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WINGRIDERS – THE DEX ON CARDANO



WingRiders is an Automated Market Maker (AMM) Decentralized EXchange (DEX) built on top of the Cardano using the eU-TxO model on the main chain.

WingRiders' objective is to be an infrastructure element for the whole Cardano ecosystem, with simple integration into any wallet or Dapp. Accessible via many platforms, supporting connectors and hardware wallets such as Ledger and Trezor. The platform is fully decentralized and trustless, supporting swaps between Cardano native tokens. Plans exceed the AMM, L1 and potentially even Cardano itself.







WHAT IS A DEX?

A DEX is an abbreviation of "Decentralized EXchange". A decentralized exchange differs in format and setup from a "centralized exchange" such as Binance or Bittrex which have a central organization in control.

"If you don't hold your private keys, you don't hold your crypto."

A DEX is either entirely automated or with a P2P ("Peer-to-Peer") element which means that the platform is largely self governing, with transactions controlled by either an Order Book or via Automated Market Makers ("AMM") via smart contracts or Scripts. WingRiders use the AMM model. As the entire platform is governed by functional programming to be automated, it does not require a controlling entity like a centralized exchange does.

Any decision making required will come from those holding governance tokens, or by those technical people employed by the DAO to work on the development roadmap. A DEX is a valuable piece of the infrastructure for the Cardano ecosystem because it allows users ("Riders") to:

Swap various Cardano and ERC20 tokens
Stake your of ADA within the Liquidity Pools
Farm, yield farming on selected Liquidity Pools pairs
Gain on fees via liquidity provisioning
Govern, decide on the course of the platform via the WRT governance token



WHAT IS A DEX?

More importantly, the development of a DEX allows ADA holders to trade or swap Cardano tokens on the native platform. It is important to note that WingRiders launched on April 12, 2022 and is fully functional on the Cardano mainnet. Further functions and new wallet integrations will be added over time – these can be seen on our roadmap.

AMM vs. Order Book

Let's begin by talking about AMM vs. Order Book DEX's, and explain AMM in general terms. AMM stands for Automated Market Making (as opposed to Market Makers in traditional stock markets, who maintain liquidity in a certain share/instrument). In an AMM DEX, this market making is provided by the Scripts, or Smart Contracts – making it Trustless, and Decentralized.

Therefore, an AMM DEX uses liquidity pools to ensure there is always a counterparty to swap with. This is different to the Order Book model, which matches sellers with buyers via "Shortest Path Matching" or some other protocol – essentially I sell my ADA to you, who wishes to buy. Cardano – with its stake pools and proof of stake adds additional benefits to using an AMM model, but an example of an Order Book DEX on Cardano already does exist.

By their structure, AMM DEX's try to eliminate large parties ("Traditional Market Makers") or centralized organizations to act as liquidity providers. The purpose of this is to provide a trustless platform (eg. you do not need to trust a rent seeking middleman).



WHY CARDANO?

Cardano is considered a 3rd generation blockchain (1st generation = Bitcoin, 2nd generation = Ethereum). The reason that WingRiders has chosen to build on Cardano is because our team believes that to further develop the ecosystem, Cardano requires a light, browser based DEX that allows the entire community to participate. It also provides a pathway for future dApps to gain access to a secure, reliable platform through which to channel their swaps. Wingriders aim is to be that piece of essential infrastructure.



HOW IS CARDANO DIFFERENT?

Cardano, is coded in the functional programming language, Haskell. It also uses a novel accounting/ execution model, known as "Extended Unspent Transaction Outputs" (eU-TXOs).

The eUTXO model implements smart contracts more "passively" than an explicit function call, and heavily discourages the use of global state. The benefit of this approach is that Cardano avoids the high gas fees for settlement that hinder the Ethereum blockchain. The eUTXO approach further refines the simpler UTXO model. In the UTXO model, money is tracked as a chain of custody, by pointing at a specific (unspent) output from a previous transaction, which then gets consumed as the input to a new transaction.







WingRiders is made up of a team of highly experienced crypto-users, developers, marketers, cypherpunks and new minted cryptocurrency enthusiasts who are all experienced in their relevant fields. We are "Powered by Vacuumlabs (VL)" which means they built the core functionality.

