


Last Name	First Name	GitHub User Name	Email Address	Preferred Role / Technical Area
Tech	Berinike	BerinikeTech	niketech@web.de	Blockchain / Solidity
Heil	Dominic	dominic-heil	d.heil@campus.tu-berlin.de	CI / CD - React - JS - (Python Backend)
Steinkohl	Felix	steinkohl	steinkohl@campus.tu-berlin.de	CI / CD - Backend (- Frontend)
Stender	Nick	Floinko	stender@campus.tu-berlin.de	Backend
Ehmendörfer	Christoph	krisutofu	christoph.ehmendoerfer@campus.tu-berlin.de	jump in (Backend / Frontend)
Pilgrim	Jannis	NonFT	jannis.pilgrim@gmail.com	Database / Python
Le	Ba Que	tuilagio	b.le@tu-berlin.de	Frontend (React) - Python backend
Naumov	Nik	NickZecamp	nikum@live.se	JS, UI/UX

Project Name	NFT the world!
Production system (if any)	https://amosproj.github.io/amos2021ws07-nft-development/
Test system (if any)	...
GitHub repository	https://github.com/amosproj/amos2021ws07-nft-development
GitHub kanban board (project)	https://github.com/amosproj/amos2021ws07-nft-development/projects/1
Team T-shirt (white)	https://www.shirtinator.de/loadBasket/hQImSTVUG0E
Team T-shirt (black)	https://www.shirtinator.de/loadBasket/hQImSTVUG0E
Additional materials	...
Zoom	https://tu-berlin.zoom.us/j/65882617955?pwd=WHJKV3lnN20zNWUybFMwbHZ0dnNyZz09
Jitsi (fallback)	https://meet.innocampus.tu-berlin.de/amos7
Happiness	https://happy-amos.appspot.com/Project?project=6300169943384064&course=6014071715397632
Slack	https://join.slack.com/t/campus-xuz7131/shared_invite/zt-xqnhb1i9-hzKoRS__LynqkTrq_w8mNA

#	Meeting Day	Comment	Coach	Product Owner	Software Developer	Release Manager	Scrum Master
1	2021-10-21		Yes	Christoph	Everyone else	N/A	Coach
2	2021-10-28		Yes	Nick	Everyone else	Christoph	Coach
3	2021-11-04		Yes	Nike	Everyone else	Dominic Paul Christian	Coach
4	2021-11-11		Yes	Dominic	Everyone else	Que	Coach
5	2021-11-18		Yes	Christoph	Everyone else	Nikita	Coach
6	2021-11-25		Yes	Nick	Everyone else	Felix	Coach
7	2021-12-02	Mid-project release due	Yes	Christoph	Everyone else	Jannis Max	Coach
8	2021-12-09			Nick	Everyone else	Nick	Coach
9	2021-12-16			Christoph	Everyone else	Berinique	Coach
10	2022-01-13		Yes	Christoph	Everyone else	Nick	Coach
11	2022-01-20			Nike	Everyone else	Dominic Paul Christian	Coach
12	2022-01-27			Felix	Everyone else	Que	Coach
13	2022-02-03		Yes	Felix	Everyone else	Nikita	Coach
14	2022-02-10	Demo day / final release		Felix	Everyone else	Jannis Max	Coach
15	2022-02-17	Project retrospective due		Felix	Everyone else	Felix	Coach

