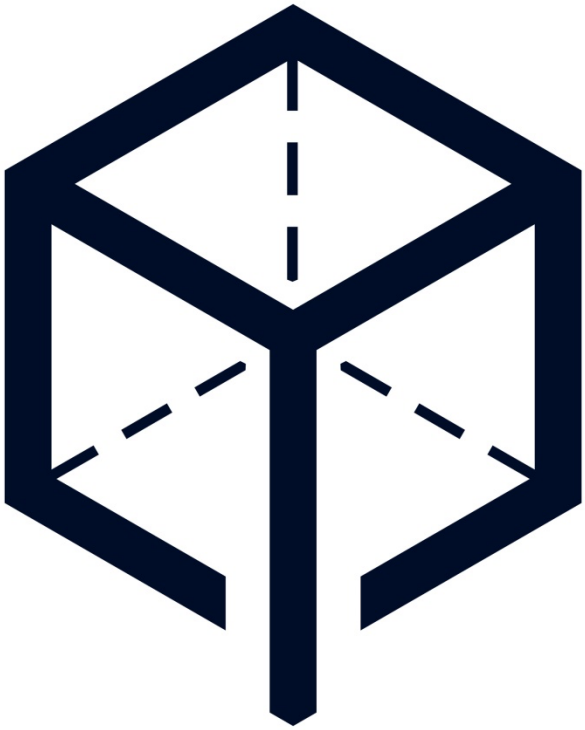
The Melon Project

The Melon Project is a two year workshop led by Melonport to build an open source blockchain protocol for digital asset management called "Melon". Initially the protocol will be based on Ethereum with a view to be deployable on further Blockchains.



Executive summary

1. The Team

RETO TRINKLER

Chairman & CTO

Blockchain developer with background in mathematics from ETH Zurich. He started developing Ethereum smart contracts immediately after their launch in 2015. He worked as a smart-contract developer at Brainbot Technologies (which is building the high-speed Raiden Network) and is host of Zurich's Blockchain Hacklab. Before this Reto developed a profitable trading algorithm for sport betting exchanges in C++.

MONA EL ISA

CEO & Co-Founder

Former star-trader at Goldman Sachs, promoted to Vice President by the age of 26 and made the "top 30 under 30" list in Trader Magazine in 2008 and Forbes Magazine in 2011 after profitably trading the 2008 and 2011 crashes. Moved to Geneva-based macro fund Jabre Capital in 2011, before deciding in 2014 that the future of finance lay in blockchain technology. She studied Economics & Statistics at the University College London.

GEORGE HALLAM

Head of Business Development

George joined Ethereum as Business & Partnership Director in Mid 2014. He quickly established himself as a key communicator, moving to the role of Head of External Relations where he successfully advocated the Ethereum platform to the world and coordinated the Ethereum Foundation's yearly developer conferences in London and Shanghai. During his 2 years at the Ethereum Foundation, George grew a strong appreciation and understanding of the Ethereum community and the ecosystem it inhabits.

DR. GAVIN WOOD

Advisor

Co-founder and CTO of Ethereum and now head of EthCore, one of the top providers of blockchain-powered enterprise solutions and developer of the Parity client. He coded Ethereum's first functional implementation, wrote the Yellow Paper (first formal specification of a blockchain protocol) and invented the Solidity language. Studied software engineering at University of York. Specializes in C++ and holds lifelong interest in game theory.

DR. ANDREAS GLARNER

Legal Advisor

Dr. Andreas Glarner, LL.M., Partner of MME Legal Tax Compliance, Switzerland and part of MME's Crypto Team. Andreas Glarner has extensive expertise in fintech and blockchain technology applications, gaming services, e-payments and IP/IT law.

He has been involved in various blockchain projects since 2013 and advises exchanges, gateways, wallet service providers, IOT projects and all sorts of distributed ledger projects, including decentralized financing structures (ICOs) and smart contract applications. Andreas Glarner advices both on contractual as well as on regulatory matters and is in this context in regular contact with the Swiss Financial Market Authorities (FINMA).

