Sprint 2 Output

Document Status

Document status	RELEASED

Version control

Version	Description	Author	Date(DD/MM/YY)
v1.0	first version	Sejin Kim	31 Oct 2020
1.1	Add more deliverables links and final editions	Isaac Pedroza Aguirre	01 Nov 2020

Sprint period

The second sprint is executed from 29 Sep 2020 to 02 Nov 2020.

Sprint Achievements

Given that the team already implemented successfully the User Stories 1 and 2 Product Backlog, in this Sprint the team is focusing on the development of a Graphic User Interface (GUI) to show the algorithms for armour location and identification, and on combining both algorithms to achieve better performance. These requirements are summarized in the User Stories 3 and 4. The team managed to accomplish the goals for these User Stories. However, during the development of the Sprint 2, two more user stories were achieved: User Story 7 and 8, which implied the location and identification of multiple armours in one image.

GitHub Repository

https://github.com/cchia790411/rm_ai_challenge_2020s2_koala

Link to the latest release

https://github.com/cchia790411/rm_ai_challenge_2020s2_koala/releases

Final Presentation

Presentation Slide

Presentation Recording

GUI Source Code

https://github.com/cchia790411/rm_ai_challenge_2020s2_koala/tree/master/src/GUI

GUI User Manual

GUI User Manual

GUI Executable

https://www.dropbox.com/s/dqj1hllua7i26p0/GUI%20%281%29.exe?dl=0 (Allow your local machine OS to run outer source .exe files)

User story tasks status

#	User story	Comments	Status	Git hub/resource storage link (If applicable)
3.01	Identify the framework to use for the GUI	The team decided to use python library for GUI development 'Tkinter' to develop the UI	Done	
3.02	Design the GUI		Done	UI mockup design document can be found at GUI Design

3.03	Implement interaction with Darknet and the GUI		Done	
3.04	Uploading images to the GUI		Done	
3.05	Implement the run buttons		Done	
3.06	Implement Output board		Done	
3.07	Implement Export button		Done	
3.08	Implement play buttons (slides show)		Done	
4.01	Combine armour location with armour identification	Use the notebook to get config file and pre-trained weight file to upload to GUI	Done	Code available on: https://github.com/cchia790411/rm_ai_challenge_2020s2_koala/blob/master/yolo_opencv.ipynb
4.02	Add combined algorithms in GUI		Done	Finished version of GUI code is on: https://github.com/cchia790411/rm_ai_challenge_2020s2_koala/tree/feature/us03/src/GUI (source code) GUI executable code is downloadable on: https://www.dropbox.com/s/dqj1hllua7i26p0/GUI%20%281%29.exe?dl=0 (Allow your local machine OS to run outer source .exe files)

Additional User Stories Achieved

#	As a	I want	so that	Importance	Story points	Sprint
7	Participant in the competition	my robot to locate multiple armours in the image	my robot can have more information to make the next movement.	Optional	30	Sprint 2
8	Participant in the competition	my robot to identify the type of multiple armours appeared in the image	my robot can have more information to make the next movement.	Optional	30	Sprint 2

List of Technologies used in Sprint 2

- **Framework:** Tkinter library for Python and PAGE (Python Automated GUI Generator).
- **Algorithm for Armour Detection and Pose Recognition:** YOLO v4 tiny.
- **Software for Augmentation and Labeling:** CVAT.
- **Communication:** Slack, Trello, Zoom, Confluence.
- **Version Control:** GitHub.