Product Vision	Project Mission
<p>NFTs allow for a secure, easier and independent way of making an earning as an artist or creator. NTFs therefore have potential for the worldwide community to empower more people to produce and supply in the digital realm, without profit-making intermediaries that cause transaction and marketing costs. Other advantages of digital crypto tokens can be transparency, trust-safety, decentral storage (not controlled by big institutions) and potentially helpful in legal issues, without the need for payment processors and banks.</p> <p>Public blockchains with transparent transactions could help to recognize illicit and criminal money flows like corruption and tax robbery schemes. An important use case for NFTs therefore are ownership and objects in Metaverses and games.</p> <p>Additionally, NFT markets allow for new products and business models like crypto games or crypto funding. It features security/protection which is useful for practically every digital company.</p>	<p>Our project can contribute to the vision by creating a reusable example application which manages NFT Drops and automatizes important steps in order to facilitate earning money with own NFTs.</p> <p>As an open source project, the result can be used by individuals and companies, to easily create and provide NFT sales for their own marketing strategies, metaverses, profit or online campaigns for several non- or commercial purposes.</p> <p>A private secondary market mechanism is supported for a deeper relationship between customers and the market owner.</p>

Term	Definition
Non-fungible Tokens (NFT)	Digital assignment of an owner (wallet) to digitally represented asset, stored in a blockchain. It is an entitlement to sell or use certain asset. It differs from usual crypto currency that every NFT has an individual value.
fungible token	Indicator of financial asset which is used to buy goods/services and is fully interchangeable with other fungible tokens of the same kind.
wallet	A digital depot for crypto-asset, NFTs and other crypto currency.
(NFT-)drop	An event where a collection of NFTs first hits the market, become buyable and are delivered to buyers. Pre-drop reservations possible.
(NFT-)drop	Similar to what is a playlist on YouTube but with NFTs.
minting	Process of turning digital asset into a valid valuable NFT.
blockchain	A cryptographically secured append-only database whose history is immutable. This makes it perfect for high-security applications like finance.
Ethereum	Company and the eponymous popular blockchain. It supports NFTs and (fungible) crypto currency.
Ether (ETH)	Cryptocurrency used with Ethereum
Kovan	A Ethereum testnet where ETH are easy and free to get online, but in limited rate of course.
Mainnet	A production blockchain that is used for valuable transactions.
Testnet	A blockchain for testing purposes. Content and currency in the test net do not have real value.
announcement	A News section with title and content which is displayed to visitors of the site.
faucet	Source for obtaining crypto currency, particularly for test currency like the one that is used in Kovan.
Verified partner	User account without admin privileges which can compose and trigger own NFT-drops in the app.
NFT Studio	A page where NFT asset components can be uploaded, sorted into folders, and composed as one NFT for the Drop Workshop. Example: NFT arranged as multiple rectangular panels where each represents a random image from one folder.
Drop Workshop	A page accessible to Admins and verified partners where NFT-drops can be created, deleted, published/announced and triggered.
User Sales	Process for an interested registered user of buying the offer of another registered user
User Resales	Process for a registered user of offering an owned NFT for other registered users to buy
NFT Variety	A feature, theme or (sub)category that is shared among some circulating or dropped NFTs. Example: red nose, christmas, horses, ...
NFT Rarity	A measure for how common an NFT variety is. Can be an absolute count or relative percentage.
NFT template	The draft that is created in the NFT studio. It is used to generate NFTs when the associated drop is executed.
NFT component	A single subpart of an NFT that is filled with a random image and can be contained in multiple NFTs. (Our final NFTs probably will only consist of only one component.)