VL is a well known global fintech development company that has been developing for Cardano since its inception. The VL development team has done work for the V1.0 of the Yoroi Mobile Wallet, integrated Trezor and Ledger to Cardano, and has worked on projects for IOHK, Cardano Foundation, API 3, Milkomenda, Emurgo and others. We continue to source development capacities from VL and included our development team for key parts that took it to the mainnet.

THE WINGRIDERS BRAND

Why "WingRiders"? Because we believe that the greatest thing about crypto is the community. We want to band together to become Riders – to support each other, to work together and to fly. Our mascot, "the Rider" is a hero, they hide their features to demonstrate our commitment to privacy for our users. The Rider will be joined by their companions in the near future, the other WingRiders. Join us and fly!

We've really only begun to scratch the surface - we are building something great. WingRiders is a team, and we hope everyone will join. We are not afraid to be different, to be distinctive.



OUR CORE VALUES

THE DEX ON CARDANO

This is our first core value, and it isn't arrogance. We believe that to move the ADA ecosystem forward, the community needs not just a DEX, but a piece of infrastructure governed as a DAO. Our aim is to support all projects that may require swap functionality.

We aim to add new projects and tokens that get popular support easily and simply. We think "a rising tide lifts all boats" and nowhere is this more obvious than in the crypto community. We want projects to come to us, and know that our philosophy means that we will do our best to support them if they are bringing value to Cardano.

TRANSPARENCY

We will be transparent across the project, fees, details and information – If it's important, we will communicate it. We feel that this is the best way to communicate with the wider Cardano Community and DAO members.

SIMPLE

It is our aim to help spur mass adoption of cryptocurrency in general and Cardano in particular is about being easy to use, our design ethos reflects this. Our platform is easy to use.



OUR CORE VALUES

TRUSTLESS

From the ground up, we are building for a decentralized world. We don't want to be a faceless organization running some DEX, we aim to build it and hand as much of the running off to Agents, Liquidity providers and the DAO members. WingRiders will belong to the stakers, the Agents and the community. Our ultimate aim is to move to a fully decentralized autonomous organization (DAO) and token holders will therefore determine the future direction of the platform.

COMMUNITY

We feel that having a vibrant, engaged community is critical for widespread adoption. From our description of DEX's, you can see even from our <u>Batching Model</u> (we call them Agents) that we aim to open this to the community, not just big stake pools and whales. We call ourselves a Co-DEX (Community DEX) because of this. Our batching model will eventually be open to anyone. In our upcoming releases we will reveal more about this.



CURRENT STATUS

WingRiders platform launched on 12th April 2022, and is live on the Cardano mainnet. Through partnership with Milkomeda, WingRiders launched with (USDC, USDT) on Cardano, a first for ADA. The DEX is on the Mainnet with stablecoins and liquidity through the Milkomeda bridge from day 1. Staking of ADA in Liquidity pools and farming are fully enabled. Additional key assets that joined the liquidity from other chains are ETH and BTC in their wrapped form.



PLATFORM

The platform and project came out of stealth in December 2021. At that stage, the early interest was around the 1st testnet platform, (which we call Integration Testnet V1.0) which demonstrated a very deep integration into Nu.Fi, with whom we have a partnership. You can read more about Nu.Fi here.

Much of our early feedback was about the technical "depth" of this integration. Subsequent to that, in March we launched a 2nd testnet version with more features, which revealed the DEX platform's UI/UX (which we called Platform Testnet V1.1). Both instances are still live via testnet.

The full platform testnet (V1.1) was moved to mainnet and launched on 12th April 2022, (or 12/04/2022). As can be seen on all versions (testnets and mainnet) our platform is fast! We achieve this by a methodical, developer led approach. We have outlined some of our unique features below.



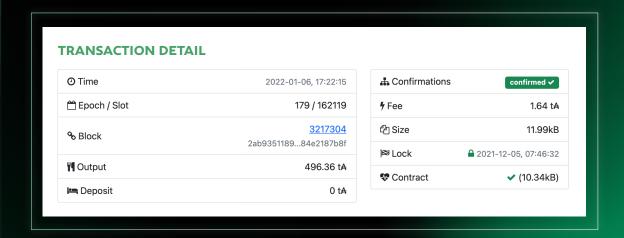






WingRiders v1.1 on Testnet delivered impressive performance. Achieved high speeds were due to the number of batch transactions we could create per block and the number of requests we are able to handle in one batch transaction.

