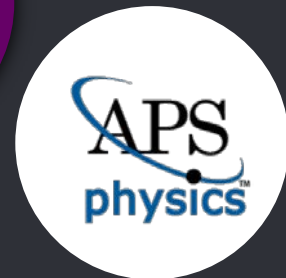


Saksham Prajapati
APS Public Engagement Intern

MATCHING WITH CODING

Alexandra (Allie) Lau – Public Engagement Program Manager
Nicole Schrode – Program Manager
Claudia Fracchiolla – Head of Public Engagement
Phoebe Sharp – Intern/ contractor





Hello!

I AM SAKSHAM PRAJAPATI

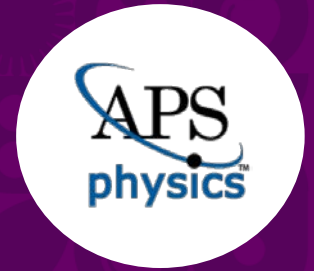
International Student from Nepal

University of Missouri – St. Louis

Astrophysics with CS minor



PHYSICISTS
TO-GO



Matching Teachers with Physicists

- Classroom Experience from Physicists reference
- Early exposure to Science
- Building interest for STEM career

- How did we match in the past

- Sign up forms for teachers and physicists
- Final excel sheet
- Manual Matching
- Email to notify

- Feedback from Last year

- Time zone Issue

- Science Communication

- Suggestion to improve process of matching

Creating Sign up for 2022

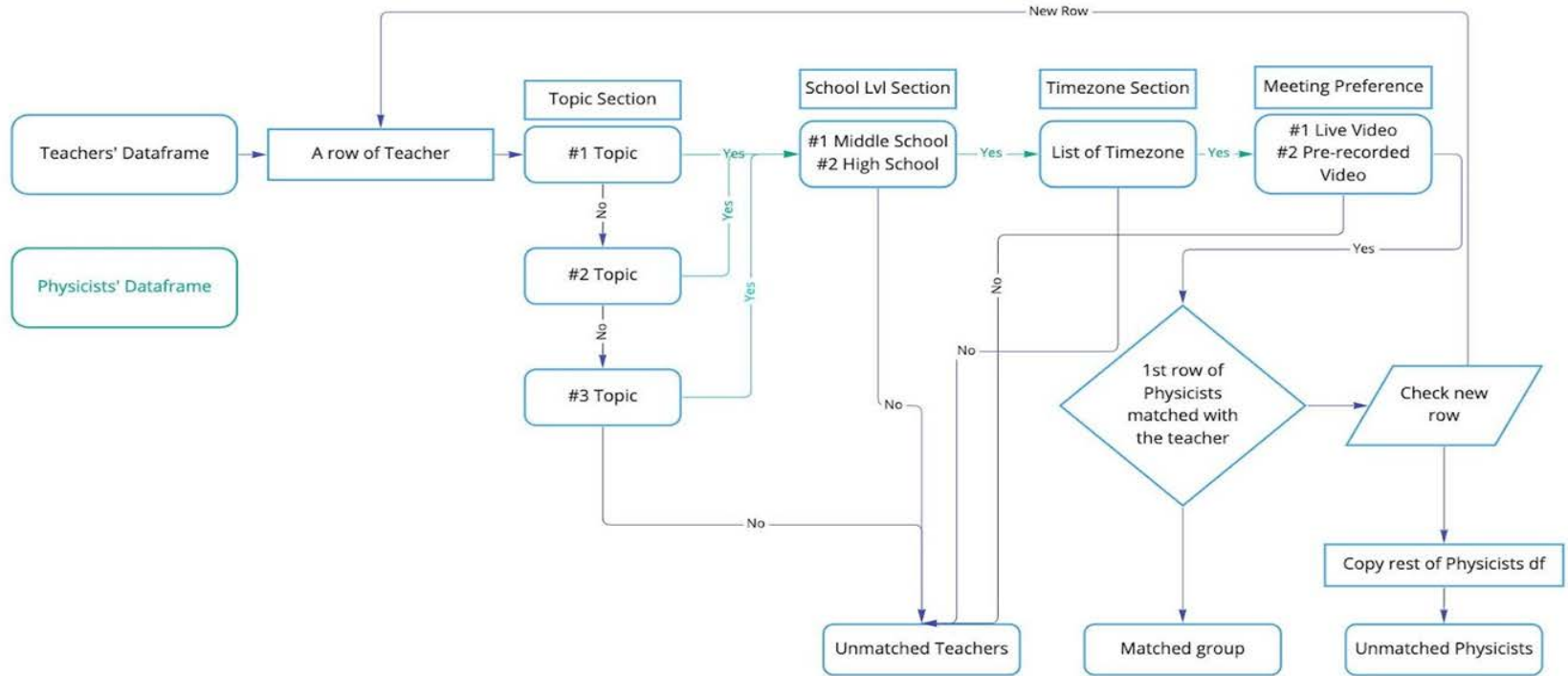
- Multiple Topics Option
 - Three choices on the basis of prioritization
- Time zone option
- Pre - recorded or Live - video
- School Level
 - Middle School
 - High School
- Teacher's Physics/ Science class level

Physics Content	Application of Physics
Quantum	Science/ Engineering Practices
Astronomy	STEM based career
Earth Science	Physics in Everyday life
Electricity & Magnetism (etc.)	

