Texas UCF

Low Latency Mentions

3/2/2026

Team



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Pitch Overview

Motivation

Implementation

Results

Future Work

Motivation

- UCF people love trading mention markets
- It would be funny to pick ~~UCF~~ **market makers** off
- We had faster audio streams during the internship
- Internet stream (YouTube) < Cable (C-span)< Satellite (OTA)
- Test run during an NBA game showed promise of speed edge

Market	Outcome	Final position	Settlement payout
Announcers at Boston vs Los Angeles L Professional Basketball Game			
Ankle	No	10 Yes	$0
Buzzer	Yes	None	$0
Elbow	Yes	100 Yes	$100
Tech / Technical	Yes	100 Yes	$100
Total			$200

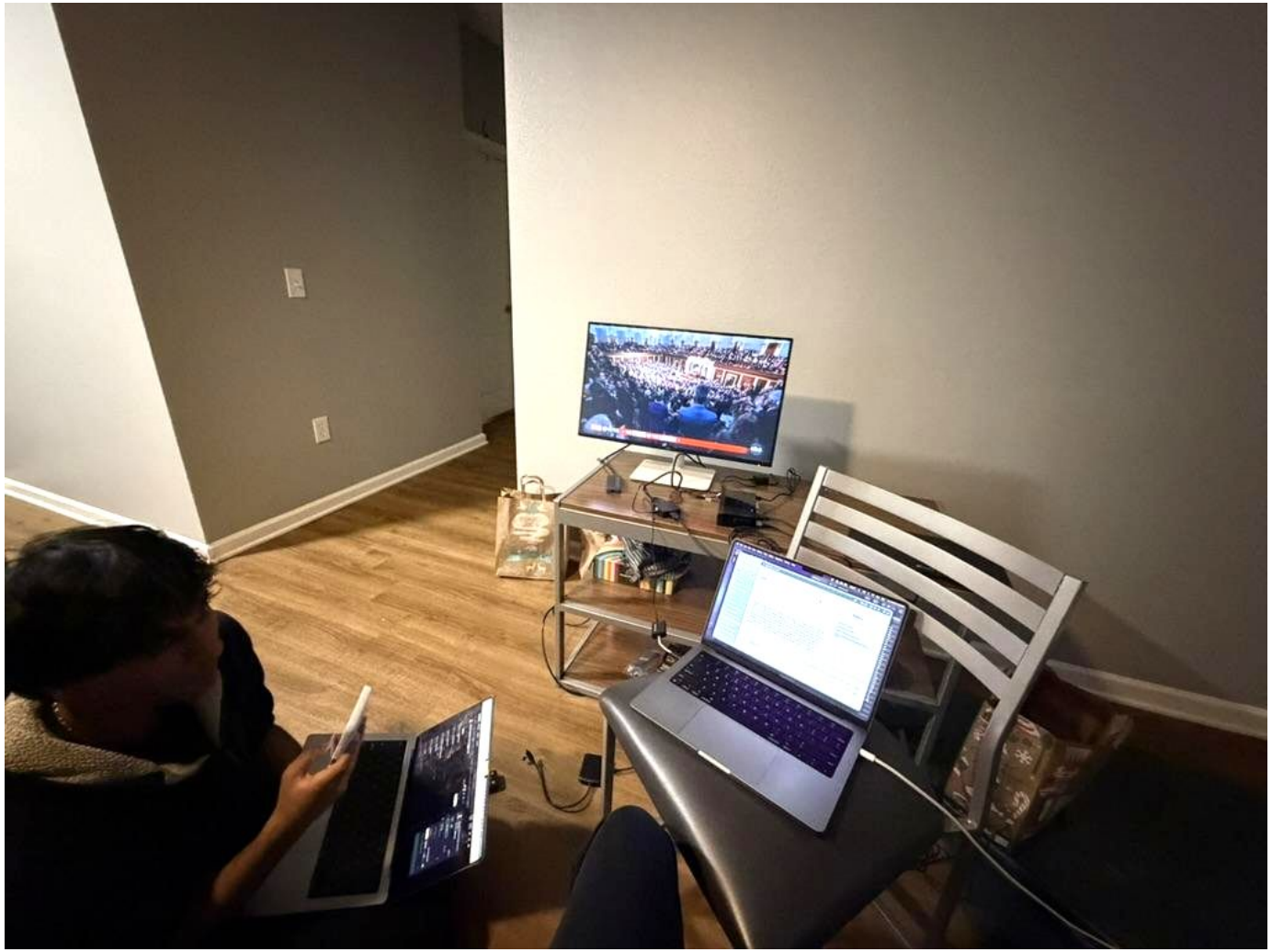


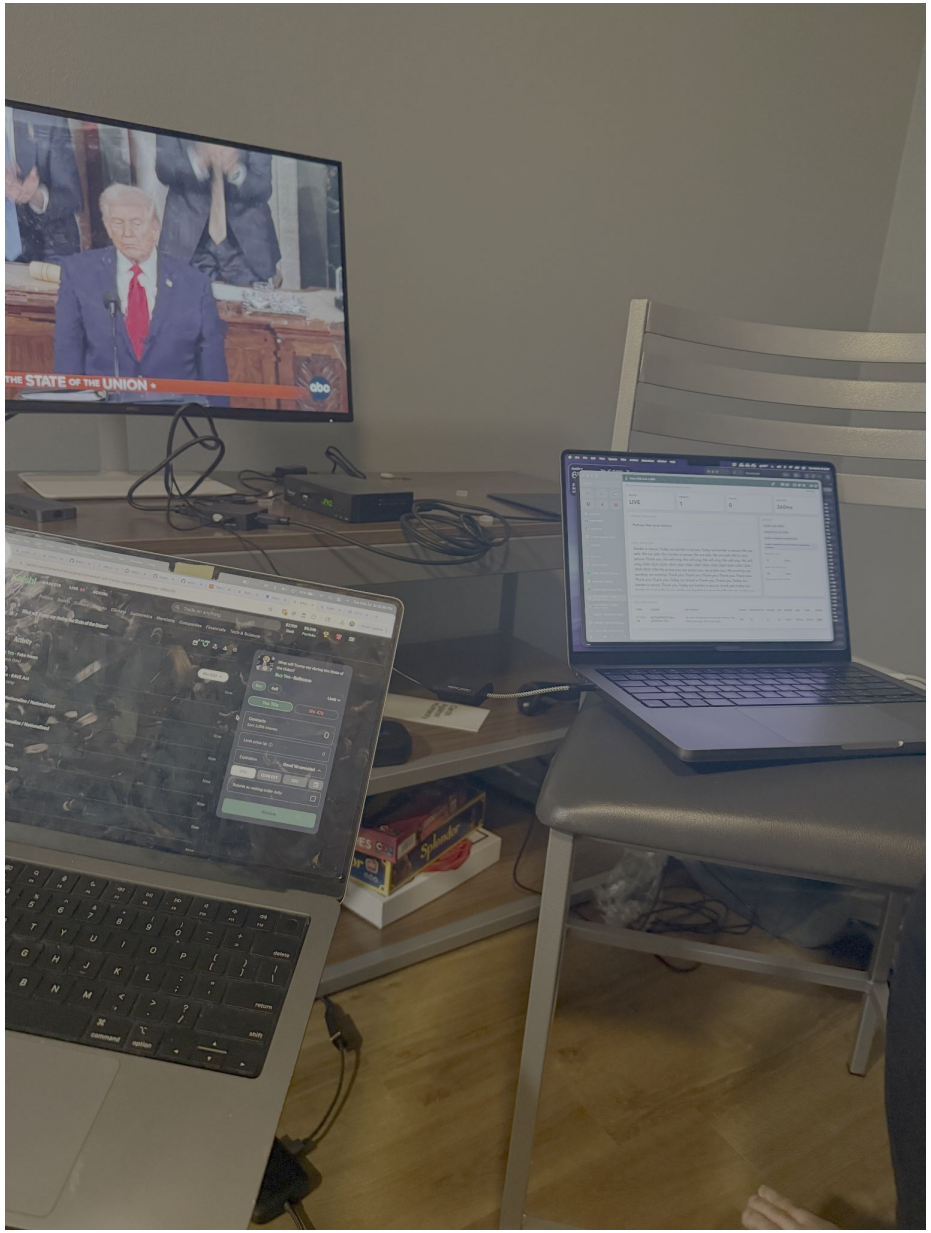
Implementation - Setup

- Monitor for broadcasting
- Radio Antenna
- Converter Box
- HDMI Splitter
  - Input: HDMI from radio
  - Output 1: HDMI + Audio to monitor for human verification/visuals
  - Output 2: Audio to laptop for speech processing
- Laptop for processing + automated trading
- Human on Laptop to verify strikes (detecting false positives)

