

A Appendix

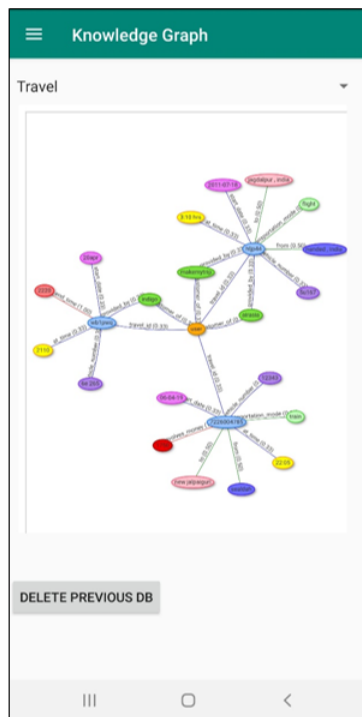
A.1 Outputs from different modules

Knowledge Graph	
Input	Sender: +918861366228 Content: The PNR for your AirAsia FR 5U167 for NDC-JGB on 2011-07-18 at 3:10 hrs is HLJP44. Tip: Check PNR status and book using MakeMyTrip Appl. Thank you.
Classifier	Domain: travel
Extracted Attributes	vehiclenumber : 5u167 vendor : ['airasia', 'makemytrip'] destination : jgb starttime : 3:10 hrs id : hljp44 startdate : 2011-07-18 travelmode : fht sourcelocation : ndc
Linked Entities	vehiclenumber : 5u167 vendor : ['airasia', 'makemytrip'] destination : jagdalpur , india starttime : 3:10 hrs id : hljp44 startdate : 2011-07-18 travelmode : flight sourcelocation : nanded , india
Triplets	customer_of : user -> airasia customer_of : user -> makemytrip travel_id : user -> hljp44 transportation_mode : hljp44 -> flight

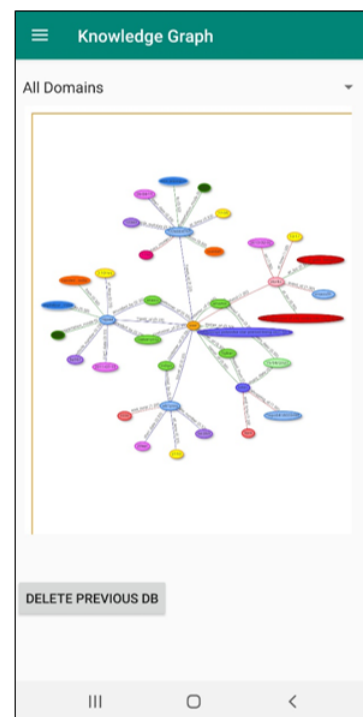
(a) Engine's Output at each level

Knowledge Graph	
All Domains	
EXPORT	
Sl.	Triplets
1	wb1pwq --> at_time (0.33) --> 2110
2	wb1pwq --> end_time (1) --> 2220
3	wb1pwq --> provided_by (0.33) --> indigo
4	wb1pwq --> start_date (0.33) --> 20apr
5	wb1pwq --> vehicle_number (0.33) --> 6e 265
6	user --> customer_of (0.5) --> amazon
7	user --> customer_of (0.5) --> flipkart
8	user --> customer_of (0.33) --> airasia
9	user --> customer_of (0.33) --> makemytrip
10	user --> customer_of (0.33) --> indigo
11	user --> owner_of (0.5) --> tiddlywings polyester star
12	user --> owner_of (0.5) --> tshirt
13	user --> travel_id (0.33) --> hljp44
14	user --> travel_id (0.33) --> 7226004785
15	user --> travel_id (0.33) --> wb1pwq
16	user --> will_attend (1) --> storks
17	tshirt --> delivery_date (0.5) --> 15/04/2020
18	tshirt --> end_time (1) --> 9pm
19	tshirt --> purchased_from (0.5) --> flipkart
20	tshirt --> shopping_id (1) --> fmpc0418020488
21	tiddlywings polyester star printed lining skirt for 6 --> d
22	tiddlywings polyester star printed lining skirt for 6 --> p
23	storks --> at_loc (0.5) --> 124 expansion of city codes
24	storks --> at_loc (0.5) --> pvr : vr gold , bengaluru
25	storks --> at_time (1) --> 13:17
26	storks --> event_id (1) --> wnwvx3h
27	storks --> on (1) --> 2013-02-02

(b) Extracted information (Triplet Table)



(c) Extracted information For Travel domain (Knowledge Graph)



(d) Extracted information For all domains (Knowledge Graph)

Figure 1: Outputs obtained at each level and the constructed knowledge graph.