JEHAN CHU

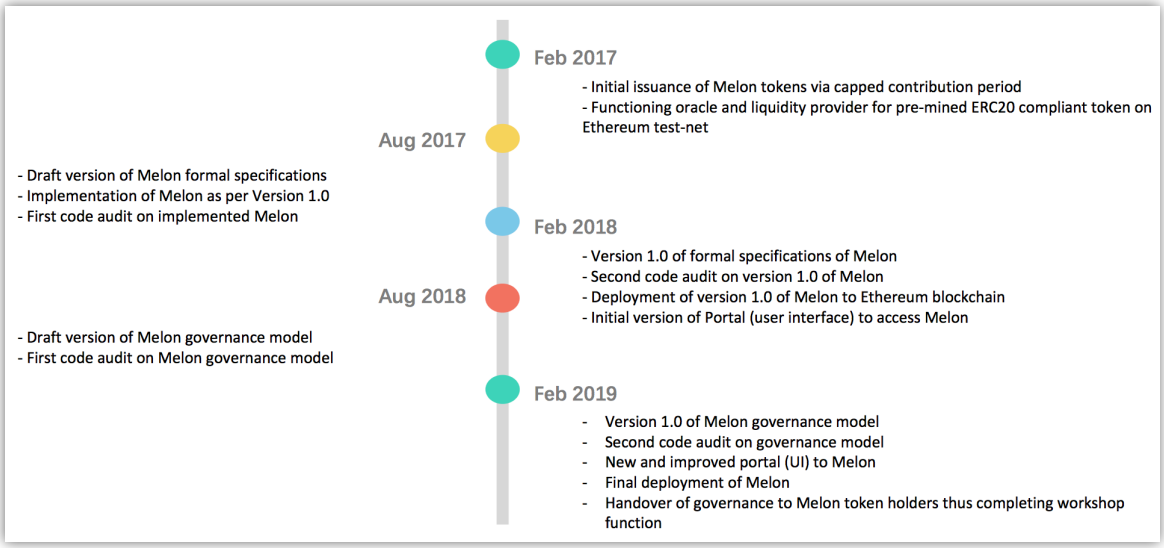
Strategic Advisor

Jehan Chu is a partner at Jen Advisors, a Hong Kong based early-stage Blockchain VC firm. He has been a Blockchain evangelist since 2013, is the founder of the Ethereum HK meetup, Hyperledger HK meetup, and a founding member of the Bitcoin Association of Hong Kong. Jehan is a Google EYE Program Mentor, Vice Chairman of Para Site, Board Member of Design Trust, and Technology Committee of the Asia Art Archive.

2. Corporate Partners

3. Beta Testers

4. The Melon Project Roadmap:



5. Melon Specifications

Below, is an overview of what Melonport will attempt to provide to its contributors throughout the duration of this two-year project.

Phase I – is represented in black. Phase I represents everything which has been completed over the time period February 2016 up until February 2017. Phase I was entirely funded by the founders themselves who worked on the project full time since Feb 2016. No contributions have been accepted thus far and no re-imbursements will be made to founders from community contributions at the token sale.

Phase II – is represented in blue, and is expected to take place over the period February 2017 – February 2018. Phase II is represented by the colour blue and will comprise of code audits as well as the first live version of protocol which should be deployed by end of 2017/early 2018.

Phase III –is represented in yellow and is expected to take place over the period of February 2018 – February 2019. Phase III is represented by the colour yellow and will require a second contribution period distributing the remainder of the tokens. It will focus on finalizing the governance structure and providing upgrade/mutli-chain connectivity options for stakeholders.

These specifications are of descriptive nature only and the specification and scope of the Melon Project may change throughout the course of development. If these specifications conflict with the MELON CONTRIBUTION Terms or any of the underlying smart contracts, the content of the latter shall prevail.

