for a claim of just a couple hundred dollars with someone who is halfway around the world. What if the contract had a clause stating that, should a dispute arise, it would be solved by a Kleros court? Kleros is a decentralized application built on Ethereum. After Bob stops answering her email, Alice taps a button that says "Send to Kleros" and fills a simple form explaining her claim.

Thousands of miles away, in Nairobi, Chief is a software developer. In his "dead time" on the bus commuting to his job, he is checking Kleros Court website (court.kleros.io) to find some arbitration work. He makes a couple thousand dollars a year on the side of his primary job by serving as a juror in software development disputes between freelancers and their clients. He usually rules cases in the Website Quality subcourt.

This court requires skills in html, javascript and web design to solve disputes between freelancers and their customers. Chief stakes 2000 PNK, the token used by Kleros to select jurors for disputes. The more tokens he stakes, the more likely is that he will be selected as juror. About an hour later, an email hits Chief's inbox: "You have been selected as a juror on a website quality dispute. Download the evidence here. You have three days to submit your decision". Similar emails are received by Benito, a programmer from Cusco and Alexandru, from Romania, who had also staked their PNK in the Website Quality subcourt. They were selected randomly from a pool of almost 3,000 candidates.

They will never know each other, but they will collaborate to settle the dispute between Alice and Bob. On the bus back home, Chief analyzes the evidence and votes on who is right. Two days later, after the three juries have voted, Alice and Bob receive an email: "The jury has ruled for Alice. The website was not delivered in accordance to the terms and conditions agreed by the parties. A smart contract has transferred the money to Alice". Jurors are rewarded for their work and the case is closed".

The platform has several mechanisms to avoid bribes and other attacks described in its whitepaper. It establishes its own "governing law" as mentioned by its CEO. It is important that the contract establishes an arbitration clause for Kleros for conflict resolution and contemplates in a stage prior to the contract different guarantees and possible conflicts in order to establish solutions in cases of non-compliance. All the information (contract, evidence and others) are sent automatically to Kleros and their respective juries, achieving a completely online process.

As mentioned, Kleros offers several products, within them a cryptocurrency Escrow account that can be used as a guarantee, an oracle that determines the necessary information to see if the obligations or data necessary for the contracting were fulfilled (this product is still under development as mentioned in the interview), and has other products and services in the works.

C) Use of Oracles.

Oracles are a new feature that was introduced with the blockchain technology. They are

platforms that provide data that can be essential, complementary or support the contract. One of the services or tools mentioned in Kleros is "Realit.io – crowdsourced verification" for the smart contract. They allow to validate if the foreseen conditions were fulfilled or not to proceed with their automatic execution.

For example, if it were a sports betting contract, they can handle sports results. "How to ensure that the answer provided is the right one? How to avoid malicious users submitting false answers to subvert the execution of the contract? How to prevent lazy users from giving a random answer without even doing the required research? In order to create the right incentives, when answering the question, users are also required to post a bond. If other users believe that the answer is wrong, they can challenge it by doubling the bond and providing a new answer.

After each answer, a countdown period begins during which others can submit a different answer. When the countdown period expires, the last person to have posted an answer receives the bond, as well as the reward posted by the asker''

The oracles give us data from an "API". In several cases they can be platforms for conflict resolution, "Escrow" accounts, contracting insurance, guarantees and many other examples. The parties must carry out an exhaustive study when selecting an oracle, since it has an important role and it is essential that the information it provides is accurate and truthful.

D) Interpretation of the contract and use of security mechanisms ("hashing" and encrypted information).

When we are using a programming language, we are faced with the challenge of contract interpretation. It may happen that a contract is drawn up in a "paper" of "PDF" document for example and then it must be programmed (what is known as a "Dual Interpretation"). Thinking and to settle the programming stages is very important to take into account, for example, which of the different modalities was created first (program or "words"). On several occasions, it is agreed between the parties and it is expressly established in the contract whether the written or programmed version prevails.

On several occasions, annexes or supplements are used where different interpretation mechanisms are established. It is also possible to "pre-establish" certain forms of interpretation by the parties, which would be an automatic interpretation (typical of already known "Ricardian" contracts), since they argue that properly programmed contracts avoid the judicial stage by stipulating the possible positions agreed in advance by the parties.

The use of "PDF" files or a "visual word document", where their reading is clear for any "non-technical" user and that a universal reading can be provided, will then be signed and is helpful for the parties to acknowledge the contract conditions. Those digital documents can have a recognized by an electronic signature or other mechanism that

proves the identity of the users.

The selection of the programming language, as well as the blockchain network to be used, is also a fundamental aspect that requires a great deal of technical knowledge (some languages allow establishing certain "loops" or conditions, and others are less flexible).

The figure of the "hash" is important, since it would have a legal effect similar to that produced by the "binding" of a document. The "hashing" technique provides the certainty that the message was not modified and is composed of that series of numbers in an encrypted way with a private and public key in most cases (asymmetric encryption). All the attached documents can algo be "hash".

Finally, when we talk about interpretation, it is clear that there are several concepts that cannot be programmed, such as the "good businessman", "good faith" and others. Human intervention is being necessary in those cases.

