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Project Data

Project Name	amos-ss2021-neural-network-enablement
Production system (if any)	
Test system (if any)	
GitHub repository	https://github.com/amosproj/amos-ss2021-neural-network-enablement
GitHub kanban board (project)	https://github.com/amosproj/amos-ss2021-neural-network-enablement/projects/2
Team T-shirt (white)	https://www.shirtinator.de/loadBasket/G2MEDOgLk4p
Team T-shirt (black)	https://www.shirtinator.de/loadBasket/aVPWvh3Dwht
Additional materials	

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Project Team

Last Name	First Name	GitHub User Name	Email Address	Device
Ke	Yilin	yilinke	yilinke1995@gmail.com	
Winklmann	Philipp			
Chen	Xiangxiang	cynthiachen28	roxettekc@hotmail.com	
An	Qi	Emma-An94	787434822@qq.com	
Then	Maximilian	TheSayonara	max.then@yahoo.de	
Meier	Wolfgang	womeier	wolfgang.meier@fau.de	
kolan	Rajkumar Reddy	rajkumarkolan	rajkumar.kolan@fau.de	
Susmitha	Rachamreddy	ce52supi	susmi4356@gmail.com	

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Team Contract

Goals	Achieve our defined project mission
Meeting norms	Be there, if you cant come update your stuff. Be on time. Come prepaired.
Working norms	Think about group work. Be prepared for presentation/report on wednesday. Finish work on Tuesday.
Coordination norms	Be organized. Aks for help immediately if you are stuck (other teams, Scrum Master).
	Put ToDo-list on Teams.
Communication norms	Answer messages within 24 hours.
	PO: Communicate regularly and clearly.
Consideration norms	We discuss disagreement openly
	We vote for a final resolution
Cont. improvement norms	
Rewards	Congratulate person fixing a bug
	Buying celebration cards and get ice cream
Sanctions	Being 5 minutes late = 1€ in piggy bank
Name	Netella
Signed by	Everybody:)

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Role Assignments

#	Meeting Day	Comment	Coach	Product Owner	Software Developer	Scrum Master	Release Manager
1	2021-04-14		Yes	Maximilian	Everyone else	N/A	N/A
2	2021-04-21		Yes	Maximilian	Everyone else	Philipp	N/A
3	2021-04-28		Yes	Maximilian	Everyone else	Philipp	Wolfgang Meier
4	2021-05-05			Maximilian	Everyone else	Philipp	Xiangxiang Chen
5	2021-05-12		Yes	Maximilian	Everyone else	Philipp	Yilin Ke
6	2021-05-19			Maximilian	Everyone else	Philipp	Susmitha Rachamreddy
7	2021-05-26	Mid-term due	Yes	Maximilian	Everyone else	Philipp	Wolfgang Meier
8	2021-06-02			Philipp	Everyone else	Maximilian	Qi An
9	2021-06-09			Philipp	Everyone else	Maximilian	Rajkumar Kolan
10	2021-06-16		Yes	Philipp	Everyone else	Maximilian	Susmitha Rachamreddy
11	2021-06-23			Philipp	Everyone else	Maximilian	Xiangxiang Chen
12	2021-06-30			Philipp	Everyone else	Philipp	Yilin Ke
13	2021-07-07		Yes	Philipp	Everyone else	Maximilian	tba
14	2021-07-14	Demo day!		Philipp	Everyone else	Maximilian	tba
15	2021-07-21	Retrospective		Philipp	Everyone else	Maximilian	tba

AMOS Proj6 - Planning Documents Product Goal

Product Vision	Project Mission
The client's vision is to operate a web-based service that allows black and white photos and videos to be uploaded and viewed and downloaded in color. It also aims to improve the quality of the photo/video. The service is to be enabled by pre-trained neural networks and run on Huawei's own hardware.	The goal of the project is to implement a first version of the web server on the Altas 200 DK hardware. This is to receive photos and videos and feed them to the neural network provided for coloring. Afterwards the result shall be displayed. If time permits, a super-resolution network is to be added to the pipeline.