Development: Core, Modules, Governance & User Interface

Core:

- The building of a basic core and modules to get to a Proof of Concept stage to be released before the initial contribution period.
- Producing a more sophisticated version of the core:
  The building of the core protocol; written as a set of smart-contracts. These can be seen as the non-negotiable part of a portfolio structure which holds everything together and transparently "sets the rules" by which the portfolio manager can engage with the protocol. These rules are enforced by the blockchain.

Modules:

- Producing a complete set of modules:
  The modules, also written as a set of smart-contracts, can be seen as the auxiliary functionality to the core protocol. The core protocol together with a set of rules on how the core interacts with its modules constitute the Melon protocol.

  - **Asset Universe Module**
    - **Trading Registrar**: In the registrar module, the Portfolio Manager selects a finite set of assets as well as a finite set of exchanges on which these assets can be traded. The Portfolio Manager is then restricted by this set. All they can ever do is trade those specific assets on those specific exchanges. The smart contracts prevent the funds from being sent in any other way or to any other account beyond that which is specified.

    - **Functionality**: The functionality module allows a Portfolio Manager to retain actions or rights and avoid penalization from non-action (e.g. Augur's REP tokens). The interactions between token custodians and corresponding smart-contracts need to be programmed in as it is no longer an individual or account which controls these funds.

- **Price Feed Modules**: These are needed as asset prices, in general, tend to be different on different exchanges due to the inherent way prices are set. A price is set by supply and demand which constitutes of market participants wanting to buy or sell. In this context, the word "market participants" also refers to trading algorithms, etc. In general, market participants reflect a different supply and demand profile on different exchanges, generating different bid/ask prices. While it's true that arbitrageurs keep the differences small, they remain, for at least as long as there is a fee to be paid on the execution of trades. A fee might be a commission to the exchange or broker, or a fee in the form of another execution cost, such as for example, the gas cost to be paid on the Ethereum network. To solve the problem of ambiguous prices, the Melon protocol will require the Portfolio Manager to choose one price feed module providing one specific price against which the assets under management (AUM) are evaluated.
  - **A basic functioning oracle**: Open-source implementation of a basic oracle for a price feed module.
    A more sophisticated version of the oracle to be deployed on the live network

- **Risk Management**
  - **Trade restrictions**: Restricts trading and links to a pre-selected exchange on which an asset can be traded. For example, no trade size can be higher than 10% of the volume traded of this asset. This module is intended to reduce the amount of order book manipulation in favour of the Portfolio Manager.
  - **Risk Manager: A module which enforces certain risk management parameters on the portfolio manager (e.g. Not allowed to have more than 5% of AUM in any one token).**

- **Management and Performance Fees**
  - **Management Fee**: A gross asset value independent fee for the manager(s) of the portfolio.
  - **Performance Fee:** A gross asset value dependent fee for the manager(s) of the portfolio.

- **Invest/Redeem**
  - **Invest**: A smart-contract method to create new shares for an open-ended fund structure when Ether is received.
  - **Redeem**: A method to annihilate shares when Ether is redeemed from an open-ended like fund structure.
    A more sophisticated version of this could provide different iterations (for example: sensitivity and/or penalties around size of redemption).

Governance:

- Draft version of Melon governance model: Propose governance structure of tokens: Includes further research in determining the inflation rate of MLN tokens. The inflation exists to incentivize "ongoing development" and continuation of improved modules. The governance structure will include; how incentives will be passed across chains, how exactly will module developers get rewarded. It will also include protocol upgrades: i.e. determining the best way to make protocol upgrades at a core level as well as making alterations and changes to the portfolio in a safe way (e.g. allowing new assets to be traded).
- Version 1.0 of Melon governance model and implementation.