Kleros within its services provides "Linguo" which is a translator to transfer contracts from one language to another.

In this section we understand that it is important: (i) to clarify the issue of interpretation of programming language and words, and on the other hand, (ii) in case of having several languages, say which one prevails in its interpretation.

E) Test stage. Due Diligence of the Execution.

Another aspect to consider is the possibility of poor or erroneous decoding when programming the contract, "A recent article pointed out that among the approximately 19,000 Ethereum smart contracts studied, 44% contained vulnerabilities."[11]

It can be recognized as the famous "bugs" which impair its execution and do not allow it to develop or respect the will of the parties. It is important to carry out an audit of the programming with a multidisciplinary team (made up of legal professionals and programming technicians), to carry out a test phase before executing it and to foresee, as mentioned in this work, "escape clause" or communication between parts. Always trying to safeguard the will of the parties, the spirit of the contract and the freedom of contract. There are already several companies that began to professionalize in this new "Legal Computer Due Diligence"[12] (such as "ConsesSys").[13]

The auditing process can consist of five stages: "(i) agreeing on the scope of the audit service and reviewing the operating Specs of the code to be audited; (ii) carry out

[11] https://www.lexology.com/library/detail.aspx?g=bebe2353-69c3-425b-89ad-d22ffd7b469c Date 4-10-2020.

[12] Sebastian Heredia Querro, "Smart Contracts – Que son, para què sirven y para que no servirán", Editorial Cathedra Juridica, año 2020, p.133.

[13] https://diligence.consensys.net/ Date 10-10-2020.

controlled tests to the software, (iii) use automatic coding error detection tools, (iv) manual review of the programmed code; and (v) issue a report describing the vulnerabilities detected and solved. "

F) Applicable law.

As with "traditional" and paper-based contracts, we must always consider the applicable law. One problem that arises is to determine the competent jurisdiction, since the concept of territoriality does not predominate.

On the other hand, a point under consideration and that we must take into account when considering the applicable regulation, is between those who are contracted. Both internationally and nationally, contracts between companies (B2B), contracts between companies and consumers (B2C) and contracts between consumers or parties (P2P) are distinguished, to see if it is applicable, for example, of consumer protection law.

When hiring a "provider", programmer or platform, we must take into account that some data if there is a programming error such as the address issue, and other aspects, which are not so clear when we do not consider the physical space, but we are operating in an intangible or telematic one.

G) Automatic compensation clause.

A common practice in this type of contract is to establish some automatic compensation or guarantee in case one of the parties is harmed. This is why several platforms offer the option of "Escrow" accounts and other modalities, such as Kleros does to carry the compensation beforehand.

Many of these are made with cryptocurrencies. An example is the case of travelers who take out insurance in case of a delay in their flight, if it occurs, an automatic compensation is made to their bank account, which is expressly stipulated in the European Union in regulation 261 / 2004. [14]

For Bergel, we must observe what kind of obligations have been contracted (see if they are of means or result), analyze in each case the possible clauses of exemption from liability, all of which must be communicated in advance and effectively and reliably to the parties, without creating lack of consent.[15]

H) Clause of approval of the parties or "interruption" - "escape clause".

[14] Aura Esther Vitalta Nicuersa, "Smart legal contracts y blockchain" La contratación inteligente a través de la tecnología blockchain – Wolters Kluwer- 2019.p.73

[15] Maria Jose Viega Rodriguez y Maria Jimena Hernandez Varela "Derecho Informático e Informática jurídica II" FCU, marzo 2018, 1 edición, Montevideo. p.152.

One of the great challenges when we use this tool is balancing its automatic execution and not violating the will and rights of the contracting parties. It may happen in several cases, that it is necessary to "stop" this automatic function. One of the possible solutions is to establish a "communication" between the parties to see if they are satisfied with the service provided or development of the stipulated obligation to continue with the provisions of the contract.

This interaction can be fast and dynamic, seeking the approval of both parties. We have to take care that these types of "conditions" are not used in an abusive way, without just cause or in bad faith. At various times, confirmation by a third party can be provided. If one of the parties is not satisfied with the execution, they can settle the dispute resolution in Kleros.

I) Notary Services.

In many jurisdictions, the role of the notary is important and guarantees the legitimacy of many acts. For this reason, it is good to consider whether, for example, you want to add certain information with the support of public faith within the documentation included in the contract.

To do this, a public notary should add their certifications that guarantee certain important aspects for the parties (for example, a certificate proving the ownership of a property that is for rent on a platform).This would be more effective for countries with a civil law basis where in several businesses the presence of a notary is required to certify certain solemnities and the certification of the Blockchain is not enough.

4. Conclusion

The use of these new technologies implies the renewal of many legal aspects. The legal spectrum is open to new tools and participants, for example, in matters of responsibility we have new participants such as programmers or developers that are part of this new obligations, as well as many other aspects.

The application of the fundamental principles of electronic commerce provided for in the UNCITRAL Model Law, mention non-discrimination, neutrality with respect to technical means, freedom contractual and functional equivalence of the pre-existing right with the new technology.

