

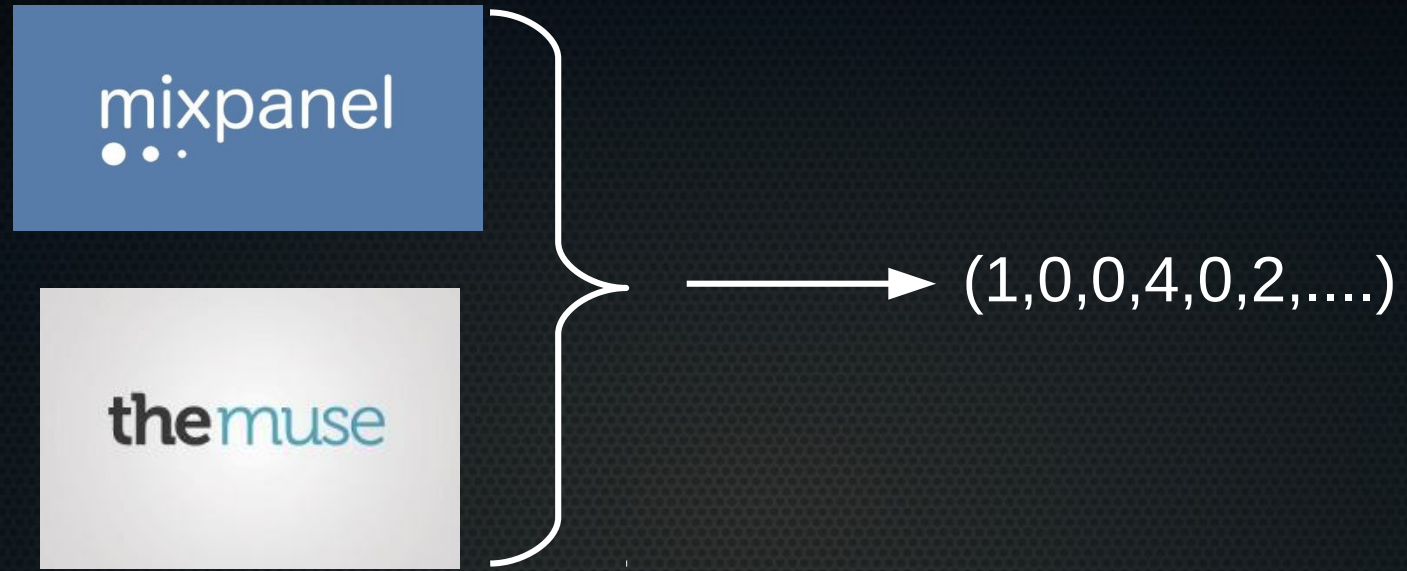
The Muse

Cody Chapman

Problem: Design a lightweight, easily implementable recommendation algorithm for TheMuse.com.

- Registered users
- Non-registered users/guests

Solution



Solution

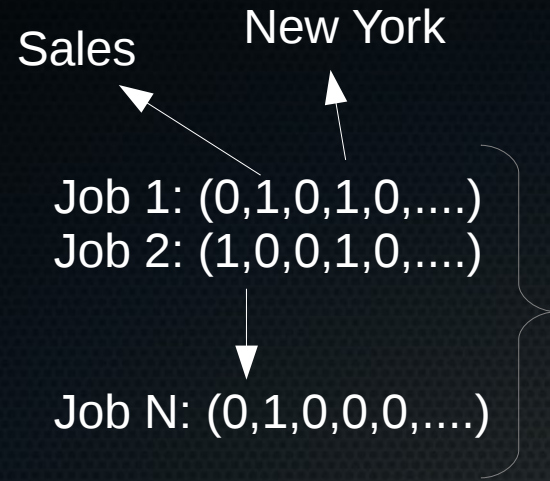
Features

- Location
- Industry
- Position Level
- Company Size

Solution

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- Industry
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Solution

Features

- Location
- Industry
- Position Level
- Company Size

Job 1: (0,1,0,1,0,....)

Job 2: (1,0,0,1,0,....)



Job N: (0,1,0,0,0,....)



Solution

Features

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Job 1: (0,1,0,1,0,....)

Job 2: (1,0,0,1,0,....)



Job N: (0,1,0,0,0,....)



User 1
(0,0,0,0,0,....)