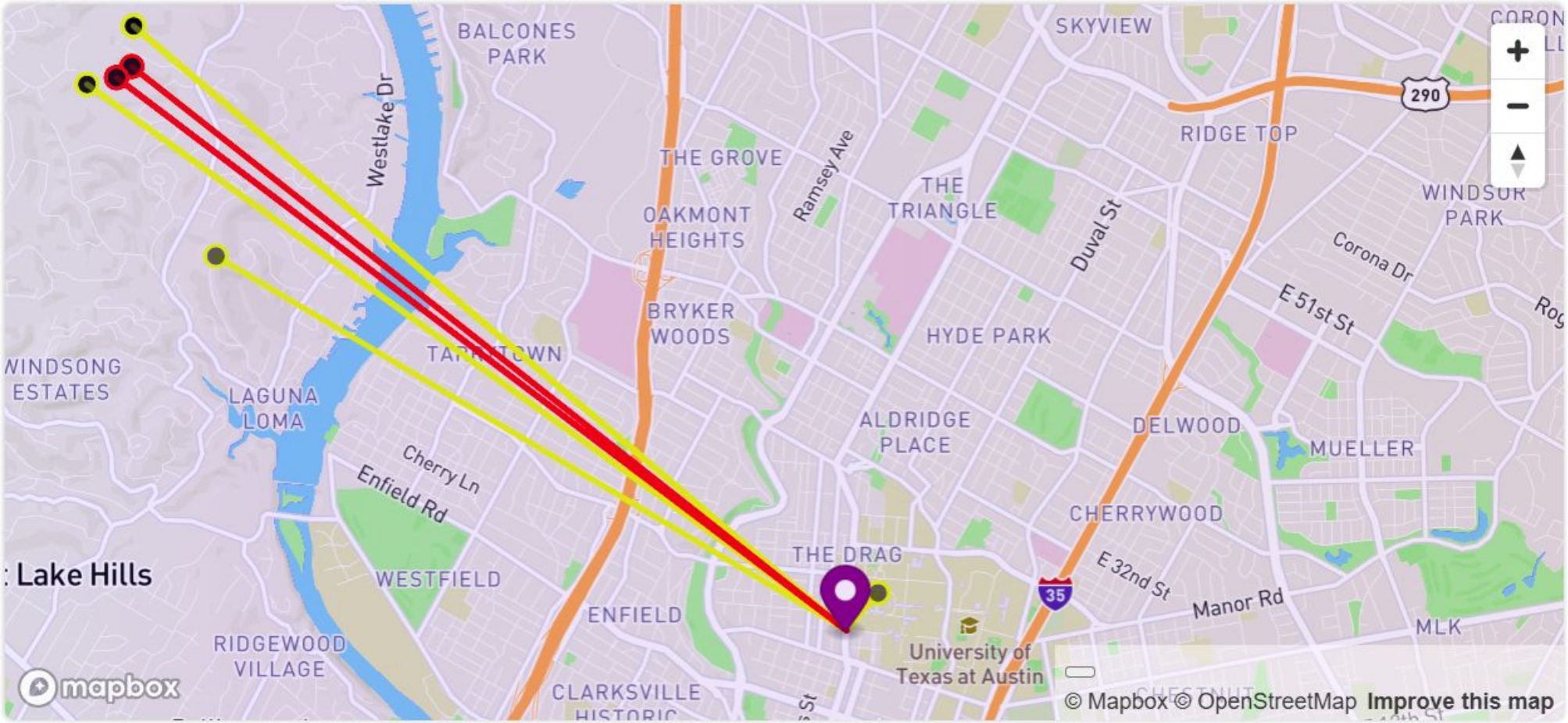


Implementation - Setup





Stations Map



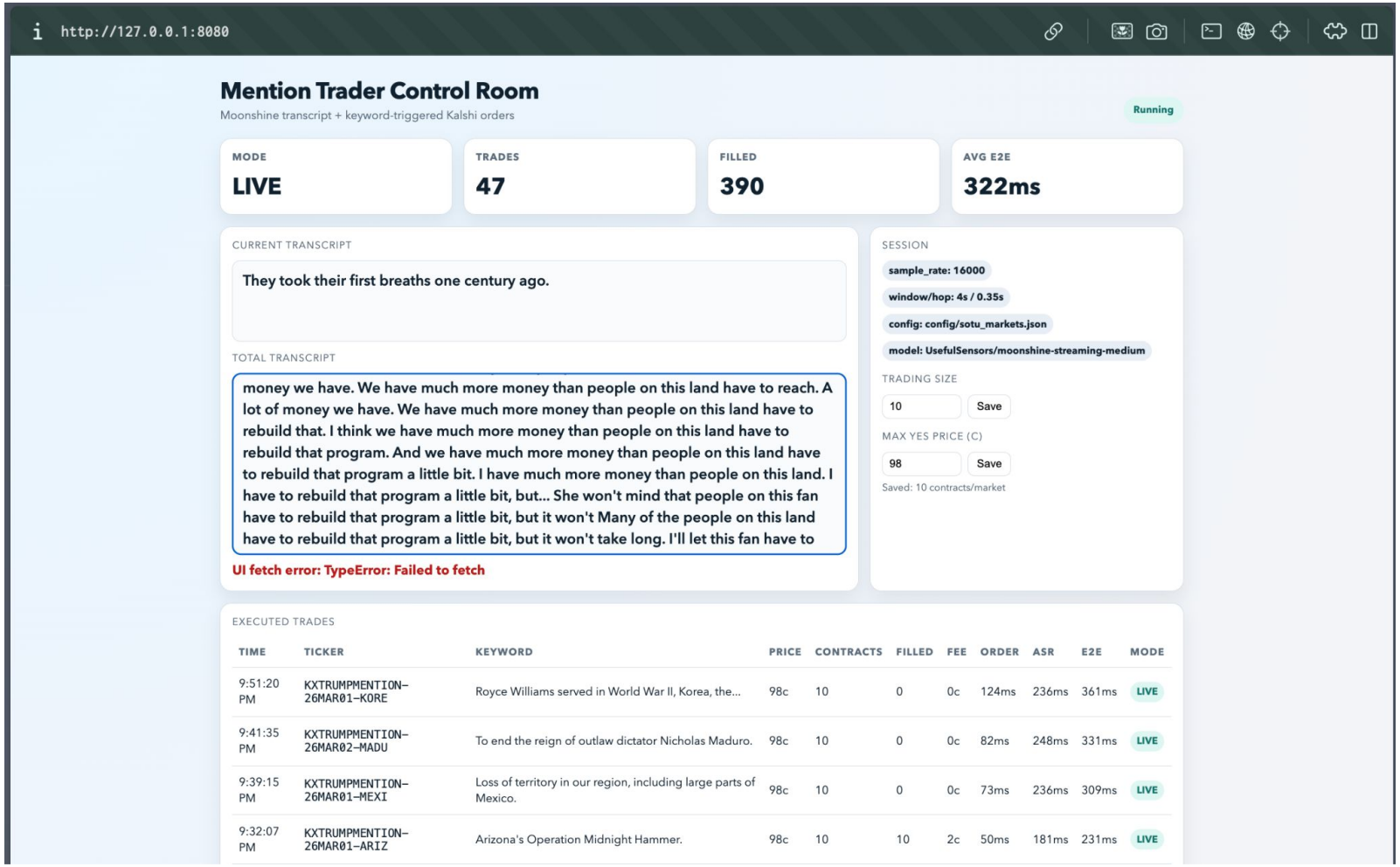
Implementation - Systematic

- Best way to transcribe live audio?
  - Good transcriptions
  - Low latency from speech -> text
- Tested multiple models (from openASR leaderboards)
  - Whisper
  - Nvidia Riva (needs NVIDIA GPU)
  - Sherpa
  - Moonshine
- Testing
  - AI Trump speech w/ strikes 
  - Previous Trump SOTU speeches
  - NBA games
  - General conversation
- Ended up using moonshine, easiest to integrate/run locally, and seemed to be pretty accurate on our testing data