Goals	We want to learn about agile methods, good team work and practice team work. We want to build a cool open-source piece of software and “valuable” NFTs.
Meeting norms	We meet at least once a week during the project. Please excuse yourself when you know that you’ll be missing (like illness, important appointment) otherwise we want to not more than 15min late but on time in the average case. Single lapses or emergencies are permissible.
Working norms	We try to reach consensus where possible. As last resort we respect the majority rule for decisions which affect the whole team. Exceptional decisions for individual team members are possible for special circumstances. We participate fairly. It doesn’t mean that everyone is equally fast or performing but that we are willing to invest time like others are. We individually contribute to the project to perform for our Credit Points. Work is distributed in team meetings together. Team work should be a safe space for everyone and allow for clarifying work or personal conflicts or appropriate criticism. You may contact Jule as person of trust for non-technical problems and as mediator for anonymous criticism. We value quality over quantity, maintainability over many features.
Coordination norms	No one is forced to do something s/he really doesn't want. Volunteers are considered first. If no one is willing to do a task and assignment is needed then democratic allocation.
Communication norms	We let others say their (valid) opinion and avoid insults, harassment, discrimination due to individual properties like gender, color... We don’t expect each other to respond during weekends. We expect responses in 48h within week. We try to answer at least next day. We use team Channels on Slack for help. We confess that nobody is perfect. We accept criticism of ourselves and permit others to correct us.
Consideration norms	We try to clear misunderstanding and create understanding instead of bashing others for disagreement. We don’t want to be self-opinionated and give examples rather than just stating to be right.
Cont. improvement norms	There is continuous review of code and our wellbeing by using the “happyness index”. We will use Scrum-related methods to track progress. Coding, Style and review rules and guidelines are respected for the reason of code health and team work. Syntax Formatters will be used if they are needed to ensure style guidelines. If someone can’t finish story points over two weeks then we try to find a solution for improvement. Workload estimation isn’t perfect. We will tell if work turns out to be more effort than estimated.
Rewards	People will be granted NFTs under applause. 2 Story Points = 1 NFT.
Sanctions	People who clearly violate rules multiple times should either write a poem, do extra work or obtain remaining User stories instead of free choice.
Signatures [optional picture]	I hereby declare to try and be willing to comply with our team contract [required]:
	Christoph Ehmendörfer
	Nick Stender
	Berinique Tech

SteFel	Felix Steinkohl
	
	Que
	Dominic Heil
	Jannis Pilgrim

#	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down
0		course organization			0		0	400
1		setup project & team work			1		1	400
		getting to know the project vision, mission and work-ready						
		hello world project		1		1		
2		requirements engineering & tech stack			37		24	399
		knowing the components of the application						
		requirements engineering website		5		3		
		choose database		3		1		
		slack channels		1		1		
		frontend technology stack		2		3		
		backend technology stack		3		5		
		smart contract requirements		5		3		
		blockchain technology stack		5		3		
		Frontend Mockup for Join Drop		5		5		
		getting infrastructure		3		x		
		endpoint definition for backend		5		x		
3		first use of technology			38		35	375
		github integration, wallet creation, blockchain setup, frontend running a mockup with sign in						
		Website Signup (Backend)		5		8		
		Website Signup (Frontend)		0		2		
		Github Workflow for Backend Linting		2		3		
		Hello World Smart Contract		3		3		
		Design Team Logo		?		?		
		Wallet Creation For Team Members		1		1		
		Frontend Mockup for announcements		5		5		
		Frontend Mockup for NFT market place		5		5		
		deploy server		5		x		
		getting infrastructure		3		x		
		Wallet Connection to Account (frontend)		3		x		
		Wallet Connection to Account (backend)		3		5		
		User Information in Database		3		3		
4		Fundamental Smart Contract and User Logic			42		29	340
		announcement mechanism, Drop mechanism in smart contract enhanced user management						
		Drop Time Functionality in smart contracts		5		5		
		random NFT assignment smart contract		8		8		
		Nuremburg NFT image creation		3		5		
		team assignment of a user (backend)		5		3		