Solution

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Job 1: (0,1,0,1,0,....)

Job 2: (1,0,0,1,0,....)

Job N: (0,1,0,0,0,....)



User 1
(0,0,0,0,0,....)

Job 2
(1,0,0,1,0,....)

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Job 1: (0,1,0,1,0,...)

Job 2: (1,0,0,1,0,...)

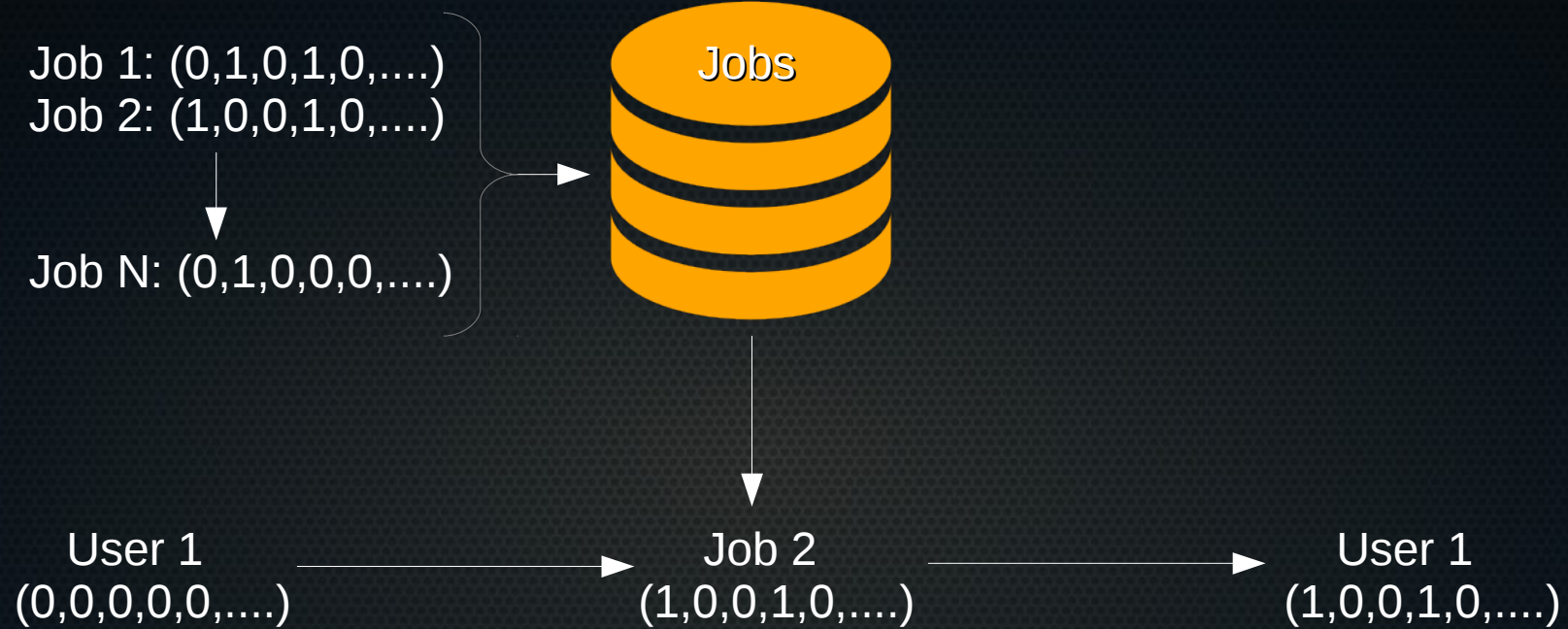
Job N: (0,1,0,0,0,...)



User 1
(0,0,0,0,0,...)

Job 2
(1,0,0,1,0,...)

User 1
(1,0,0,1,0,...)



Solution

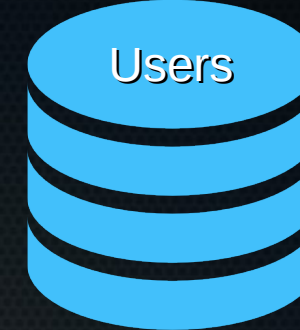
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Job 1: (0,1,0,1,0,...)