That can be seen <u>here</u>, with an average transaction size of 10 kB, and bigger transactions, with up to 9 requests, a bit above 12 kB. This allowed for 4–7 batch transactions per block (of 88 kB). In the example block linked above with 7 batch transactions, thanks to our optimizations, we applied, in total, 30 requests. The currently running Mainnet speeds are also similarly impressive.



Our aim was to integrate more wallets quickly. Our objective was to cover the majority of the cardano community with their preferred wallet by Q2 2022. No team in Cardano has more integration experience. Our second testnet, called our "Platform Testnet" is also live, this allows users to experience the UX/UI of the WingRiders platform directly. Check it out here.



CONCURRENCY

Concurrency is a hot topic in the Cardano space, and we covered our approach in detail in our blog here. There are two different understandings regarding this and we'll outline them below. To many in the community, it has to do with how many interactions are possible with a single Liquidity Pool (LP) by different users in one block (the answer is one per LP without a concurrency solution). To understand what is meant by a single user being able to interact with a single LP once per block, think about this -

Aaron is doing a transaction on a DEX platform, he wishes to swap x ADA with y MELD by interacting directly with the ADA-MELD liquidity pool. Once he submits the swap transaction, it is not complete until the block is settled. The balance of both x ADA and y MELD will be different post the transaction. E.g. Until the transaction is settled, the balance of that LP is not verified. If other users try creating their own swap transactions, they will conflict with Aaron's transaction and the blockchain will reject them. However, it is possible to spread multiple transactions across multiple LP's in a single block.



CONCURRENCY

More importantly, the varied balance of ADA and MELD in the above example may impact the price of subsequent transactions. The solution WingRiders chose for this is the "batching model" described below.

From a development perspective, concurrency is more to do with servicing multiple liquidity pools in parallel. Cardano already supports this type of concurrency out of the box. With the "batching model" the concurrency solution becomes more interesting, since the agents have to balance prioritization of liquidity pools, blockchain congestion and batch sizes. When we at Wingriders talk about concurrency, as we are very much developer led, we lean toward the latter meaning.



THE "AGENT" & "BATCHING MODEL"

Users would create swap requests and Agents (the batchers) would fulfill these requests on behalf of the users. The requests are small transactions, while the transactions that fulfill these requests would interact with the DEX scripts (Cardano's version of smart contracts) to ensure that the users are correctly compensated.

These batch transactions are large because of the included scripts and large number of inputs. The agent's goal is to maximize efficiency and include as many swap requests as possible. The more requests the agent can fulfill in a single transaction, the less load on the blockchain, lower overall fees and faster perceived user experience.

How many requests can be included also depends on the transaction size, memory and cpu usage of the smart contracts. This is where the internal factors of the DEX's architecture, concurrency solution and tradeoffs become evident.



DESIGN

Our UX and UI teams have also done a great job. They are very experienced, and it is key for us to keep iterating and developing, and improving.

We want to be the technically best engineered DEX on Cardano, full stop. WingRiders aims to be THE DEX on Cardano. Not the only one, just the best, most feature rich and most community friendly.





DIRECT HARDWARE WALLET INTEGRATION

WingRiders is currently (as of 1st May 2022) the only DEX on Cardano to support direct use of hardware wallets (Ledger & Trezor are supported already).

This means that a Rider can interact with the platform directly from their HW without the need for a software layer, making it more secure.





STAKING

WingRiders is the first DEX on Cardano to provide native ADA staking. If you provide liquidity, you will be given a utility token, also known as a "Liquidity Provider Token" (LPT) that functions as your receipt for the provided ADA.

The ADA you provide will be staked automatically and rewards will be pushed back into the pool after a given period of time – defined as an "epoch" (A standard Cardano epoch – except for the Inception Epoch outlined earlier).

After this epoch you can retrieve your liquidity from the Liquidity pool. The value of the LP tokens can already be adjusted by the delegation rewards returned into the pool. The epoch is the typical time interval for ADA staking on the Cardano blockchain, and is a period of five days.