#	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down
			team assignment of a user (frontend)	5		5		
			getting infrastructure	3		3		
			Deploy Server	5		x		
			announcement database backend endpoint	8		x		
5	Website design				58		25	311
			announcements, smart contract usability enhancements					
			design implementation part 1					
			Register and configure domain	1		1		
			NFT purchase limit	3		3		
			Design FAQ	3		3		
			Branding & Color Scheme	3		1		
			Github workflow for automatically deployed testing	13		x		
			Human-readable Drop Time format	2		x		
			Removal of sensitive data from Github	3		3		
			Deploy Server	5		x		
			Wallet Connection to Account (frontend)	3		3	?	
			Design implementation landing page	3		x		
			Design implementation of password/login pages	3		x		
			Design implementation for page header and footer	3		3		
			announcement database backend endpoint	8		8	?	
			announcement creation, modification, display in frontend	5		x		
6	Wallet Connection & Announcements				57		37	286
			automatic deployment and testing for cloud functions, smart contract requirements					
			design implementation, finish wallet connection & announcements					
			Deploy Server	5		5		
			Github workflow for automatically deployed testing	13		x		
			Design implementation mockup password/login pages	3		3		
			Design implementation of FAQ page	3		3		
			Blockchain implementation of multiple NFT drops	5		5		
			Implementation of announcement lists and edit page (frontend)	5		8		
			"Buy NFT" button (frontend)	3		5		
			Access Wallet Asset information from backend	8		x		
			Design mockups for upcoming and owned (bought) NFT-listings	3		3		
			Design mockups for header and footer on mobile devices	3		2		
			Move wallet settings into profile (frontend)	3		3		
			Design implementation of landing page	3		x		
7								249

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Sprint	Status	Source	Impediment	Resolution
1	Resolved	Nike	Communication - feeling of people pretending to be "superior"	Democratic voting before deciding things Slack: Poll Function Zoom: Reactions
1	Resolved	Nick N	Chaotic in general	Getting used to the process with more time If needed: coaching sessions with Jule
1	In-work	Nick S	Work quite late - finish last minute	Try to start work already at the beginning of the sprint Polls to ask for problems
1	Resolved	Nick S	Double PO role - hard to communicate; no close collaboration	try to improve communication by having meetings previous to talking with industry partner
1	Resolved	Christoph	Not too much experience in communication within teams/ groups	Give clear instructions to other team mates on how you would like the communication - be on time for the meetings
1	Resolved	Dominic	Unstructured Meetings	Prepare Agenda for the meeting - send it out beforehand have a moderator for the meeting
1	Resolved	Dominic	Unnecessary comments during meetings	Focus on essential topics and try to only talk little about "personal issues" to stay in the timeframe
2	Resolved	Nike	Confusion who needs to write features	Next PO has to write new user stories Only POs write user stories and have an extra slack channel with ideas
2	Resolved	Nick N	Information about project status / vision of project and customer opinions	Summary of Industry meeting by PO --> maybe new slack channel?
2	Resolved	Nick S / Felix	Who is responsible for Deliverables?	Second Board on github for project internal things
2	Resolved	Dominic	Everything in general channel	Create new channels in slack for organisation
3	Resolved	Dominic / Christoph	Pull requests all over the place - what should be happening in the review phase? How many people?	Creation of Slack Channel Specify guidelines and agree on it democratically
4	Resolved	Nike	Review Comments were unclear	Put into guidelines - clear suggestions for the code review
4	Resolved	Christoph/Felix	Improvement of branch naming / management	Suggestions and democratic vote on branch structure Include it as user story (PO)
5	Resolved	Dominic/ Que	Pull requests take too long - too long of discussions	Accept small deviations from guidelines - give feedback but still grant review
5	Resolved	Nike	Waiting for reviews more than 48hrs	Vote in Slack Channel for time limit for review process
5	Resolved	Dominic	We are not up to date about others' status	More regular Stand-up Mails by everyone with longer description
5	Resolved	Nick S	Work is not focused on most important things	Focus on tickets and reviews you are assigned to
6	Resolved	Christoph	Commit messages should be improved	Should include more "what the commit does" not longer than a few sentences
6	Resolved	Christoph /Dominic	Takes long to finish large features - marked as merged should really by mergeable	Make more use of draft pull requests for long stories >> Slack Channel discussion Decide specifically on when to draft
6	Resolved	Nick	Issues are too large	Split them into more issues

