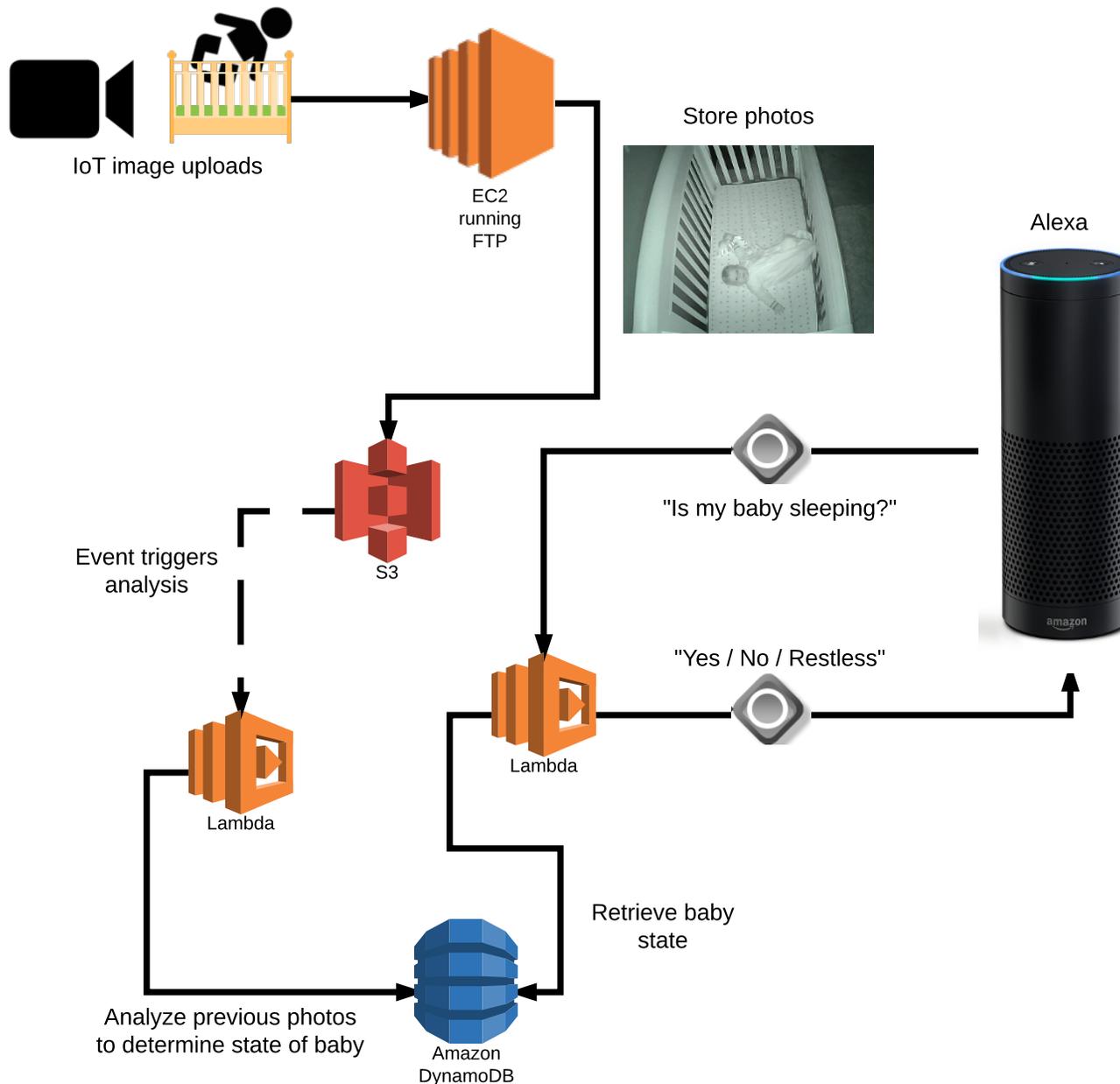


Baby Checkr

"Check on the little stink before having your next drink"



Steps taken

1. Invented idea 1 day before deadline while wondering how my wife was doing getting my son to bed
2. Read contest details & studied the VUI best practices
3. Created a t2.micro & S3 bucket
4. Mounted filesystem to S3 using s3fs. Installed and configured vsftpd to enable FTP on EC2
5. Wondered if my son was sleeping, but Alexa would *not* tell me
6. Configured my baby camera (FosCam) to FTP upload photos every 15 seconds
7. Created a lambda function triggered on S3 file creation
8. Wrote image comparison algorithm to check for movement
9. Analyzed sample photos to determine movement ratio thresholds
10. Created a DyamoDB table
11. Stored movement data and baby state in DynamoDB
12. Created a second lambda function to fetch baby state from DynamoDB
13. Created a new Alexa skill triggering the above Lambda function
14. Wondered if my son was sleeping, and Alexa *told* me he was!
15. Celebrated knowing he was sleeping like a baby!

Future considerations

1. "How long has my baby been awake?"
2. "How long did my baby sleep today?"
3. "Is my baby in the crib?" (using AWS AI Rekognition)
4. "Is baby {name} sleeping?" (support name and multiple children)
5. Extend for additional use cases such as "Are there people swimming in my pool?"

Image Diff Prototype



A sequence of five images showing a baby in a crib, illustrating increasing movement ratios. The first image shows the baby lying still with a movement ratio of 0. The second image shows the baby starting to move with a movement ratio of 16.3. The third image shows the baby moving more actively with a movement ratio of 34.7. The fourth and fifth images show the baby in a more active state.

Movement ratio = 0

Movement ratio = 16.3

Movement ratio = 34.7

Movement ratios based on testing

- 0 - 15 = Asleep
- 15 - 25 = Restless
- 25+ = Awake