

# Job Beacon Maine: Domains & Data Dictionary

## Key:

Colored Attributes: This means they can be made into composite attributes for simpler entity-relationship diagrams. The name for composed attributes is meant to be somewhat self explanatory. Example seen below.

ENTITY_NAME	
ATTRIBUTE	DOMAIN/CONSTRAINTS
...	...
ATTRIBUTE_1	DOMAIN_1
...	...
ATTRIBUTE_N	DOMAIN_N
ATTRIBUTE_N+1	DOMAIN_N+1
...	...

RELATIONSHIP_NAME Type: {Binary, Ternary, ...} Members: Entity_1, Entity_2, ... Cardinality: m..n	
ATTRIBUTE	DOMAIN/CONSTRAINTS

### Entities:

USER	
User_ID	Primary key
Employer_ID	Foreign key, references EMPLOYER
First_Name	String, not null
Last_Name	String, not null
Middle_Initial	Char
Email	Not null, <i>verified email address</i>
Phone	<i>Valid verified phone number</i>
City	String, <i>cities in Maine</i>
County	String, not null, <i>counties in Maine</i>
Zip_Code	Int, <i>zip-codes in Maine</i>

STUDENT_ALUM Total Participation Overlapping Specialization of USER	
Max_Distance_Pref	Float
Remote_Pref	{Remote, Hybrid, Office}
Culture_Pref	String
Salary_Min_Pref	Float, <i>USD, &lt;= Salary_Max_Pref</i>
Salary_Max_Pref	Float, <i>USD, &gt;= Salary_Min_Pref</i>
Experience	BLOB
Resume	BLOB

RECRUITER	
Total Participation Overlapping Specialization of USER	
N/A	N/A

EMPLOYER	
Employer_ID	Primary key
Name	String, not null
Culture	String
Website	String, <i>valid URL</i>
Industry	String, not null

EDUCATION	
Education_ID	Primary key
User_ID	Foreign key, references USER
University	String, not null, <i>Universities in Maine</i>
Degree	String, not null, <i>recognized degrees</i>
Graduation_Date	Date, not null
Is_Graduated	Bool, derived from Graduation_Date

RESOURCE	
Resource_ID	Primary key
Documents	BLOB, not null

SKILL	
Skill_ID	Primary key
Skill_Name	String, unique, not null

JOB	
Job_ID	Primary key
Employer_ID	Foreign key, references EMPLOYER
Recruiter_ID	Foreign key, references USER
Application_URL	URL, not null, <i>valid URL</i>
JobTitle	String, not null
JobDescription	String, not null
Required_Skills	String, not null, comma separated
Salary_Min	Float, not null, <i>USD</i> , $\leq \text{Salary\_Max}$
Salary_Max	Float, not null, <i>USD</i> , $\geq \text{Salary\_Min}$
Remote_Pref	{Remote, Hybrid, Office}
City	String, not null, <i>cities in Maine</i>
County	String, not null, <i>counties in Maine</i>
Zip_Code	Int, not null, <i>zip-codes in Maine</i>
Posted_At	Timestamp, not null
Expires_At	Timestamp, not null
Estimated_Start_Date	Date, not null
Is_Expired	Bool, derived from Expires_At

### Relationships:

JOB_APPLICATION Type: Binary Members: USER, JOB Cardinality: *.*	
Job_ID	Primary key
User_ID	Primary key
Applied_At	Timestamp, not null
Referred_By	Foreign key, references USER
Status	{External, Received, Under_Review, Interview_Scheduled, Denied, Accepted}

HAS_EDUCATION Type: Binary Members: STUDENT_ALUM, EDUCATION Cardinality: 1..*	
N/A	N/A

POSTS_JOB Type: Binary Members: AGGREGATION(RECRUITER & EMPLOYER) & JOB Cardinality: 1..*	
N/A	N/A

WORKS_AT Type: Binary Members: USER, EMPLOYER Cardinality: *.* *Partial Participation for STUDENT_ALUM *Total Participation for RECRUITER	
N/A	N/A

REQUIRES_SKILL Type: Binary Members: JOB, SKILL Cardinality: *.*	
N/A	N/A

HAS_SKILL Type: Binary Members: STUDENT_ALUM, SKILL Cardinality: *.*	
N/A	N/A

USES_SKILL Type: Binary Members: RESOURCE, SKILL Cardinality: *.*	
N/A	N/A