Sprint	Status	Source	Impediment	Resolution
7	In-work	Christoph	Spending too much time on the project - effort is not according to university project	Take less features into the sprint
8	Resolved	Christoph	Need for better meeting notes - people don't know what happened with André	Please make sure that everything is documented as a protocol
8	Resolved	Nick S	Missing reviews	When assigning reviews - assign people to tickets directly
8	Resolved	Nick S	Release Plan	Questions on how to handle open / not planned items
8	Resolved	Dominic	Requirements are increasing while planning more work	Define smaller MVP - what needs to be done for this MVP
8	Resolved	Que	Concerned about scope of project	Collaborate with André
9	Resolved	Nike	Reviews all over the place	Focus on most important features - only on a small MVP
10	Resolved	Christoph	Hard to see for PO if sth was merged or not	When assigning reviews - assign people to tickets directly
11	Unsolvable	Felix	Workload is quite high for PO - "cleaning" in the background	Link issues to pull requests
11	In-work	Felix	Communication: sparse documentation	Refactoring and clean-ups during the project / at an earlier stage (Retrospective view) Or delegate work to other team members in case it gets too much
				Try to write explaining comments and full on documentation

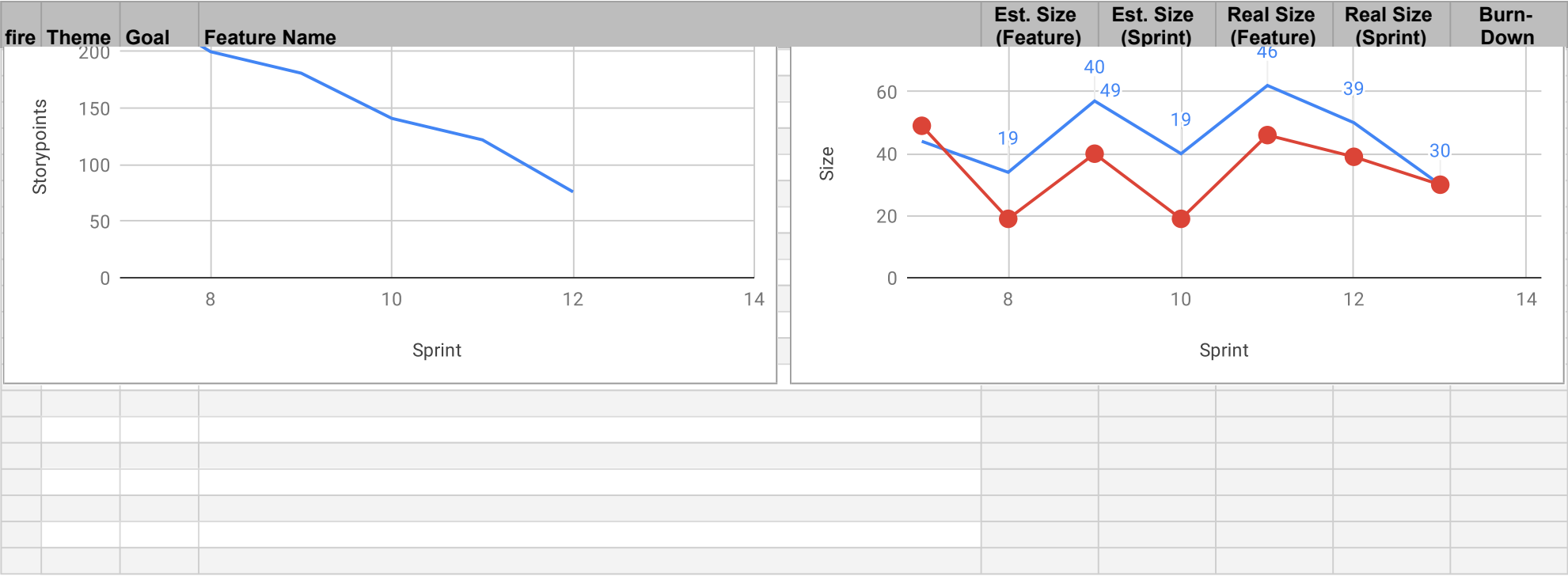
fire	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down
7	Towards the NFT-Drop				44		49	249
			NFT-listing implementation, proper announcement design, user purchases, admin triggered drop					
			Organize stable server deployment	2		2		
			Github workflow for automatically deployed testing	13		13		
			Design profile mockup	3		5		
			Implement proper design for the current announcements	3		3		
			IPFS URIs for NFT-drop creation	x		x		
			Enable security against fraudulent NFT-drops (blockchain)	3		3		
			Blockchain NFT-Drop Creation with NFT prices	3		3		
			NFT minting process (Blockchain)	5		8		
			Create Drop by URI	1		1		
			Implementation of public view of available-NFT-drop listing (frontend)	5		5		
			Implementation of application header and footer for mobile devices (frontend)	3		3		
			Implementation of landing page design	3		3		
			Access Wallet Asset information from backend	x		x		
8	Reaching The Drop				34		19	200
			admins can trigger and create new NFT-drops; NFT-listings can be public/private and viewed. only eligible user roles (Admins, authorized validated users) can create NFT drops. NFTs are distributed randomly to users after drop takes effect. Backend CI pipeline stands.					
			Design additional list of NFT drops with banner countdown on landing page	3		5		
			Blockchain alternative distribution mechanic for unsold NFTs	5		x		
			Blockchain buying timespan for reserved NFTs after NFT-drop is executed	5		x		
			Addition of authorized verified partner as team role	1		1		
			Implementation of view of a user's NFT collection	3		x		
			System tests with Cypress for CI	3		5		
			Save and show announcement creator information	2		2		
			Adding the creation of announcement database collection to CI	3		x		
			New NFT Drop Creation	3		x		
			Implement proper Design for Announcements	3		3		
			Create mockups for joinDrop	3		3		