A.2 Examples from the dataset

Domain	Message/ Notification/ Calendar – Attribute Extractor Output
Shopping	[@Dispatched#Status*]: Your package with [@Philips DJ SHL3000/00 Over-Ear Headphone (Blue)#Product*] [@will be delivered#Status*] on or before [@Wed, June 29#EndDate*]. Track at www.amzn.in/track
Travel	Dear John - Your [@IndiGo#Vendor*] PNR is [@K2***L#PNR*]- [@6E 457#VehicleNo*] [@24Jun#StartDate*] [@HYD#SourceLocation*]-[@BLR#Destination*] [@0615#StartTime*]/[@0720#EndTime*]. Use our app- http://mobile.goindigo.in to check [@flt. status#TravelMode*] or book next time.
Event	Your ticket details for [@Spider-Man#EventName*]: Far From Home are: [@June 29#StartDate*], [@1:30 PM#StartTime*] at [@PVR VR IMAX, Whitefield Road#Destination*], AUDI 03, 2 Seat(s): Prime - N10, N9. Total amount: [@Rs. 1284.72#Amount*]. Booking ID: [@VRIM*****77#ID*]. Please click here https://p-y.tm/kgX-zGf to get your e-ticket. Show this QR Code at the [@cinema#EventType*] entrance. Pay for your food via Paytm at the cinema and get assured Cashback! T&C apply
Service	John, your appointment ID: [@90***7#ID*] [@has been confirmed#Status*] at [@Oro Care Dental Center#Destination*] on [@29th June#StartDate*] [@4:15 pm#StartTime*]. Any query call 093*****00. The clinic accepts credit card, debit card, net banking, and online wallets. To get directions to the clinic, click here: http://prac.to/ml?t=ShmjSuXx . Practo's T&C Applicable.
Personal	[@Sarika#PersonName*] [@sister's#Relation*] [@wedding day#Occasion*]

Table 1: Sample Example For Each Domain With Extracted Attributes

Message/ Notification/ Calendar	Relevant fields	Entity Output
Dispatched: Your package with Philips DJ SHL3000/00 Over-Ear Headphone (Blue) will be delivered on or before Wed, June 29. Track at www.amzn.in/track	Sender: "VK-Amazon"	Product: Philips DJ SHL3000/00 Over-Ear Headphone (Blue), Vendor: Amazon, Status: Book, End Date: 29-Jun-2021
Dear John -Your IndiGo PNR is K2***L- 6E 457 24Jun HYD-BLR 0615/0720. Use our app- http://mobile.goindigo.in to check flt. status or book next time.	Sender: "VK-IndiGo"	PNR: K2***L, Vehicle No: 6E 457, Vendor: IndiGo, Travel Mode: flight, Source Location: Hyderabad, Destination: Bengaluru, Start Date: 24-Jun-2021, Start Time: 06:15:00 , End Time: 07:20:00
Your ticket details for Spider-Man: Far From Home are: June 29, 1:30 PM at PVR VR IMAX, Whitefield Road, AUDI 03, 2 Seat(s): Prime - N10, N9. Total amount: Rs. 1284.72. Booking ID:VRIM*****77. Please click here https://p-y.tm/kgX-zGf to get your e-ticket. Show this QR Code at the cinema entrance. Pay for your food via Paytm at the cinema and get assured Cashback! T&C apply	Sender: "BZ-iPaytm"	Event name: Spider Man: Far From Home, Event type: Movie, Destination: PVR VR IMAX, Whitefield Road, Vendor: paytm, ID: VRIM*****77, Start Date: 29-Jun-2021, Start Time: 13:30:00, Amount: Rs. 1284.72
John, your appointment ID: 90***7 has been confirmed at Oro Care Dental Center on 29th June 4:15 pm. Any query call 093*****00. The clinic accepts credit card, debit card, net banking, and online wallets. To get directions to the clinic, click here: http://prac.to/ml?t=ShmjSuXx . Practo's T&C Applicable.	Sender: "TX-PRACTO"	ID: 90***7, Vendor: Practo, Start Date: 29-June-2021, Start Time: 16:15:00, Destination: Oro Care Dental Center, Status: Book
Sarika sister's wedding day	Date: 1 Aug, 2020	Person Name: Sarika, Relation: sister, Occasion: Wedding anniversary, Start Date: 01-Aug-2020

Table 2: Sample Example For Each Domain With Entity Linker Output