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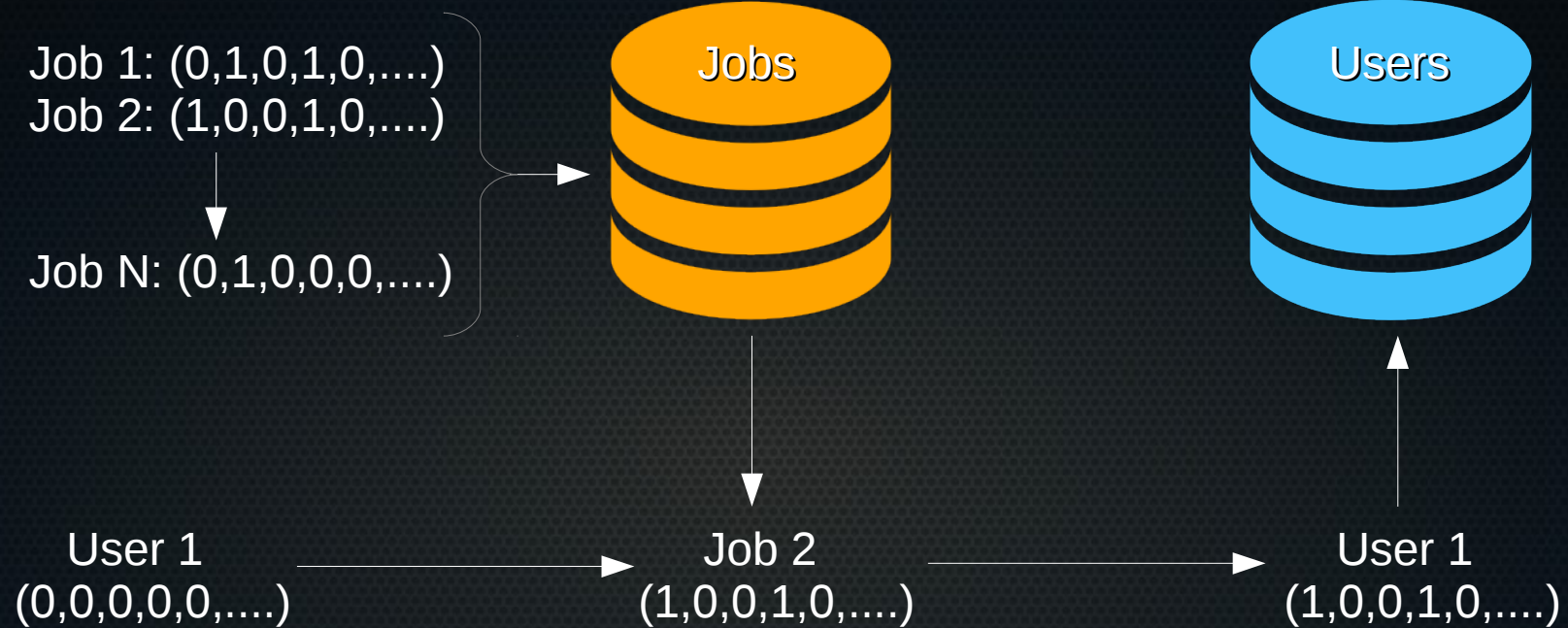
Job N: (0,1,0,0,0,...)



User 1
(0,0,0,0,0,...)

Job 2
(1,0,0,1,0,...)