fire	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down
9	NFT Drop	Creators encountered!			57		40	181
			continuation of the previous sprint goal. Some NFTs are only accessible/viewable in this closed market like private-user-NFTs. Design phase is finished now.					
			Blockchain alternative distribution mechanic for unsold NFTs	5		3		
			Blockchain buying timespan for reserved NFTs after NFT-drop is executed	5		5		
			Implementation of view of a user's NFT collection	3		3		
			Adding the creation of announcement database collection to CI [missing review]	3		x		
			New NFT Drop Creation	3		3		
			Design update for individual NFT's info page	5		3		
			Implementation of user profile (frontend)	5		x		
			Implementation of updated landing page design part 1	8		5		
			Design for the NFT Studio - simple NFT Builder, upload feature, NFT Drop creation	5		8		
			Access constraints for different User roles (frontend) [including verified partners]	2		2		
			Design implementation of NFT drop countdown banner	3		3		
			Smart Contract size reduction for deployment [still needs manual merge]	5		5		
			Storage of NFT drop information in the backend [missed some data access]	5		x		
10	Show me my NFT				40		19	141
			NFTs can be previewed in individual info page.					
			Design Update for NFT Drop presentation page	3				
			Design Implementation of user profile (frontend)	5				
			Adding the creation of announcement database collection to CI	3				
			Storage of NFT drop information in the backend	5		8		
			Design implementation of NFT info page	5				
			Retrieval of NFT Ownership Data (Blockchain)	5		5		
			Eligibility Check For Token Minting (Blockchain)	3		3		
			Dummy data replacement with real data (updating many dummy implementations)	8				
			IPFS Upload of example images, maybe first image uploading functionality (usable for NFT studio or drop creation)	3		3		
11	Uploading, please wait.				62		46	122