VESTING AND DEPOSIT PERIOD EXPLAINED

There will be a democratic process in place for liquidity providers to decide which stake pool the whole ADA amount in the liquidity pool will be delegated to. Each LP token is counted as a single vote and the vote counts at the start of the next epoch. Users are asked to commit their Liquidity tokens until the end of an epoch to secure their vote.

In practice, this means your LP tokens need to be deposited if you want to vote. After the whole epoch, the amount of LP tokens in the pool will be evaluated to determine how many votes the user gets when choosing a Liquidity pool. This will prevent individual users from gaming the system and create an overall better environment for all users.



STAKING Q&A

Can I stake in ISPO pools?

Not yet. The current version only supports staking into pools which only give ADA rewards. ISPO pools make it difficult to determine and distribute their rewards to individual users. In future, we will explore options to implement support for ISPO pools.

Will I get the staking rewards in my wallet?

Not directly. The staking rewards after the epoch first will go back into the Liquidity pool which will in turn increase the overall value that you can withdraw with your LP tokens.

What pools do you support?

Staking of ADA is only relevant to ADA-to-Token pools. Other features in the DEX, like swapping and farming, support both Token-to-Token Liquidity pools and ADA-to-Token pools.

Can I split my LP tokens into multiple staking pools?

In the initial release, ADA staking will only be done per liquidity pool. Every liquidity provider that contributes to an ADA Liquidity pool will get a chance to vote on which stake pool the whole liquidity will be delegated to. Each liquidity pool can be delegated to a separate stake pool, but one liquidity pool can only be delegated to a single stake pool. The DEX is relying on the LP providers not to select a pool while voting, where they would oversubscribe with their delegation.



YIELD FARMING Q&A

Yield farming

We covered Yield farming in one of our blogs here. For a short overview, read on. Yield farming, sometimes referred to as liquidity mining or liquidity farming, is the practice of providing liquidity to a farm with the liquidity pool tokens or LPTs, that were minted to represent your share of the liquidity pool you contributed your two assets to generate rewards in the form of additional cryptocurrencies, governance tokens, like WingRiders token, NFTs, or a combination of these assets. It should be noted that at the launch of yield farming on the WingRiders platform only WingRiders token rewards are available.

How does yield farming on WingRiders work?

Many WingRiders liquidity pools are incentivized by having a corresponding yield farm. You can deposit the liquidity pool tokens in the corresponding farm to gain extra rewards. These were minted and issued to you for depositing liquidity to the original liquidity pool containing two assets.



YELD FARMING Q&A

How can I get these rewards?

Farming rewards are calculated based on the total LPTs that are deposited from the start of an epoch and remain deposited in the farm, to the end of that epoch. An epoch lasts for 5 days and is based on Cardano's regular staking epochs. WingRiders token rewards will be allocated proportionally to everyone who provides liquidity and keeps their LPTs deposited in any of the available farms. Depositing of LPTs is done in the UI part of the app covering farming.

The rewards will be calculated solely on the proportion of the liquidity of the pools the particular liquidity provider holds, as represented by the LPTs bound to the holder's wallet. To ensure that rewards are allocated fairly and to prevent anyone from gaming the system, only the minimum amount of LPTs that is deposited by a liquidity provider over the course of a 5-day epoch will be the baseline for calculating their rewards.

This means that if a portion of the deposited LPTs are removed before the end of that epoch, rewards will be calculated based on the remaining LPTs until the end of that epoch, and not on the total that was in the farm at the start of that epoch, before some were removed.



YELD FARMING Q&A

Are there other rewards?

Currently, we cannot commit to any special rewards in the form of other project tokens or NFTs on top of the WingRiders promise of future delivery of the governance token, but we are in intense discussions with many partners on potential rewards, so keep an eye on your farm and announcements in our Discord server and on Twitter.

How and where do I see my rewards?

You will be able to see information about your allocated rewards from the current epoch in the next epoch, displayed on the farming user interface.

How do I claim my rewards?

Rewards in WingRiders governance tokens will be locked shortly after the token generation event and the first-days of market trading. The token generation event is currently scheduled for Q2 2022. If the farm also yields other rewards, these should be available to be harvested right after they appear in the WingRiders user interface.



YELD FARMING Q&A

Which liquidity pools are eligible for farming rewards?

All farms that you see in the "Farming" section of the interface are eligible for farming rewards. If there is no farm listed, there is no farming reward for that particular liquidity pool.