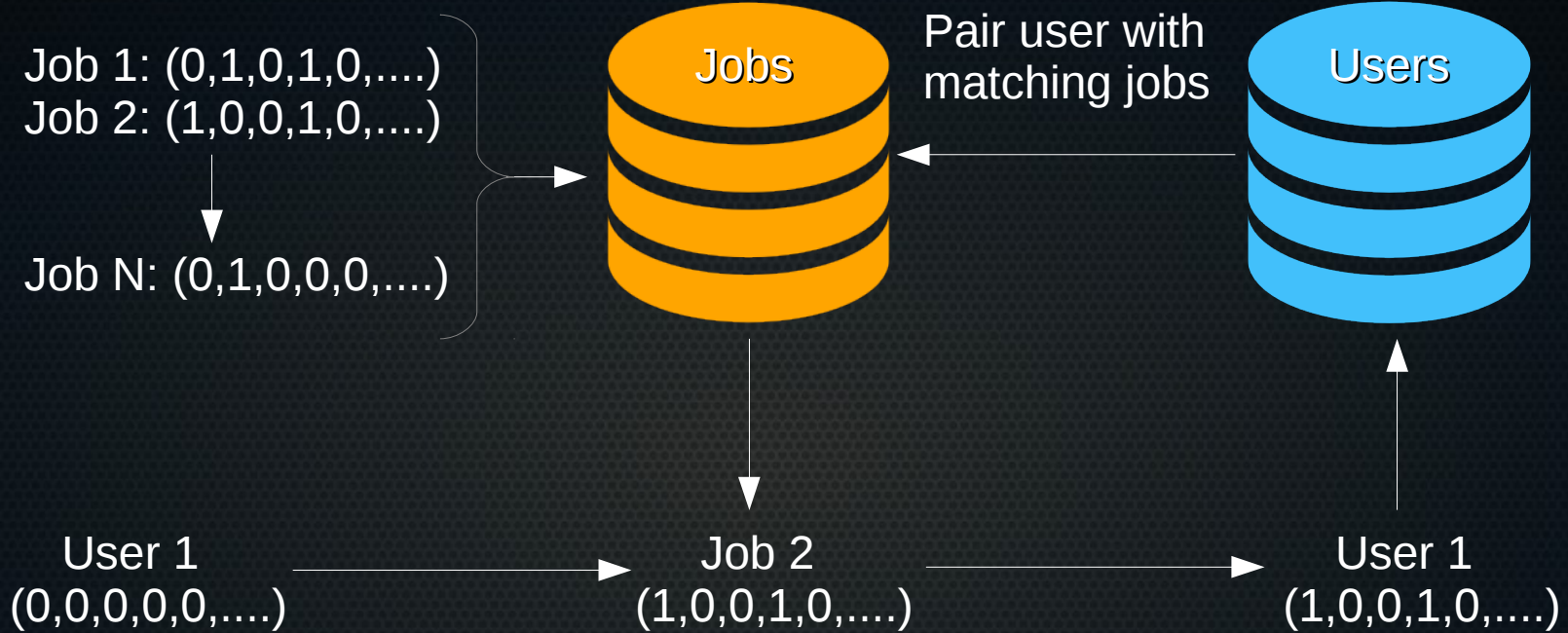
User 1
(1,0,0,1,0,...)



Solution

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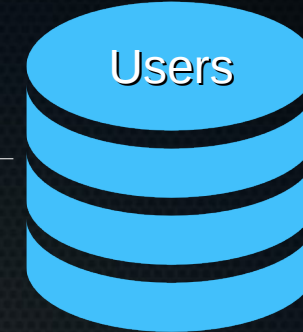
Job 1: (0,1,0,1,0,...)

Job 2: (1,0,0,1,0,...)

Job N: (0,1,0,0,0,...)



Pair user with
matching jobs



User 1
(0,0,0,0,0,...)

Job 2
(1,0,0,1,0,...)

User 1
(1,0,0,1,0,...)