User Interface:

- Providing a simple user-friendly "portal" (UI) to the protocol
- Providing a more sophisticated functional "portal" (UI) to the protocol

Documentation:

- The writing and publication of the Melon protocol greenpaper, legal legwork, explainer diagrams & videos, token sale and partnership documentations.
- Creation of a protocol documentation library
- The publication of draft and version 1.0 of Melon formal specifications
- Informative & more extensive explainer videos
- The publications of draft and version 1.0 of Melon governance model

Security of Melon protocol & smart contracts:

- Bug bounty program
- At least two security audits on the Melon protocol
- A final audit on the Melon governance model

Communications & Marketing:

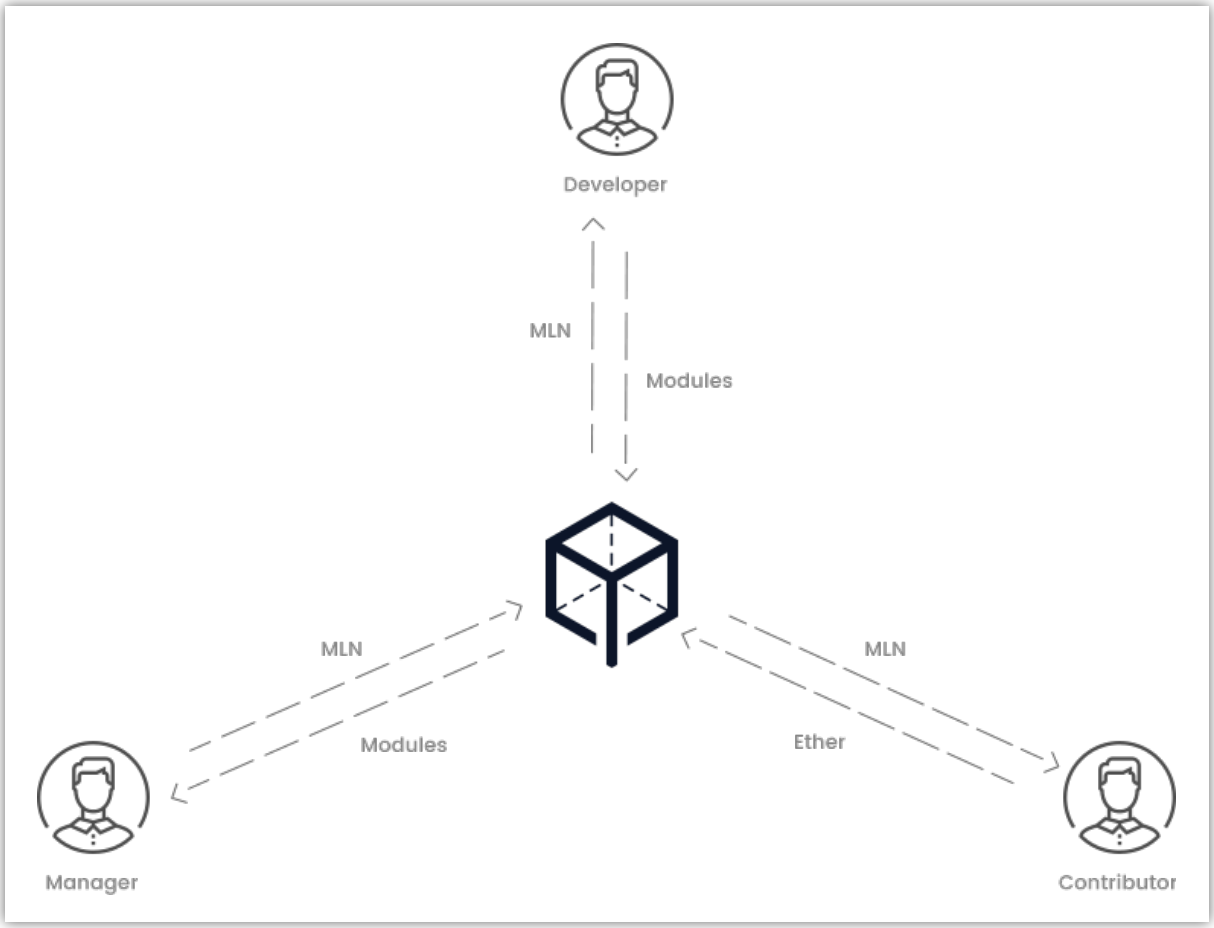
Target Audience	
Developers	Developers: Contribute to protocol by adding modular software and earn MLN tokens in return
Existing digital asset managers	Users: Pay MLN token to use the protocol and software which goes back in full to developers
Visionaries	Contribute to the project to see it come to fruition
Traditional Managers	Contribute to the project and/or beta test with the vision of shifting existing business to blockchain as digital assets become mainstream