Which liquidity pools are eligible for WingRiders token rewards?

All farms are eligible for WingRiders token rewards. If, in the future, there will be farms added that reward liquidity providers with something other than WingRiders tokens, these will be clearly marked.

Will I get any rewards if I come in the middle of a 5-day epoch?

No. You have to have your LPTs deposited before the 5-day epoch starts in order to have a logged minimum for the rewards to be received. If you withdraw your farm's LPTs and/or withdraw liquidity later in the epoch, you will lower your minimum amount deposited for that epoch, and this lower amount will be used as the basis for reward calculation.

How do I maximize my WingRiders token yield rewards from the platform?

Provide liquidity to one of the liquidity pools that are incentivized by a farm. Deposit your LPTs in one of those farms. Stay with the platform as long as you can. This is the optimal way to increase your yield and gains.



STABLECOINS, ETH AND BTC ON CARDANO MAINNET

Through our partnership with Milkomeda and Flint wallet, and their implementation of the Ethereum Virtual Machine (EVM) on the Milkomeda sidechain protocol, WingRiders runs with bridged Wrapped Assets (wAssets) from our Mainnet launch! The protocol is a sidechain project on Cardano and allows fees to be paid by wADA. We covered this in detail in our Stablecoins blog here. There is a short overview below.



HOW IT WORKS

Or you can check out this diagram from our tech team that outlines exactly how this works



First, the user is able to migrate his Ethereum based ERC20 assets to Milkomeda sidechain via the Nomad bridge (audited via Quantstamp) using Metamask. Milkomeda itself is an EVM based side chain of Cardano – supporting the ERC20 tokens stored for the user (for example on his Flint wallet or again using Metamask). Using a gateway to lock the ERC20 tokens then issuing Cardano native equivalents of these tokens on to the Cardano blockchain. This can be done via the Flint wallet.

To map ERC20 tokens to the eUTXO based Cardano chain, we need a gateway - (called "Milkomeda Bridge") to handle the mapping. Some of you readers might well understand the concept of "wrapped" tokens, for more information - please check out the blog link above.



WINGRIDERS MINTING TOOL

Furthermore WingRiders have developed a <u>Minting tool</u> that can be used to create cardano native assets with guaranteed fixed supply. After minting a set number of tokens, no additional tokens can be created for this asset, nor none of the tokens can be destroyed. For example, if you minted 10m governance tokens, no additional governance token can be minted afterwards.

This property makes it ideal to represent wrapped tokens from other blockchains. The linking of these tokens to ERC20 is not part of the tool, and it works purely on the cardano side.







AUDIT BY CERTIK

WingRiders underwent the inspection of the code done by Certik – leaders in tech/cyber security in the crypto space. We passed with excellent results, no critical, major, medium or minor issues have been found.

The aim of the audit was to discover issues and vulnerabilities in the source code of the WingRiders platform as well as any contract dependencies that were not part of an officially recognized library. A comprehensive examination has been performed, utilizing Manual Review and Formal Verification techniques.

The auditing process paid special attention to the following considerations:

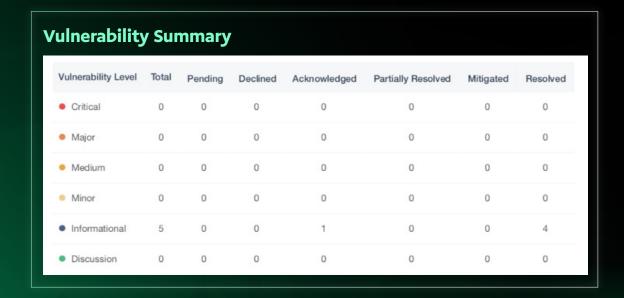
- Testing the smart contracts against both common and uncommon attack vectors.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Ensuring contract logic meets the specifications and intentions of the client.
- Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders.
- Thorough line-by-line manual review of the relevant codebase by industry experts.



AUDIT BY CERTIK

The security assessment resulted in several findings, but only at an "informational" level of severity. Certik recommended addressing these findings to ensure a high level of security standards and industry practices.

In addition to the manual audit, CertiK has formally verified several of the core functions. The verification proves that the core business logic functions satisfy important properties and invariants, which builds confidence that the program logic is correct.