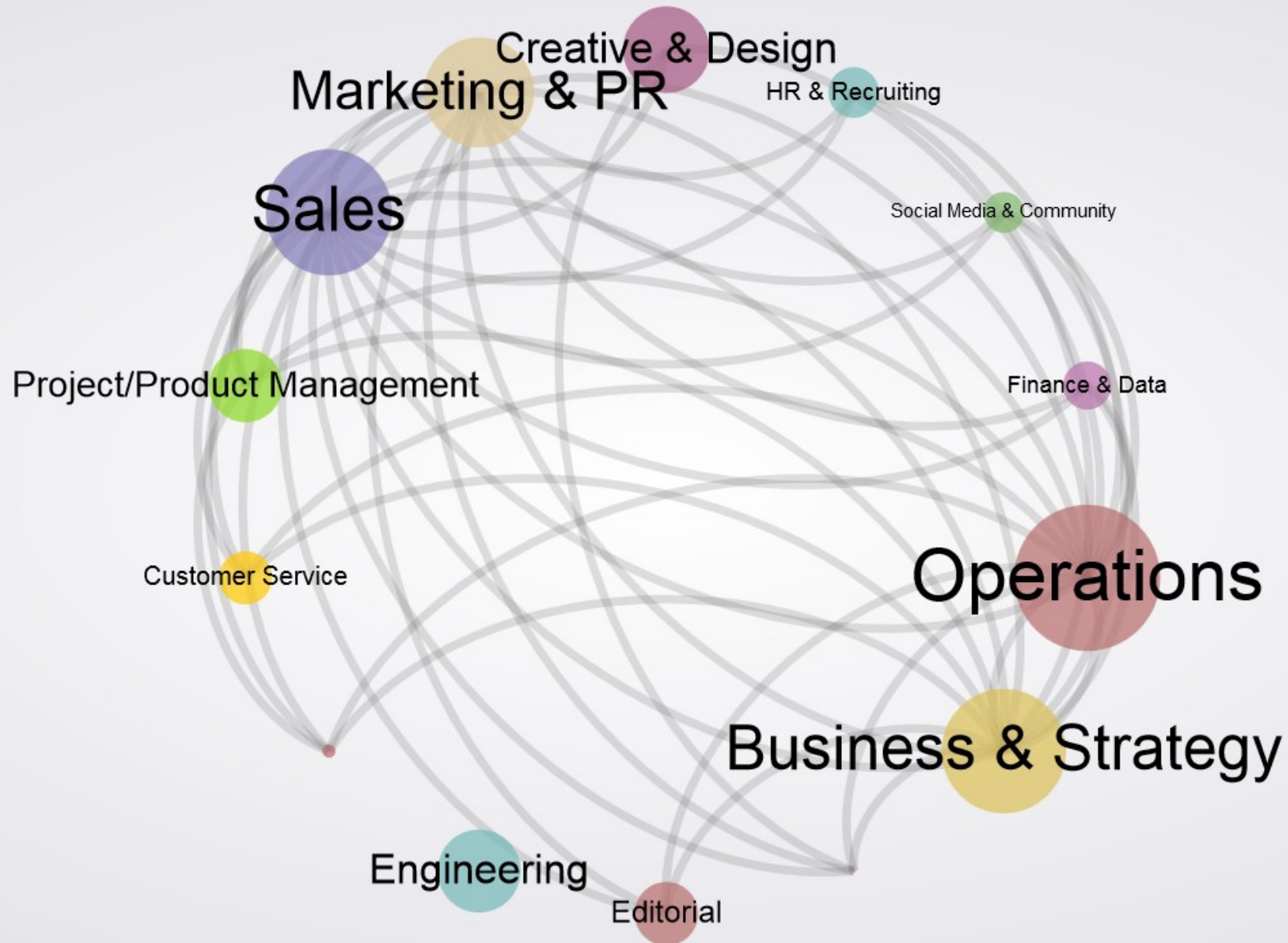
- Supplement unknown data with most likely case(s)
- Sort with cosine similarity

Ability to predict future job applications
from one week's worth of withheld data

- Current method (creation date) ~ 24%

Ability to predict future job applications
from one week's worth of withheld data