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Product Glossary

Term	Definition
tba	to be announced
NN	Neural Net
Backend	Server-part of the webservice: handles the images sent from the frontend, applies the colorization process (app.py)
Frontend	Client-part of the webservice: the user interface (everything in Webservice/static/ and Webservice/templates/)
11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Host (as defined in the Atlas 200DK documentation)	Host side: The part on the board, where opency or numpy operations happen
Device (as defined in the Atlas 200DK documentation)	Device side: The part on the board that is responsible for the NN computing, i.e. the acl-context)

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Mid-Project Release Tracking

	Theme		Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)		
2 I	Basic fro				7	'	9	92
		First steps for webs						
			#3 Create Webservice	3		3		
			#6 Webservice: Upload Picture	2		3		
			#8 Webservice: Present uploaded pictures	2	!	3		
3	Advance	ed frontend and first	work for hackend		6		6	86
3 /	Auvance	Improvement webs					0	00
		improvement webs	#5 Webservice: Setup and run scripts	3		3		
			#7 Webservice: Delete picture	3		3		
			#7 Webservice. Delete picture	3	1	3		
4 1	First ste	ps backend			9		11	75
		Basic backend fund	etions					
			#14 Pipeline: Load and store pictures/videos	3	1	3		
			#22 Pipeline: Connect Webservice to pipeline	3		5		
			#15 Pipeline: Splitt Video into pictures	3		3		
5 /	Advance	ements in frontend	<u>'</u>					
		Frontend			7	,	0	75
			#9 Webservice: Colorization	5				
			#10 Webservice: Present the results	2				
6 1	Finishin	g the NN pipeline an		_				
		Backend	a sinasio tootiing		29		30	45
		Buokona	#23 Create helper functions from utils.cpp in Python	3		2		10
			#29 Testing: Continuous Integration	3		5		
			#28 Testing: Functional Test	3		3		
			#30 Merge of pipeline tasks	5		5		
			#00 Merge of pipeline tasks	J		3		
							-	
				Burn-Down-	Chart			
				Bulli Bowiii	Oriant			
				100 —				
					_			
				75 —				
				50				
				50 ——				
				25 —				
				25				

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Mid-Project Release Tracking

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

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Final Project Release Planning

# Ther	me Goal	Feature Name	Est. Size (Feature)	Est. Size (Sprint)	Real Size (Feature)	Real Size (Sprint)	Burn- Down
2 Basic	ic frontend			7		9	141
	First st	eps for webservice					
		#3 Create Webservice	3		3		
		#6 Webservice: Upload Picture	2		3		
		#8 Webservice: Present uploaded pictures	2		3		
3 Adva	anced fronte	end and first work for backend		6		6	135
	Improv	ement webservice					
		#5 Webservice: Setup and run scripts	3		3		
		#7 Webservice: Delete picture	3		3		
4 First	steps back	end		9		11	124
		packend functions					· - ·
		#14 Pipeline: Load and store pictures/videos	3		3		
		#22 Pipeline: Connect Webservice to pipeline	3		5		
		#15 Pipeline: Splitt Video into pictures	3		3		
5 Adva	ancements						
	Fronte	nd		7		0	124
		#9 Webservice: Colorization	5				
		#10 Webservice: Present the results	2				
6 Enab	ble testing						
	Backer	nd		29		30	94
		#23 Create helper functions from utils.cpp in Python	3		2		
		#29 Testing: Continuous Integration	3		5		
		#28 Testing: Functional Test	3		3		
		#30 Merge of pipeline tasks	5		5		
7 Finis	sh integratio	n and test pipeline					
	Backer			27		29	65
		Finish Preprocessing, Postprocessing and the Colorization	13		13		
		Merge Pipeline Tasks	5		5		
8 Add	video featu	re					
	Backer	nd		13		11	54
		Correction of the colouring output	5				
		Refactoring: Update flask library	2		2		
		Documentation	(2+2+5) = 9		9		
9 New	: high resol	ution feature					
	Backer	nd		16		11	43
		Bug fix: Colouring output	5				
		Frontend Bug: empty gallery & present results	3+3		3+3		
		Merge Video	5		5		
10 Final	lize Colouri						