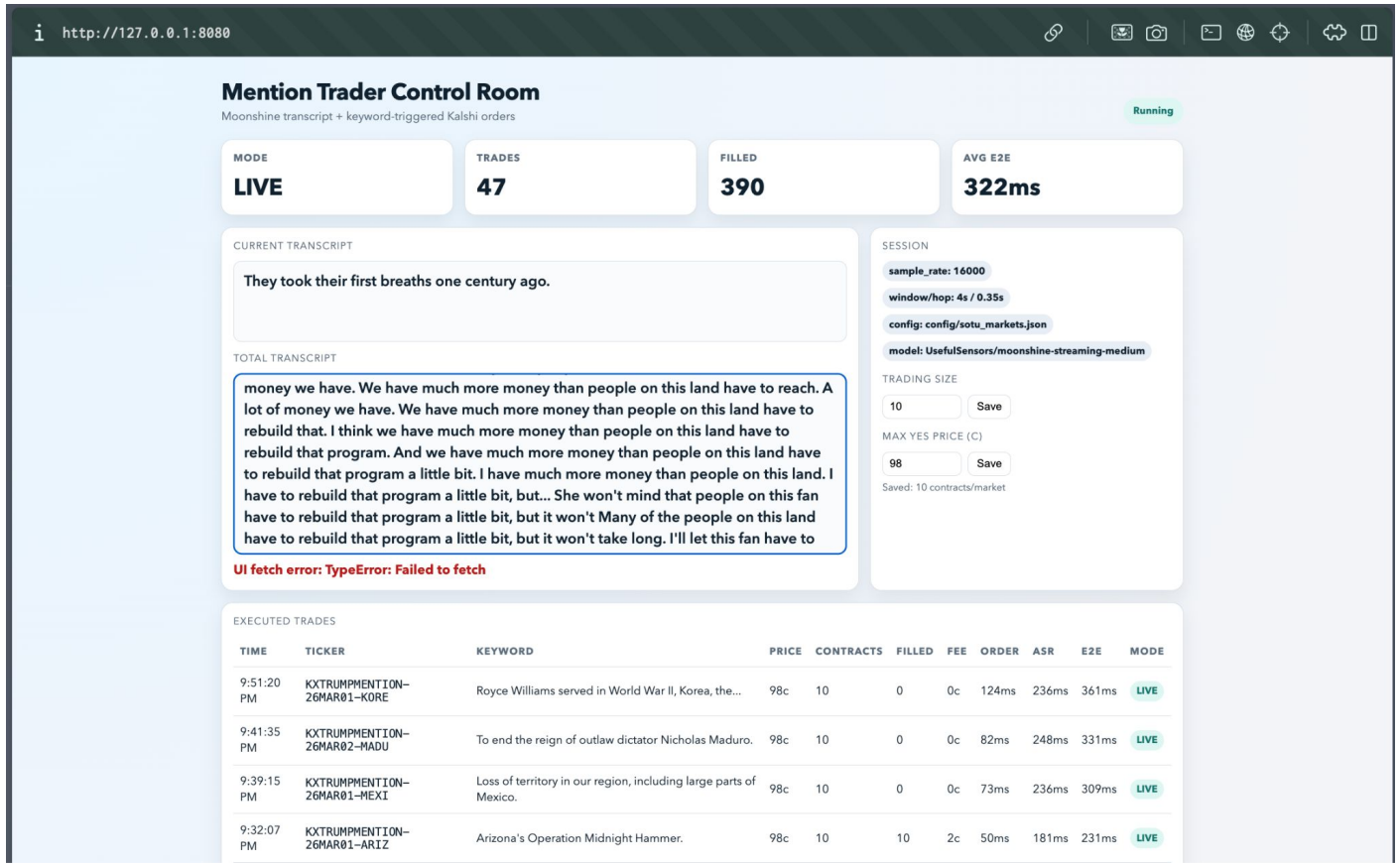
Implementation - Autotrader rules

- JSON with the tickers, strikes, and keywords that would trigger the event
- Uses dictionary (hashmap) to quickly search, matches keyword to item
- Limit IOC order that will buy 10 shares, maximally each priced at 99c (these were modifiable in the UI)
- Held to resolution because we weren't capital constraints (as opposed to immediately listing all our contracts at 99c)