- Building website & social media channels
- Presenting at meetups and hosting workshops globally
- A full-time employee to help with business development and communication
- Digital asset management partnerships and collaborations for beta testing
- Training, workshops and events dedicated to consultants and future users
- University level partnerships
- Community driven work to engage developers and benefit from network effect
- The creation of a “Blockchain for Asset Management Conference”

Strategic Research & Development:

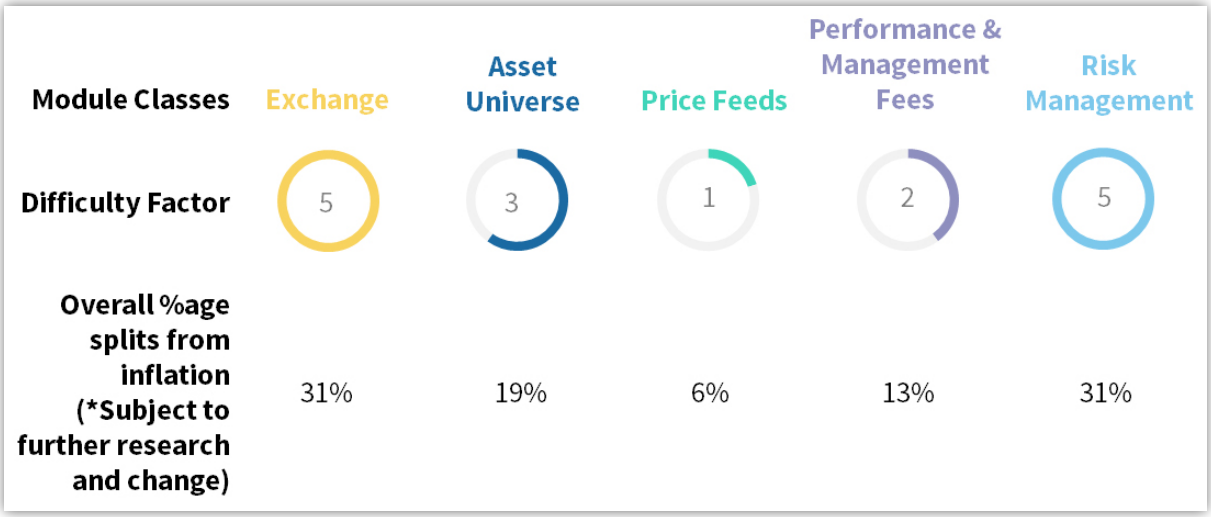
- The creation of an R&D fund with a focus on multi-chain connectivity solutions.
- Governance meta-protocol - to modify, add and remove infrastructure on different block chains.
- Cross-chain token contracts. Contracts that can "relay" tokens from one chain to another.
- Exploring methods of preventing front-running on exchanges.
- Exploring methods of portfolio obfuscation. E.g. through (semi-) encrypted chains etc.

6. **The Melon Token**



The Melon token “MLN” is a core component of Melon and is designed to provide a “usage right” (usage license) to the Melon software. The “usage fee” will most likely be imposed on trading and can be thought of as a license fee for the software solution made available to the user. From an economic perspective, it works like a Tobin tax - in this way, the opportunistic profitable high frequency trading strategies would cause steady high demand for MLN. The socially responsible "low frequency trading" investor would gladly pay the tiny tax. The average investor would need to consume slightly more MLN but this would likely still be substantially below other alternative solutions.