- Current method (creation date) ~ 24%
- **With algorithm ~ 55%**



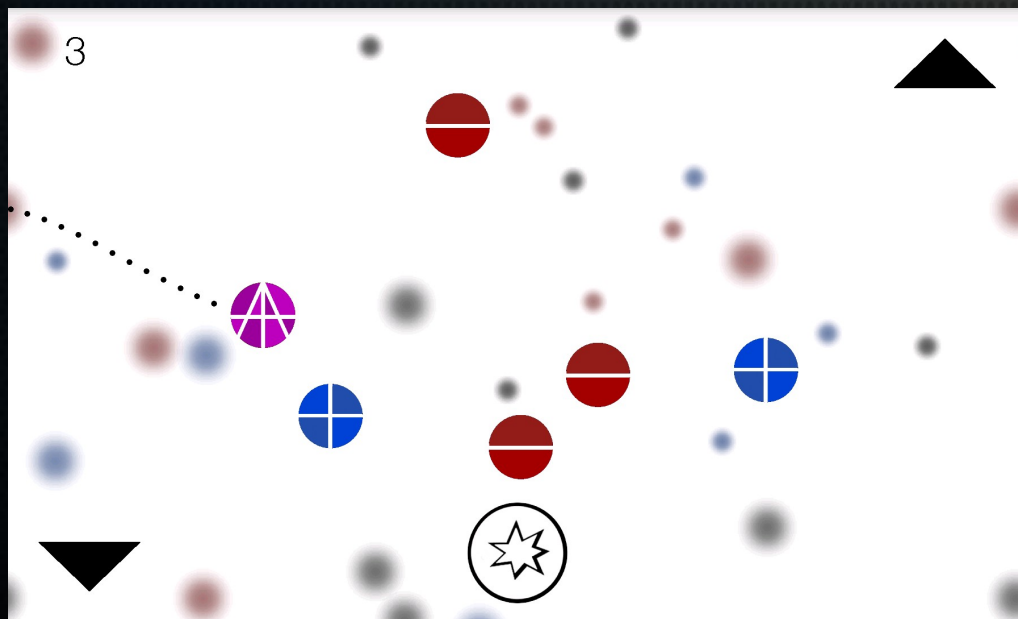




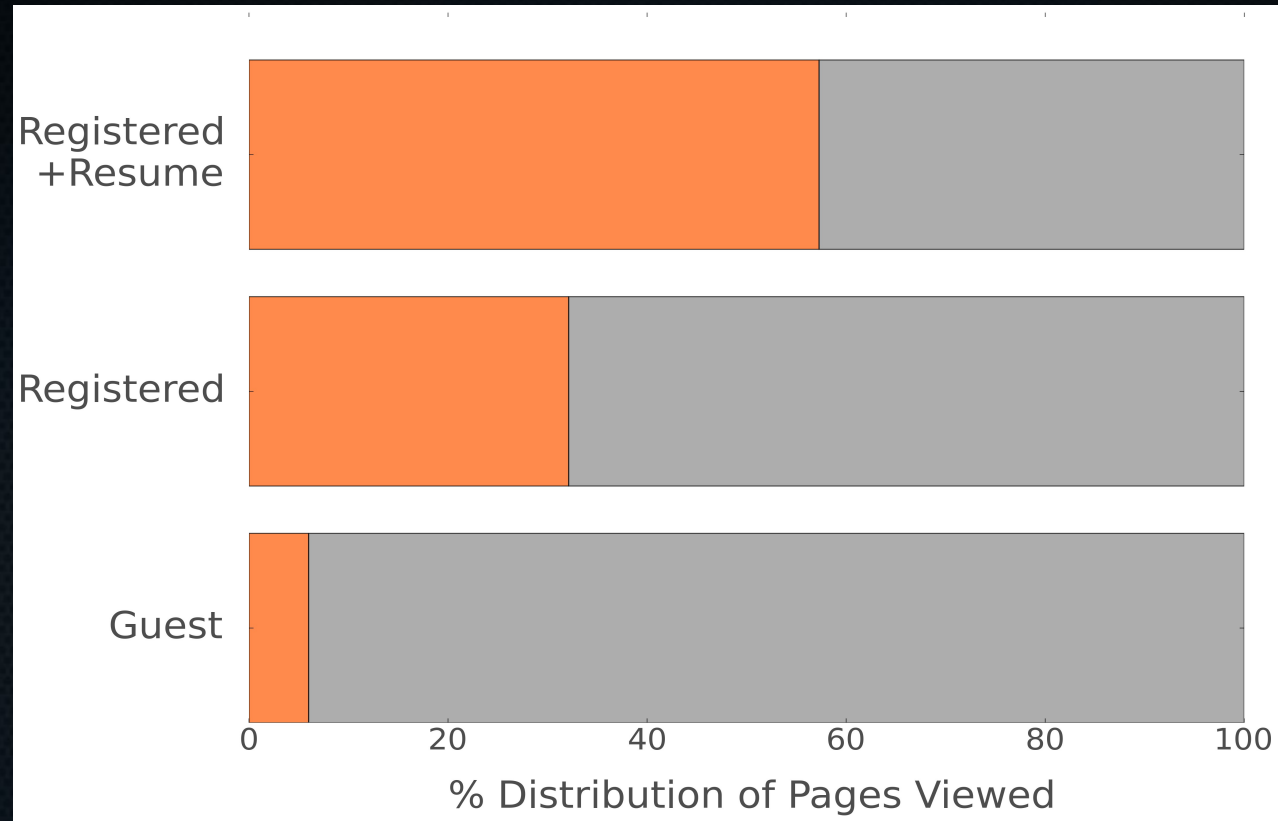


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Users who provide a resume spend nearly twice as much of their time on the site viewing job related material than users who don't.

90.113.1.1

Normalized
Positions

