



Updated MT Pilot Project Proposal

Content: Valorant Featured News
Client: Riot Games
Provider: GTZL Translation Inc.
Teams: Jason, Vivian, Jihong, Ying

Pilot Objectives:

The Riot Games required our company to translate their game—Valorant’s news from English to Chinese (Taiwan). The goal of this pilot project is to determine the effectiveness of using a custom-trained machine translation (MT) engine. When the engine meets the following post-edited machine translation (PEMT) criteria, it will be considered viable:

- Efficiency: PEMT is approximately 30% faster than human translation.
- Cost: PEMT approximately 30% savings compared to human translation.
- Quality: For the PEMT to be considered acceptable, for every hundred random segments, the total number of the following 5 critical error types cannot exceed 20.
 - Accuracy: Mistranslation
 - Accuracy: Omission
 - Accuracy: Untranslated
 - Terminology
 - Fluency: Grammar

Pilot Process

Datasets Preparation:

- Copy source and target content from the web into txt.
- Align target content with source using MMS.
- Export generated TM to a .tmx file
- Clean Data by Olifant.

First and second training rounds:

- Perform a round of training to get an initial BLEU score for reference purposes.
- Perform another round of training by expanding the size of the training dataset.

- Evaluate the second-round BLEU score against the initial BLEU score.

Quality review after two rounds:

- Carry out a quality review after the second round of training.
- Review the test result against the Quality Metrics.
- Compare the result of our customized model with the Baseline Model and Reference.

Iterative training rounds:

- 2 subsequent training rounds using the BLEU score from each round as a measure of improvement.
- Changes may include addition and/or subtraction of bi-texts, more targeted data cleaning, inclusion of termbase, etc.

Additional SYSTRAN training:

- Perform a round of SYSTRAN MT training with the datasets with the best BLEU score in Microsoft Custom Translator
- Compare the MT results.

Recommendation between the 2 MTs:

- We recommend Microsoft's Custom Translator.
 - The interface is more straightforward in MCT.
 - Custom Translator provides free trials.
- On the other hand, SYSTRAN...
 - There is no error description when running into errors.
 - SYSTRAN support team is irresponsive to our issues.

Human Evaluation:

- Select 100 segments as MT samples.
- Recommended settings to use in a TEnT tool (including automated quality checks) to assist in PEMT
 - Use automatic QA check tools like Xbench before the post-editing step and flag potential inconsistencies.
- Measure the time taken to post-edit a sample of the MT output.
- Create a Comparison Table: time for PEMT vs time for human translation.
- Subject the post-edited sample to user review according to quality metrics.
- Create a Comparison Table: estimate cost savings vs human translation.

Finding and updates

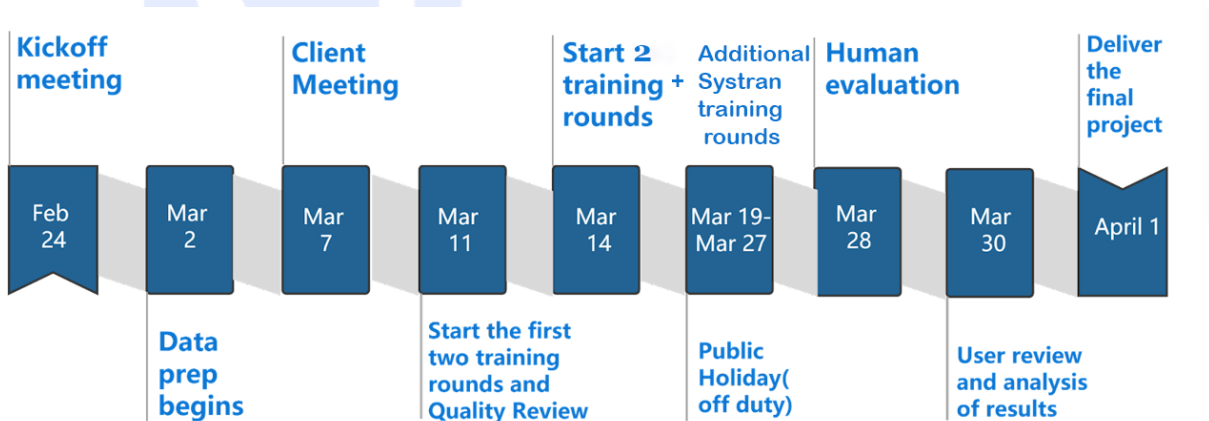
- Assess the viability of the process as a means to achieve time, cost, and quality

objectives.

- Update the proposal.
- Present results and key findings to the client.
- Submit deliverables.

Rounds	Training data	Tuning data	Testing data
Round 1	EN-ZH(TW) 03.2020-12.2021 Featured News 10,000 bitexts (.tmx file)	EN-ZH(TW) 01.2022-03.2022 Featured News 2,000 bitexts (.tmx file)	EN-ZH(TW) 04.2022 Featured News 2,000 bitexts (.tmx file)
Round 2	Add 100 bitexts	Same as Round 1	Same as Round 1
Round 3	Same as Round 2	Add 100 bitexts	Same as Round 2
Round 4	Perform another round of Olifant cleanup	Same as Round 3	Same as Round 3

Pilot Timeline



Pilot Costs

Task	Est. Hours	Rates (USD)	Subtotal (USD)
4 Rounds of MCT machine translation	8	40	\$ 320
1 Round of SYSTRAN MT	2	40	\$ 80
Data Collection and alignment	20	40	\$ 800
Cleaning	1	40	\$ 40
Quality review	1	40	\$ 40
Human evaluation	5	60	\$ 300
Analysis	4	40	\$ 160
Project Management	10	40	\$ 400
Total			\$ 2140

Deliverables

- Data used in training (aligned .tmx files)
- Trained MT engine
- Updated project proposal
- Comparison table of BLEU scores from 4 rounds of training
- Cost summary
- Feasibility analysis of MT engine

Anticipated Results:

- Reduced translation turnaround time. Translated articles can ship with English contents.
- More cost-efficient. We can produce similar-quality content with less cost, compared to human translation.