All “MLN” token that are paid by users to access and use the Melon protocol/software will go into one or several smart contract(s) called a “Governance & Multichain fund”. The purpose of this fund is to allow Melon token holders voting rights on issues such as; deploying Melon on other future blockchains or to cover governance and (including maintenance) of the Melon protocol.



A maximum of 1,250,000 "MLN" will be created during the contribution periods before the protocol is deployed to the live network. Following the live deployment of the Melon Protocol, a fixed amount of new token will be created per year and be distributed towards the most widely used module developers.

A difficulty factor will be assigned to each module class (see illustration above) and future inflation will be direct to module developers proportionate to the usage of the modules and the difficulty factor ascribed to them. The exact difficulty factors will be decided by Melonport and will be conveyed in stage III along with Version 1.0 of Melon governance. The illustration above gives an idea of how this might look.

The exact amount that will be created is still subject to further research but is expected to be around 300,000 token per year.

7. How does it all fit together: A working example

Developers (1,2…n) can add modules into any "module" category they like:

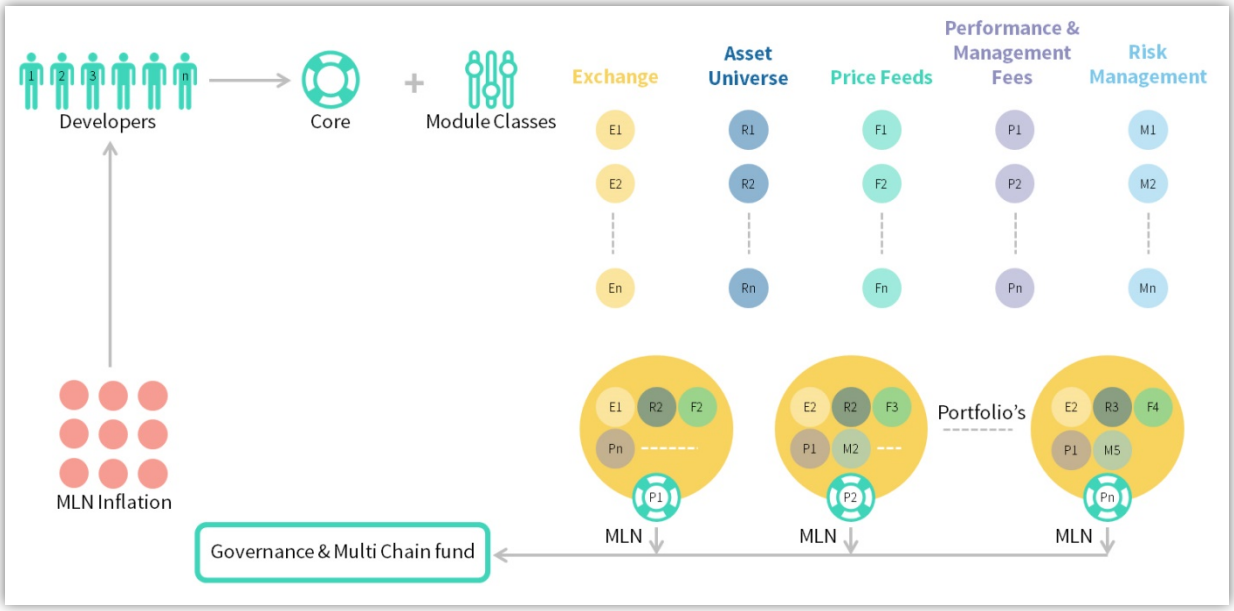
Example 1: Let's assume that "Etherdelta" is developer E1 and "Etherex" is developer E2. Developers E1 & E2 both add exchange modules into the open-source module category "Exchange" which then becomes available to users and linkable to Melon core. E1 selects the fee (if any) they would like to charge for use of their module in ETH and E2 does the same respectively. These modules provide users with access to their respective exchanges. Users can pre-select one, or more of these modules and add them into their fund creation software basket but once the fund is deployed to the network, the portfolio manager (user) can only trade with exchanges that are pre-selected.