fire	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down
			Upload and use real images for announcements	5		x		
			Integrate real data to NFT info page	3		3		
			Create script for demo	8		x		
			Change logic of getReservedNFTs	3		3		
			Resolve bug of number of NFTs a user can reserve	2		2		
			Create demo day slide	2		x		
			Add verified partners (blockchain)	5		5		
			Upload example NFT images to IPFS	3		3		
			Add verified partners (frontend)	5		5		
			Update Landing Page Design	3		3		
			Implement mockups designs of NFT info page	5		5		
			Update design of NFT drop presentation page	3		2		
			Implement profile mockups	5		5		
			Integrate real data from database in frontend	8		8		
			Complete Banner Functionality and NFT Filter Functionality	2		2		
12	Improvement and Refactoring				50		39	76
			Create script for demo	8		8		
			Create demo day slide	2		3		
			Upload and use real images for announcements	5		x		
			Dockerize and gernalize cronjob	5		x		
			Frontend Test	13		13		
			Write proper questions and answers for our FAQ	3		3		
			Test the application from a user's point of view	3		x		
			Refactor and remove dead code	3		5		
			Create the presentation video	8		8		
			Implement function to get number of reservedNFTs per person	1		1		
			Improve documentation	3		2		
			Add button for quick access for the user collection	1		1		
			Refactor and remove dead code	3		3		
13	Refactoring, optional goals				30		30	37

fire	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down
			Usability improvements, fancy addons and design implementation (if time permits). Cleanup and refactor code for maintenance and allow for easier future development. Optional: Secondary Market functionality (resales). Provide sales history which is listing sales records for NFT (re)sales. Alternative user registration, embedding twitter chat on site(??), at least a link to Discord??					
			implement NFT info page history feature (backend)					
			implement NFT info page history feature (frontend)					
			Implementation of user sales functionality					
			Automatic Announcement of next NFT Drops					
				30		30		
			Design for NFT sale offers to foreign accounts					
			Design mockup for "Drop Workshop" where NFT Drops are created, deleted, published/announced and triggered. (Blockchain interaction)					
			Simple design addition for alternative user registration, e.g. Google, ...??					
			Design for NFT sale functionality in secondary market					
14								7
			NFT resale by people of the "inner circle", i.e. owners and bidders of NFTs from the past with account. "Resale"-button for NFTs, price offer option for buyers (when owner selects it). With each resale, the original creator obtains a portion of the price.					
			Advanced Design for individual NFT info page including sales history, and additional info (incl. creation)					
			Implementation of "Drop Workshop" design (dismissed as low prio)					
			Implementation of "Drop Workshop" additional functionality (dismissed as low prio)					





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\	Context	Name	Version	License	Comment
1	Frontend framework	React	17.0.2	MIT	
2	Frontend library	Material UI (Core)	4.12.3	MIT	
3	Frontend library	Material UI Icons	4.11.2	Apache License 2.0	
4	Frontend library	ESLint	7.32.0	MIT	
5	Database	MariaDB	10.6.3	GPL, LGPL	Because inclusion in appwrite, Similarity to PostgresDB
6	Backend Framework	Appwrite	0.11.4	MIT	Includes MariaDB
7	Backend Language	Python	3.9	PSF, BSD	
8	Map tiles	OpenStreetMap	2.0	CC BY-SA	https://www.openstreetmap.org/copyright
9	Server depolyment	nginx proxy manager	2.9.12	MIT	https://github.com/jc21/nginx-proxy-manager
10	Backend - Python init script	pandas		BSD	
11	Backend - Python init script	openpyxl		MIT	

Last Name	First Name						
Tech	Berinike	-					
Heil	Dominic	5		5.00	OK		
Steinkohl	Felix	5					
Stender	Nick	5					
Ehmendörfer	Christoph	-		0	No size		
Pilgrim	Jannis			1	Trivial size		
Le	Ba Que	5		2	Small size		
Naumov	Nik	5		3	Medium size		
				5	Large size		
				8	Very large size		
				13	Too large (size)		