Last Name	First Name	GitHub User Name	Email Address	Prefered 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/hQlmSTVUG0E
Team T-shirt (black)	https://www.shirtinator.de/loadBasket/hQlmSTVUG0E
Additional materials	...
Zoom	https://tu-berlin.zoom.us/j/65882617955?pwd=WHJKV3lnN20zNWUvbFMwbHZ0dnNyZz09
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

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 weak 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 continous review of code and our wellbeing by using the "happyness index". We will use Scrum-relaed 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 (signature)	Christoph Ehmendörfer
	Nick Stender
	Berinike Tech

SteFel	Felix Steinkohl
	Que
	Dominic Heil
	Jannis Pilgrim

#	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			Nike	Everyone else	Berinike	Coach
10	2022-01-13		Yes	Nick	Everyone else	Christoph	Coach
11	2022-01-20			Christoph	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
NFTs allow for accessible decentralized market power where people can create, collect and trade virtually represented things. NTFs therefore have potential for the worldwide community to empower more people to produce and supply, without profit-making intermediaries. A democratic market would help to reduce big social problems, tremendous inequality and intransparency which arises out of concentrated power. Entities also have the possibility to create their own secondary market to sell own products to enable closer customer relationships. NFTs help simple creators to earn from their work; it improves transparency, trust and can help legal enforcement, without the need for payment processors and banks. Public blockchains with transparent transactions could help to recognize illicit and criminal money flows like corruption and tax robbery schemes. Additionally, NFT markets allow for new products and business models like crypto games or crypto funding and can leverage several benefits of the blockchain technology to reduce (transaction and marketing) costs. It allows for implementing security/protection goals that are useful for practically every digital marketing.	Our project can contribute to the vision by creating a reusable example application which manages NFT Drops and automatizes important steps in order to lower the usability hurdles and improve adoption. As an open source project, the result can be used by individuals and companies, to easily create and provide NFT solutions for their own marketing strategies, sales management or online campaigns for several non- or commercial purposes. A private secondary market mechanism is supported for a deeper relationship between customers and the market owner.

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 triggger 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 Rariety	A measure for how common an NFT variety is. Can be an absolute count or relative percentage.

#	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							7	249

#	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down

Burndown

Est. vs. Real Size

#	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down

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	In-work	Christoph/Felix	Improvement of branch naming / management	Suggestions and democratic vote on branch structure
5	In-work	Dominic/ Que	Pull requests take too long - too long of discussions	Accept small deviations from guidelines - give feedback but still grant review
5	In-work	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	In-work	Christoph	Commit messages should be improved	Should include more "what the commit does" not longer than a few sentences
6	In-work	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
6	In-work	Nick	Issues are too large	Split them into more issues

Sprint	Status	Source	Impediment	Resolution

#	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down
7	Towards the NFT-Drop				51		45	249
			NFT-listing implementation, proper announcement design, user purchases, admin triggered drop					
			Organize stable server deployment	2				
			Github workflow for automatically deployed testing	13				
			Design profile mockup	3				
			Implement proper design for the current announcements	3				
			IPFS URIs for NFT-drop creation	x				
			Enable security against fraudulent NFT-drops (blockchain)	3				
			Blockchain NFT-Drop Creation with NFT prices	3				
			NFT minting process (Blockchain)	5				
			Implementation of public view of available-NFT-drop listing (frontend)	5				
			Implementation of application header and footer for mobile devices (frontend)	3				
			Implementation of landing page design	3				
			Access Wallet Asset information from backend	8		45		
8	Reaching The Drop				35		35	204
			admins can trigger and create new NFT-drops; NFT-listings can be public/private and viewed. only elligible 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 mockup for "Drop Workshop" where NFT Drops are created, deleted, published/announced and triggered. (Blockchain interaction)					
			Design NFT preview and individual NFT's info page					
			Design additional list of NFT drops with countdown on landing page					
			Blockchain alternative distribution mechanic for unsold NFTs					
			Blockchain buying timespan for reserved NFTs after NFT-drop is executed					
			Implementation of view of a user's NFT collection, only for registered users					
			Implementation of user profile (frontend)					
			Frontend tests (Jest, Cypress)					
			Use-case-like System tests with Pupeteer for CI					
			Continuous Integration with a few mocked example test cases (Frontend)					
			Addition of authorized verified partner as team role	35		35		
9	NFT Drop Creators encountered!				35		35	169