Example 2: Assume Thomson Reuters is developer P1 and Bloomberg is developer P2. Developer P1 and P2 both decide to build price feed modules on the open source "Price feed" category using their own brand and reliable data. P1 and P2 can decide what price they want to charge the user for this data respectively. The modules will link to the core and users can choose which price feed they would like to use. Once the price feed is chosen for a portfolio, it will always be used as a source for the data of this fund.

Every portfolio must consist of a Melon core. This is non-optional but the modules are then optional. Melonport (the portal to the blockchain) will not censor any modules and all will be available to the user when creating a portfolio.

User comes in to create Portfolio 1 (C1). User 1 selects Etherdelta's module as exchange (E1), R2 as the Asset Registrar Module, F2 as the Fee Module they would like to charge investors, P2 for price feeds from Bloomberg. . etc. Once these selections are made, the portfolio is deployed to the network.

No fixed cost is required in setting up a portfolio except the cost of gas required to put the contract together on Ethereum. MLN usage (license) fees will be applied to trading activity. New MLN tokens are created periodically and in a dis-inflationary way. These new tokens will be used to remunerate ongoing module developers whose modules are being used the most, thereby also functioning as a usage or license fee. Whilst this is still in research, the diagram below gives an idea of how this might look.



8. Melon workshop budget:

Melon developers: Adding to the development team which will consist solely of employment costs.

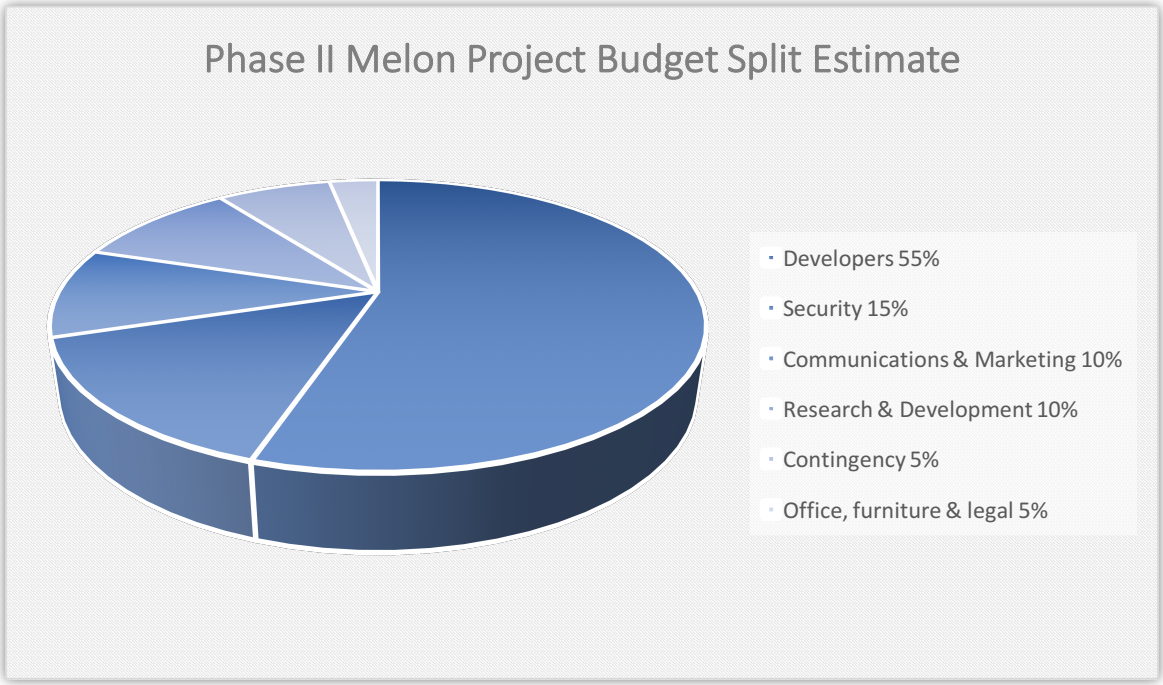
Security: We recognise the necessity to provide incentives for any potential security hacks. We expect over time, and upon full funding this budget will cover security audits and a bug bounty programme among other possible solutions.