Implementation - UI



Results



EXECUTED TRADES

TIME	TICKER	KEYWORD	PRICE	CONTRACTS	FILLED	FEE	ORDER	ASR	E2E	MODE
9:51:20 PM	KXTRUMPMENTION-26MAR01-KORE	Royce Williams served in World War II, Korea, the...	98c	10	0	0c	124ms	236ms	361ms	LIVE
9:41:35 PM	KXTRUMPMENTION-26MAR02-MADU	To end the reign of outlaw dictator Nicholas Maduro.	98c	10	0	0c	82ms	248ms	331ms	LIVE
9:39:15 PM	KXTRUMPMENTION-26MAR01-MEXI	Loss of territory in our region, including large parts of Mexico.	98c	10	0	0c	73ms	236ms	309ms	LIVE
9:32:07 PM	KXTRUMPMENTION-26MAR01-ARIZ	Arizona's Operation Midnight Hammer.	98c	10	10	2c	50ms	181ms	231ms	LIVE
9:32:06 PM	KXTRUMPMENTION-26FEB28-MIDN	Corner Radiance Oil, known as Operation Midnight Hammer.	98c	10	0	0c	77ms	254ms	330ms	LIVE
9:31:28 PM	KXTRUMPMENTION-26MAR01-RUSS	In the night war, the killing and slaughter between Russia and Ukraine.	98c	10	0	0c	75ms	235ms	310ms	LIVE
9:28:20 PM	KXTRUMPMENTION-26MAR02-MARC	To report to Secretary of State Marco.	98c	10	0	0c	77ms	185ms	262ms	LIVE
9:27:54 PM	KXTRUMPMENTION-26MAR02-JARE	And I want to thank Chief Wickoff and Jared.	98c	10	0	0c	48ms	256ms	305ms	LIVE
9:27:46 PM	KXTRUMPMENTION-26MAR01-GAZA	And Rwanda. And, of course, the war in Gaza.	98c	10	0	0c	94ms	248ms	342ms	LIVE
9:27:25 PM	KXTRUMPMENTION-26FEB28-NUCL	Thailand. Pakistan and India would have been a nuclear war.	98c	10	0	0c	47ms	244ms	292ms	LIVE
9:27:16 PM	KXTRUMPMENTION-26MAR01-CUBA	Once I ended eight wars, including Cambodia, Cuba,	98c	10	10	2c	45ms	218ms	263ms	LIVE
9:27:13 PM	KXTRUMPMENTION-26FEB28-EIGH	has never been stronger. My first ten months, I ended eight wars.	98c	10	0	0c	46ms	216ms	262ms	LIVE
9:27:12 PM	KXTRUMPMENTION-26MAR01-IRAN	Iran, our country has never been stronger. My first 10 months...	98c	10	10	2c	90ms	236ms	326ms	LIVE
9:20:21 PM	KXTRUMPMENTION-26MAR01-MEMP	In order to our most dangerous cities, including Memphis,	98c	10	0	0c	78ms	237ms	315ms	LIVE
9:18:48 PM	KXTRUMPMENTION-26MAR01-ISRA	Israel slashed a knife through her neck and body.	98c	10	10	2c	74ms	245ms	319ms	LIVE
9:18:23 PM	KXTRUMPMENTION-26MAR01-UKRA	War turn. War turn Ukraine.	98c	10	0	0c	85ms	165ms	250ms	LIVE
9:16:27 PM	KXTRUMPMENTION-26MAR02-CHAR	With my great friend Charlie Kirk.	98c	10	0	0c	94ms	173ms	268ms	LIVE
9:14:31 PM	KXTRUMPMENTION-26FEB28-FOST	Legislation advancing a landmark executive order on foster care.	98c	10	0	0c	78ms	227ms	306ms	LIVE

Results

Correct Filled Trades

- Cuba
- New York
- Olympics

False Positive Trades

- Israel (viciously?)
- Iran (abroad?)
- Arizona (Iranian soil)
- Obama (said Obamacare)
- China
- India

Unfilled Trades

- Every other strike he said

E2E latency during the SOTU was **322 ms**

Results



What places will Trump mention in his State of the Union address?