#	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down
			continuation of the previous sprint goal. Some NFTs are only accessible/viewable in this closed market like private-user-NFTs. NFTs can be previewed in individual info page and optionally in bigger size.					
			Design for the NFT Studio - simple NFT Builder, upload feature, minting button/feature					
			Implementation of "Drop Workshop" design					
			Implementation of "Drop Workshop" additional functionality					
			Implementation of NFT preview and NFT info page					
			Implementation of backwards running ticker (belonging to which NFT-drop?)					
			Implementation of image uploading functionality (usable for announcements and NFT studio) (backend)					
			Test cases to ensure account restriction for NFT drop functionality.	35		35		
10	NFT studio				40		40	134
			simple NFT data (like images or text files) can be uploaded and stored/retrieved in database and connected to drops					
			Design for NFT sale offers offered to foreign accounts via a user profile					
			Design for NFT resale functionality by account owner in profile					
			Design for simplistic NFT preview functionality (no extra page required)					
			Implementation NFT Studio NFT builder part 1					
			Implementation NFT Studio NFT builder part 2					
			Implementation NFT Studio Uploads (Frontend)					
			implementation NFT (easy?) minting process					
			Implementation of announcement images					
				40		40		
11	Closing the (NFT) circle				40		40	94
			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). Multiple NFTs can be selected or filtered for easy multi-action and search on all selected NFTs. With each resale, the original creator obtains a portion of the price. NFT can be previewed.					
			Design for NFT preview and individual NFT info page including sales history, and additional info (incl. creation)					
			Simple design addition for alternative user registration, e.g. Google, ...??					
			NFT Studio Follow Up implementation					

#	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down
			Implementation of user-sales functionality					
			Implementation of NFT/drop(-list) preview functionality, integration into different pages					
			implementation of mini preview of NFT/drops which get linked to announcements					
			Implementation of user-resales functionality					
				40		40		
12	Lessons of History Channel				35		35	54
			Provide sales history which is listing sales records for NFT (re)sales. Alternative user registration, embedding twitter chat on site(??)					
			Implement alternative account registration functionality + design					
			implement NFT info page basic					
			implement NFT info page history feature (backend)					
			implement NFT info page history feature (frontend)					
				35		35		
13	red, green, REFACTOR				25		25	19
			Usability improvements, fancy addons and design implementation (if time permits). Cleanup and refactor code for maintenance and allow for easier future development.					
				25		25		

#	Theme	Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn-Down
14							14	-6

Burndown

Est. vs. Real Size

#	Feature Definition of Done	Sprint Release Definition of Done	Project Release Definition of Done
1	The code is reviewed by at least two people	Release candidate was tagged	User documentation available
2	Every larger component/object/class has a comment/JDoc. Small functions should either be self-explanatory based on the function name or also be commented	Tests for the release candidate were compiled, build and run	Tests for all application critical functions
3	Feature works on the machine of a different team member	Release candidate is deployed to operations environment	
4	Code is in the main branch	Release is tagged with current sprint number	
5	~~GitHub CI and checks succeed~~	Documentation available	
6	[Code coverage, testing?]		

Type	Link / reference
Requirements Smart Contract	https://docs.google.com/document/d/1S7tHRaEUoF9FJN_28D3lvtelq-_uaD9fRatbvqKY1aE/edit
Software Architecture	https://docs.google.com/document/d/1ta25Bhs-exHCyM281CE_YUDq3FhjdktO6-a7hyEk_kM/edit#heading=h.mpdikrgqtfxb
Server Architecture	https://drive.google.com/drive/u/0/folders/1hSw9R6SqZH5jMlMtA_EySslABxfzBTdA
Website requirements	https://docs.google.com/document/d/1XSkG0V8GKgFLEi4khz0xZapYmKVoykUJ4RExn-6pNFQ
Techstack Frontend	https://docs.google.com/document/d/14XCqHOpMnODqBcIcaX0ZpxStfuG5Y1G1mN6UK5PzwNc
Techstack Backend	https://docs.google.com/document/d/1YrIt-yy85KF359LNd6y0RSpUN8MBhCDcpyzC-geJdtc/edit?usp=sharing
API endpoints for backend	https://github.com/amosproj/amos2021ws07-nft-development/issues/9
Deployment Tech	https://docs.google.com/document/d/1GHmuxU5iK8VqlVWdzi4NaaRJXl9t5dRaCVvw-j-am8U/edit?usp=sharing
Mockups	https://www.figma.com/file/8kdPSVa0kG9Bl5xVdLpydr/Untitled?node-id=0%3A1
Review Guidelines	https://docs.google.com/document/d/1OFvJq6eY0aQil-MBv8-Md7d4lQxHsAvYcXz1HI5f2cY/edit?usp=sharing
User Manual	

\	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	3					
Heil	Dominic	3		**3.00**	**OK**		
Steinkohl	Felix	3					
Stender	Nick						
Ehmendörfer	Christoph	-		0	No size		
Pilgrim	Jannis	3		1	Trivial size		
Le	Ba Que			2	Small size		
Naumov	Nik			3	Medium size		
				5	Large size		
				8	Very large size		
				13	Too large (size)		