Applying due diligence and competent professionals in the contract formation stage is essential for it to be effective and respect the will of the parties. So that the parties feel safe and try to avoid possible conflicts in the future, it is that the previous stage and the formation of the contract is important and they must be recorded.

The same for their performance in Kleros, the more organized the documentation is and the more information they have about the previous stages and the intention of the

parties, is that they can resolve by protecting the will of the parties and what is fair in each case.

This is why it is important to take into account certain previous stages in the preparation of the contract, which are: i) take into account with the systems engineer which is the best platform to use as well as evaluate its legal effects through a due process. diligence, ii) Specify how users are going to be identified and that they approve the electronic signature tools, iii) Establish conflict resolutions, applicable law and oracles related to the contract, iv) Subject of interpretation of the contract, which text prevails and its rules, v) provide for communication between the parties and automatic compensation (escrow accounts).

The training of the professional must be as dynamic and constant as the evolution of technology, understanding it implies correctly interpreting the possible legal effects and selecting the one that is suitable for each case. The selection of specialized courts in technology is recommended since they can understand its effects in a fast and economically accessible way, as well as the possible solutions.

Template - Rental Agreement

In the present example, we are going to give a basic template of the written document that can be attach to the smart contract.

In a real estate rental contract, it is important that automatic actions are carried out properly, for example: payment, guarantees, among others. It is important to always take into consideration the laws of the place where the property is located in case any specific legal provision is required so that the agreement is not void. In the present schedule, it is important that there is a communication between the parties to see if the business is being accepted by both: for example, if the apartment was delivered in good condition, if the person left in a timely manner complying with what was agreed by the parties, and others. For this, each of them is consulted to proceed with payments.

It may happen, for example, that in a house rental application, a property can be selected and it has an automatic lock which opens at a certain time for the tenant (example gives an access PIN to enter and exit) and that at a certain day and time it is canceled (check out time). In this case, there will be almost no human interaction, other than responding to the application notifications to see if the parties were satisfied with the business.

Example of a template written to determine the will of the parties (it can be created with a multiple option structure):

1. Landlord and tenant information

Personal Information: Name – Address – Phone number – email – Description of the digital signature used.

2. Rental Information

House rental address – Start date and End date of the agreement – Date of first payment due – Pay period (time and dates) – Rent amount per month/day – Late charges – Payment method – Security deposit (escrow account) – Deposit information of Payment information – Number of occupants – Mention if pets are allow and other regulation expected by the Landlord and housing rules.

3. Acceptance of electronics signatures and the electronic platform

4. Terms and conditions

Text of the agreement between the parties: DATE , mention the parties information, they acknowledge and comply the terms of this Agreement: complete Rental information -

The security deposit would be refunded upon leaving the residency, termination this contract, and returning the keys to the Landlord (communication between the parties to see if they are OK with the services provide). It would be cover for any damage to the premise and also if the Tenant fails to pay de utility bills – specify the obligation of the tenant to pay the utilities bills (electric, water, gas, and others) – constant return conditions.

5. Landlord confirmation of property and obligations

Upload any document that proves he is the owner (public document). Obligation to do any maintenance and repair that is needed for an acceptable and regular stay in the premises. If the house is "abandoned" (furniture's removed) the Landlord has the right to enter the house by any means without liabilities.

6. Obligation of the tenant

For example: He will be responsible for any damage caused, and has the obligation to keep the premises in good conditions. In case of any alterations, the permission of the Landlord is needed. Accept access to the premises in case the Landlord needs any inspection, repairs, maintenance and emergency. The Tenant agrees to not use the premises in a way to disturb the peace in the neighborhood.

7. Amendments

This agreement can only be changes or modified through the written consent of both parties.

8. Governing law

9. Conflict resolution

Kleros arbitration clause, payment for the Kleros process until the contract is finish, if any of the parties involved express a disagreement, all the digital documents are sent to Kleros and the rental is put on Hold. The Tenant must leave the property in 6 hours' time, if he doesn´t, the pin lock is cancelled and all the warranty is deposit as a compensation to the Landlord.

10. Interpretation clause

The parties agreed that this document prevails over the programming made for the automatic execution of the contract.

11. Warranty

Mention any escrow account of insurance oracle (INVENTORY and PICTURES could be attached).

Readings

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Nuevos desafíos para el derecho de autor: robótica, inteligencia artificial, tecnología. Madrid, Reus; Fundación Artistas Intérpretes Sociedad de Gestión; Asociación para el Estudio y la Enseñanza del Derecho de Autor, 2019 (Colección de Propiedad Intelectual)

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Agustina is an attorney and notary graduated from the University of Montevideo. She obtained a postgraduate degree in Notarial Updating Law and a "L.L.M" with a final research paper on smart legal contracts, both degrees from the University of Montevideo. As a student she participated in the International Commercial Arbitration Willem C. Vis Moot Court Competition in Vienna. She co-directs the notarial and real estate services of the Firm Olivera Abogados in Uruguay (Terralex member), and she is a

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