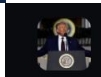
Arizona	No	10 Yes	$0	$0.86	$0.06	$0	-$0.86 (-100%)
California	Yes	10 Yes	$10	$6.86	$0.16	$10	+$3.14 (46%)
China	No	None	$0	$98.07	$0.14	$20.93	-$77.14 (-79%)
Congo	Yes	None	$0	$49.75	$3.50	$45.25	-$4.50 (-9%)
Cuba	No	10 Yes	$0	$4.27	$0.17	$0	-$4.27 (-100%)
India	Yes	None	$0	$71.49	$2.97	$67.52	-$3.97 (-6%)
Iran	Yes	10 Yes	$10	$8.88	$0.08	$10	+$1.12 (13%)
Israel	Yes	10 Yes	$10	$8.02	$0.12	$10	+$1.98 (25%)
New York	Yes	10 Yes	$10	$9.26	$0.06	$10	+$0.74 (8%)
Total			$40	$257.46	$7.26	$173.70	-$83.76 (-33%)



Who will Trump mention during his State of the Union address?

Obama	No	10 Yes	$0	$9.05	$0.07	$0	-$9.05 (-100%)

Results



What will Trump say during the State of the Union?

Ballroom	No	24 No	$24	$17.30	$0.27	$25.91	+$6.71 (35%)	
Eight War	Yes	10 Yes	$10	$7.35	$0.15	$10	+$2.65 (36%)	
Ethereum	No	40 Yes	$0	$0.63	$0.03	$0	-$0.63 (-100%)	
Golden Dome	No	40 No	$40	$33.05	$2.53	$161.80	+$9.78 (6%)	
Highest Inflation	No	20 No	$20	$18.24	$0.94	$32.61	+$2.06 (7%)	
Hoax	No	None	$0	$4.08	$0.35	$4.54	+$0.46 (11%)	
Hottest	Yes	1 Yes	$1	$0.85	$0.01	$1	+$0.15 (18%)	
ICE / National Guard	Yes	49 No	$0	$19.21	$1.59	$17.76	-$28.03 (-61%)	
MAHA / Make America Healthy Again	No	20 No	$20	$19.10	$1.48	$40.61	-$2.18 (-5%)	
Midnight Hammer	Yes	20 Yes	$20	$13.13	$0.33	$20	+$6.87 (52%)	
Olympics / World Cup	Yes	11 No	$0	$4.70	$1.06	$11.79	-$9.90 (-46%)	
Radical Left	No	10 No	$10	$8.72	$0.61	$12.43	-$7.81 (-39%)	
Rare Earth / Mineral	No	2 Yes	$0	$0.09	$0.16	$3.83	-$4.83 (-56%)	
Sleepy Joe	No	10 No	$10	$8.98	$0.56	$28.43	-$0.82 (-3%)	
Supreme Court	Yes	20 Yes	$20	$16.81	$0.21	$20	+$3.19 (19%)	
Transgender	No	40 No	$40	$35.47	$1.63	$77.05	+$9.37 (14%)	
Vaccine / Autism	No	20 No	$20	$16.42	$0.22	$19.78	+$3.58 (22%)	
Windmill	No	20 No	$20	$18.13	$0.13	$19.87	+$1.87 (10%)	
Total			$255	$242.26	$12.26	$507.41	-$7.51 (-3%)	

Results



Before: Happy and Excited



After: Chud & Soggy Mexican Pizza

Analysis

High false positive rate

- False positives are the only way we lose money
- 350ms audio chunks may have produced confusing audio
- Traded on interim words, not on final
- Radio interference messed with audio
- Laptop limited complexity of usable models

Not fast enough

- Market reacted to words 1-2 seconds before us
- Could be insiders in broadcasting or Congress
- Market makers may have predictive models
- OTA antenna is the fastest consumer option
- ~350ms latency, close to the max we could achieve with this stack

For all the correctly detected words, the workflow had a faster reaction time than a human click trading.

Future Work

- Lower volume markets
- Trade on sports - people in the stadium don’t get the announcer audio
- Creating a quicker unofficial live stream

Conclusion

Questions?