*WingRiders. Code Security Assessment. (March, 2022 by CertiK) More details in the full report <u>here</u>.







THE WINGRIDERS DAO

The platform is building itself up to be purely governed by a Decentralized Autonomous Organization – essentially governed by the community via the platform governance token. It needs to be stressed that already inputs and decisions are being collected from the growing community in this pre-DAO phase.

One of WingRiders ongoing goals is to listen to the community's needs and that's why feedback, opinions and inputs are continuously being collected from the community from day one. The community can vote in opinion-polls during the pre-DAO phase. Ultimately members of this community who are also holding the governance tokens and participating in voting are members of the DAO.



THE WINGRIDERS DAO

A DAO is an organization designed to be automated and decentralized. It acts as a decentralized, automated, cyber society, based on open-source code and without a typical management structure or board of directors. It is implementing changes via a direct voting structure. DAO members (who are also holding governance tokens) have the ability to enact technical changes to the WingRiders platform and also to adopt decisions about non-technical matters.

Whether that be a change to the system parameters, or a decision to accept a new governing philosophy, DAO members have ultimate control over the platform (within legal and technical boundaries). The DAO members can propose various changes e.g. technical or financial parameters of the platform, replacing modular smart contracts, or even changing the voting power of the governance token. The voting structure is protecting the DAO itself as it implements multiple self-protection mechanisms, such as protection and enhancing the voting-coefficient for the most dedicated DAO members.

Why should it be a DAO? WingRiders dream and strive to eliminate human error or manipulation of funds by placing decision-making power into the hands of an automated system and a crowdsourced process.







TOKENOMICS AND DISTRIBUTION

As mentioned previously, the ultimate objective is for WingRiders to be a fully autonomous DAO. With the WingRiders Token (WRT) acting as a governance mechanism. The holders of the token are entitled to participate in the voting process regarding key decisions for the project's development. Because of this, the key element is to get the token to as many hands as possible from early on. So important to know is that the token can be acquired through three methods:

- 1. By participation in the upcoming WingRiders Token Generation Event (TGE) and its sales cycles.
- 2. Already and for a long time forward farming rewards for providing Liquidity to the platform.
- 3. Potentially through community development claim drops or other activities TBD.

The Tokenomics and distribution of the token

		Percentage	1st day Tokens	Lock-up	Vesting	Token 1pcs price
Total WingRiders tokens	100,000,000					
ncubation entities	20,000,000	20.0%	0%	6	30)
Future platform hires	5,000,000	5.0%	0%	6	30)
Partnerships & Marketing	5,000,000	5.0%	O%	. €	30)
Presale participants	6,000,000	6.0%				
Initial round	6,000,000	6.0%	5%	. 3	24	\$0.35
Private Private	6,000,000	6.0%				
Private round	6,000,000	6.0%	10%	. 3	24	\$0.40
Public sale	8,000,000	8.0%				
Whitelist	777,778	0.78%	15%	, 2	12	\$0.45
DaoMaker IDO (Public SHO, Dao SHO)	1,666,667	1.67%	15%	. 2	12	\$0.45
Occam IDO	666,667	0.67%	15%	. 2	12	\$0.45
Vent IDO (Vent community)	666,667	0.67%	15%	. 2	12	\$0.45
Vent IDO (Public community)	444,444	0.44%	15%	. 2	12	\$0.45
Gate.io initial promotion event (15k users)	400,000	0.40%	33.3%	,	3	3
MEXC initial promotion event	30,000	0.03%	100%	,		
IDO & Launch Marketing support (50k-222k tokens)	222,222	0.22%	15%	. 2	12	?
Reserve held for Community rewards and project development	3,125,556	3.13%				
Ecosystem development	50,000,000	50.0%				
Environmental impact fund	3,000,000	3.0%				
Initial Liquidity DEX & CEXs	4,000,000	4.0%				
Various Ecosystem rewards and Development reserve	3,000,000	3.0%				
Liquidity mining (Farming incentivization)	40,000,000	40.0%				
		100.0%				

Laplandion of terms

Sist day tokens - tokens freely available on day one of token entering the public market

Lock-up - Period during no tokens are received besides the 1st day exemptions

Vesting - Linear vesting or monthly release schedule