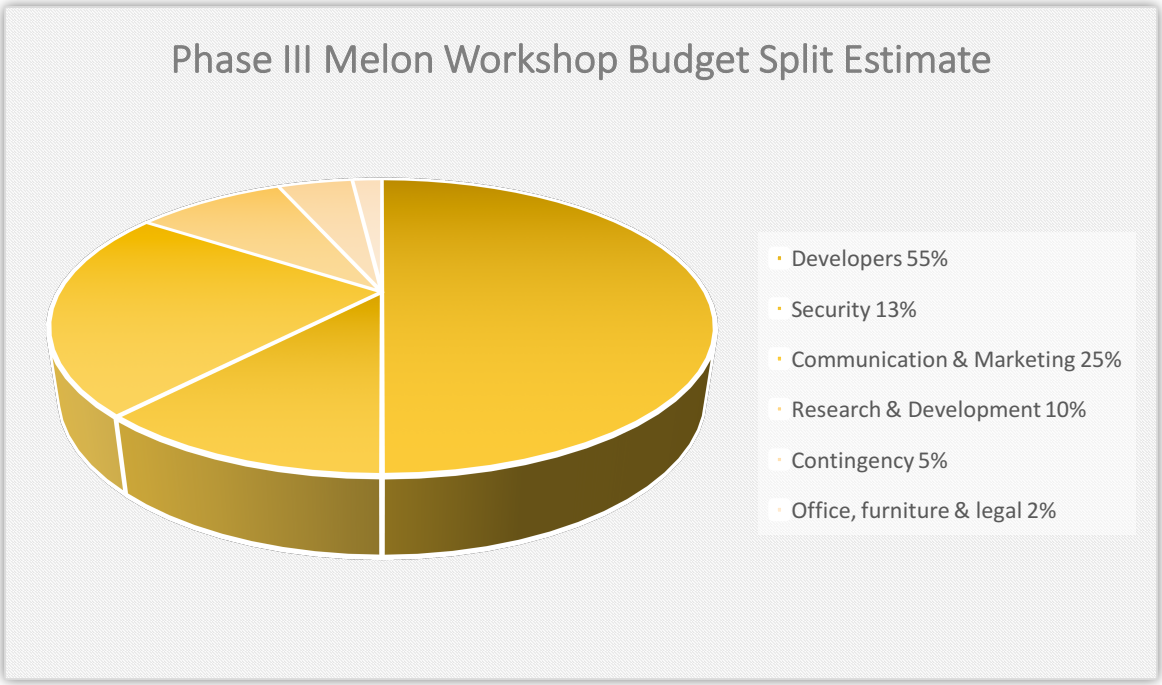
Communications & Marketing: Costs here are partly employee costs related and partly marketing related. They should cover the cost of a full-time Business Development, Communications & Marketing employee as well as workshops, training sessions and conferences to bring users up to speed with the new technology.

Research & Development: A fund designed to cover some heavy research into the governance structure of tokens and upgrade mechanisms. It will also cover multi-chain deployment and connectivity research. This funding could be used for other modular areas of research listed above, especially in the case of further token issuance.

Office, furniture & legal: This category includes cost of offices in Zug, Switzerland as well as furniture and any work related materials that may need to be purchased.

Contingency planning: These will cover and any unforeseen expenses.





9. Other supporting documents & links

❖ Documents and Explainers

a. Greenpaper
b. Proof of Concept 1 video (PoC 2 to be released in February)
c. Melonport Explainer video

❖ Social media channels

a. Twitter
b. Slack
c. Telegram: https://t.me/melonport
d. Facebook

❖ Developers

a. GitHub
b. Gitter