USING TDL AND AI (Artificial Intelligence) FOR BUSINESS SCALING

Presented by Francesco Oppedisano
Who we are

- Born in 2006 from the research group in telecommunication networks at University of Pisa (Italy)
- Official spin-off of Pisa’s University
- SME with strong skills in VoIP/MoIP and network performance testing
- People: 20
  - with degree: 15/20
  - with PHDs: 2/15
R&D in a Scaleup

- Today’s most important activity in startups and scaleups is “product discovery”.
- PD is heavily inspired by the “lean thinking” movement and in particular by the “Lean startup” approach. (Ref: “INSPIRED: How to create tech products customers love” by Marti Cagan)
- ZLRD – Zero Latency R&D
  - Test automation engineer
- Testing automation is key and it is also very important to scale the job of the TAE
What is ADA Project

- ADA is a research project founded by Tuscany Region (Italy)
- It aims at augmenting human driven processes by the use of advanced data and document analysis
- Our role is to contribute to the enhancement of the testing process trying to make more efficient the test automation activity carried out by the TAE (Testing Automation Engineer)
ThEIA - Testing Environment for Internet Applications
The ThEIA platform
« As is » testing process
Target testing process
Use of AI in ADA

- Natural Processing Language
- Image Analysis
- Document Analysis
- Structured Data Analysis
- Output
  - Better matching between testing and business expectations
  - Proactive Maintenance
  - Data Driven Testing
  - Automated Testing
Use of AI – 1

Entity Extraction | Ontology
Relation Extraction | Translation

NL – Test description

Test Automation Engineer

Correct TDL

Tentative TDL Translation

Corpus

ThEIA

TDL

Test Automation Engineer

NetResults

User Conference on Advanced Automated Testing
Use of AI - 2

Example: mail service login based on a trained computer vision system

Correct TDL → TDL → Primitive disambiguation (R&D) → Test script ( Totally executable by Theia Agents) → SCRIPTS

Computer vision Module (with machine learning) → Theia Platform
Conclusions

- ADA is at its early stages, hence we have only preliminary info.
- TDL is the “Center of Gravity” of our part of the project.
- We are still struggling to apply TDL to our scenarios (see our Poster).
- AI is a new tool for us so absolutely don’t know how the real performance we are going to achieve.
- Nonetheless we strongly believe that testing is the “immune system” for tech scaleups that need fast “build-measure-learn” cycles.
Q&A Contacts

• Q&A
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