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Final Project Release Planning

# Then Goal Feature Name Backend Backend Backend State Pipeline: Handle Sound Web Service: Handle Video Bug Fix: Colorization Output Foll Web Service: Display Videos correctly & with Sound Web Service: Display		_				Est. Size	Est. Size	Real Size	Real Size	Burn-
Pipeline: Handle Sound Web Service: Handle Video Bug Fix: Colorization Output 8 Full Web Service Experience Frontend Web Service: Display Videos correctly & with Sound Web Service: Display High Resolution accordingly Prepare for demo day Frontend Increase usability of the web service Finish Documentation Finish Documentation Summary & Retrospective Burn-Down-Chart Burn-Down-Chart	#	Ineme				(Feature)		(Feature)	(Sprint)	Down
Web Service: Handle Video Bug Fix: Colorization Output 8 Frontend Web Service: Display Videos correctly & with Sound Web Service: Display High Resolution accordingly Prepare for demo day Frontend Increase usability of the web service 13 Final project release & finish documentation Finish Documentation (User Documentation, Technical Documentation, Build/deploy documentation) 8 Burn-Down-Chart 150			Васке			2				
Bug Fix: Colorization Output Full Web Service Experience Frontend Web Service: Display Videos correctly & with Sound Web Service: Display High Resolution accordingly Prepare for demo day Frontend Increase usability of the web service 13 Final project release & finish documentation Finish Documentation (User Documentation, Technical Documentation, Build/deploy documentation) Burn-Down-Chart Burn-Down-Chart										
Full Web Service Experience Frontend Web Service: Display Videos correctly & with Sound Web Service: Display High Resolution accordingly Prepare for demo day Frontend Increase usability of the web service 13 Final project release & finish documentation Finish Documentation (User Documentation, Technical Documentation, Build/deploy documentation) 14 Summary & Retrospective Burn-Down-Chart 150										
Frontend Web Service: Display Videos correctly & with Sound Web Service: Display High Resolution accordingly Prepare for demo day Frontend Increase usability of the web service Finial project release & finish documentation Finish Documentation (User Documentation, Technical Documentation, Build/deploy documentation) Summary & Retrospective Burn-Down-Chart 150	11	Full \Ma	h Servic			0				
Web Service: Display Videos correctly & with Sound Web Service: Display High Resolution accordingly	• •	i dii vvc		•						
Web Service: Display High Resolution accordingly Prepare for demo day Frontend Increase usability of the web service 13 Final project release & finish documentation Finish Documentation (User Documentation, Technical Documentation, Build/deploy documentation) 14 Summary & Retrospective Burn-Down-Chart			1101110							
Prepare for demo day Frontend Increase usability of the web service 13 Final project release & finish documentation Finish Documentation (User Documentation, Technical Documentation, Build/deploy documentation) Summary & Retrospective Burn-Down-Chart										
Frontend Increase usability of the web service Increase & finish documentation Finial project release & finish documentation Finish Documentation (User Documentation, Technical Documentation, Build/deploy documentation) Summary & Retrospective Burn-Down-Chart	12	Prepare	for den							
Final project release & finish documentation Finish Documentation (User Documentation, Technical Documentation, Build/deploy documentation) Summary & Retrospective Burn-Down-Chart										
Finish Documentation (User Documentation, Technical Documentation, Build/deploy documentation) 14 Summary & Retrospective Burn-Down-Chart				Increase usability of the web service						
14 Summary & Retrospective Burn-Down-Chart 150	13	Final pro	oject rel	ease & finish documentation						
Burn-Down-Chart 150				Finish Documentation (User Documentation, Technical Documentation, Build/deploy	documentation)					
150	14	Summa	ıry & Ret	rospective						
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Final Project Release Planning

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

AMOS Proj6 - Planning Documents Impediments Backlog

Sprint	Status	Source	Impediment	Resolution
1	Resolved	github	missing push rights	contact Prof. Riehle
2	Resolved	hardware	distribution of hardware needs a loancontract	Distribution via pick up at Prof. Riehle's chair or shipping via mail
2	Resolved	project team	answers are not there or too late	answer to questions within 24 hours
3	Resolved	project team	there is no communication after a method's interface which is important for the whole team is changed	
3	Resolved	Atlas 200 DK	SD card is not detected	
3	Resolved	acl toolkit	cannot be imported	
4	Resolved	source code	every SD needs to test his/her code before push	
4	Resolved	9th team member	He is not in any of the meetings and not doing any work	
5	Resolved	Other team members	Overwriting other code	
5	Resolved	Other team members	Refactor a change in a variable everywhere in the code	
5	Resolved	Github	Create own branch for every SD	
8	Resolved	Integration Test	Runs on Wolfgangs local device and he cannot switch it of	
9	In-work	Team member	More programming in teams for productivity	
10	Created	Team member	Communication: Faster reaction and answering to messages and questions / asking for help early	

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Definition of Done

#	Feature Definition of Done	Sprint Release Definition of Done	Project Release Definition of Done
1	All Acceptance criteria met	Testcoverage > 50%	Testcoverage > 80%
2	Documentation completed	Feature DoD is met	Unit test passed
3	Peer code review passed	No previous code got broken	Integration testing passed
4		Unit tests	
5		Code formatting check: green	

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Documentation

Type	Link / reference
Build / Deploy Documentation	https://github.com/amosproj/amos-ss2021-neural-network-enablement/wiki/Build-&-Deploy
User Documentation	https://github.com/amosproj/amos-ss2021-neural-network-enablement/wiki/User-Documentation

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Bill of Materials

1	Context	Name	Version	License	Comment
1	Webservice backend	flask	1.1.2	BSD-3-clause (BSD-new)	
2	Webservice frontend	tailwindcss	2.1.2	MIT	
3	Webservice frontend	dropzonejs	5.9.2	MIT	
4	Webservice frontend	jquery	3.4.0	MIT	
5	Webservice frontend	toastify-js	1.11.0	MIT	
6	Webservice frontend	fontawesome-free icon	5.0.13	CC BY 4.0	
7	Webservice frontend	heroicons icon	1.0.0	MIT	
8	Testing	pytest	6.2.4	MIT	
9	Testing	pytest-cov	2.12.0	MIT	
10	Testing	flake8	3.9.2	MIT	
	OS	Ubuntu	18.04	GPL	GPL ok, we don't redistribute it
	Developer board	Atlas 200 DK	1.73.0.0		
13	Pipeline backend	Python	3.7.5	GPL	GPL ok, we don't redistribute it
14	Toolkit package	Ascend Toolkit	20.0.RC1- arm64- linux_gcc7. 3.0	GPL	GPL ok, we don't redistribute it
15	Toolkit package	Ascend Toolkit	20.0.RC1- x86_64- linux_gcc7. 3.0	GPL	GPL ok, we don't redistribute it
	Toolchain platform	Mind Studio	2.3.3		
17	Suggested colorization code	Sample colorization	2020-11	Apache 2.0	
18	file contains acl related constant values	constants.py	2020-06-06	<u>huawei.com</u>	renamed as acl_constants.py and added comments about the source in the file. No other content changes.

AMOS Proj6 - Planning Documents Planning Poker

Last Name	First Name	Value			
Ke	Yilin		TOIV!	TUIVI	
Winklmann	Philipp		0!	0!	
Chen	Xiangxiang		O:	U:	
An	Qi				
Then	Maximilian		0	No effort	
Meier	Wolfgang		1	Minimal effort	
kolan	Rajkumar Reddy		2	Small effort	
Susmitha	Rachamreddy		3	Medium effort	
			5	Large effort	
			8	Very large effort	
			13	Too large effort	