● Fixing with Coding

- Creating a Python Program
- Matching Parameters:
 - Topics
 - Meeting Preference
 - Time zone
 - School Level
- Excel Sheet is created
- Email Program

Flowchart of Program



Script Screenshot

```
PTG.py > ...
54 #----- start of program -----
55 teachers_df = pd.read_excel(teacher_file_name)
56 physicists_df = pd.read_excel(physicists_file_name)
57
58 def topic_filter(topic):
59     matched = [
60         True if topic in physicists_topic.split(',') else False
61         for physicists_topic in physicists_df[physicists_topic_header]
62     ]
63
64     return pd.Series(matched)
65
66 def location_filter(location):
67     matched = [
68         True if location in matched_location.split(',') else False
69         for matched_location in matched_df[physicists_location_header]
70     ]
71
72     return pd.Series(matched)
73
74 def school_filter(school):
75     matched = [
76         True if school in matched_school.split(',') else False
77         for matched_school in location_df[physicists_school_header]
78     ]
79
80     return pd.Series(matched)
81
82 def meeting_filter(meeting):
83     matched = [
84         True if meeting in matched_meeting.split(',') else False
85         for matched_meeting in school_df[physicists_meeting_header]
86     ]
87
88     return pd.Series(matched)
89
90 #----- list for matched -----
91 teachers_name = []
92 teachers_email = []
93 physicists_name = []
94 physicists_email = []
95 common_topic = []
96 topic_p = []
97 topic_t = []
98 timezone_p = []

email_cc.py > ...
57 physicist_name = physicists_names[i]
58 to = teacher_emails[i]
59 cc = physicists_emails[i]
60
61 common_topic = common_topics[i]
62 priority_number = priority_numbers[i]
63 month = months[i]
64 meeting = meeting_preferences[i]
65 school = school_lvis[i]
66
67 #----- Email body -----
68 msg = MIMEText('alternative')
69 msg['Subject'] = "You've been matched with Physicist To-Go"
70 msg['To'] = to
71 msg['Cc'] = cc
72
73 html_message = """\
74 <head> </head>
75 <body>
76 <p>
77     Hi {teacher_name}, <br>
78     {physicist_name} will be the physicists visiting your class! Your priori
79     has been selected to match you with {physicist_name} over a {meeting} fo
80     {physicist_name} to pick a day/time for your visit. They are CC'd to thi
81
82     More information: <br>
83     <ul>
84     <li>Example 1</li>
85     <li>Example 2</li>
86     <li>Example 3</li>
87     </ul>
88
89     Once you've scheduled your visit, let us know here <a href="www.google.c
90
91     If you have any questions or need additional information, please contact
92     <br>
93     Thanks and we look forward to hearing about your visit! <br>
94     Physicist To-Go Team
95
96     </p>
97 </body>
98 """
99
100 rcpt = [to] + [cc]
101
102 msg.attach(MIMEText(html_message, 'html'))

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER VARIABLES
reply: retcode (250); Msgs: b'2.0.0 OK 1659495125 cm12-2002ba05622a250c00b0031eaabd21175m10181674qtb.12 - gsmt'
data: (250, b'2.0.0 OK 1659495125 cm12-2002ba05622a250c00b0031eaabd21175m10181674qtb.12 - gsmt')
Email sent!
Thank you for using this....
prajapati@aps--sprajapati Matching model testing %
```

Final Excel Sheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Physicists Name	Email	Topic	Type of Visit	Time Zone	School Level													
2	Athira Vijayakur	athira	Career Path	Live Video	Central, Hawaii	High School													
3	Bruce Strauss	bstrau	Career Path	Live Video	Central, Mounta	Middle School													
4	Josephine Wong	joswo	Career Path	Pre-recorded, Li	Mountain	High School													
5	Michelle Dolins	dolins	Quantum/Quan	Pre-recorded	Alaska	High School													
6	Rebecca Rapp	rrapp	Quantum/Quan	Pre-recorded	Alaska	Middle School													
7	Rene Ong	rene@	Career Path	Live Video	Mountain	High School													
8	Ryan McGorty	rmcgo	Career Path	Live Video	Mountain, Alask	Middle School													
9	Shiva Agarwal	shiva.	Career Path	Live Video	Central, Mounta	High School, Middle School													
10	Thomas Gredig	thom	Career Path	Pre-recorded, Li	Central, Mounta	Middle School													
11	Artemis Spyrou	spyrou	Quantum/Quan	Pre-recorded, Li	Central, Pacific,	High School													
12	Babak Seradjeh	babak	Career Path	Pre-recorded, Li	Pacific	Middle School													
13	Brian Thomas	brian.	Career Path	Pre-recorded, Li	Pacific	High School, Middle School													
14	Julie Roche	rochej	Career Path	Pre-recorded, Li	Mountain	High School													
15	Partha Chowdh	parthe	Career Path, Top	Pre-recorded, Li	Central, Mounta	Middle School													
16	Abdul Malmi Kai	amalnr	Career Path	Live Video	Central, Eastern	Middle School													
17	Adrian Belanger	adrian	Career Path	Live Video	Central, Hawaii,	High School, Middle School													
18	Ahmed Ismail	aismai	Quantum/Quan	Live Video	Central, Pacific	High School													
19	Ako Jamil	ako.ja	Career Path	Live Video	Central, Pacific,	Middle School													
20	Athira Vijayakur	athira	Quantum/Quan	Live Video	Central, Mounta	High School													
21	Brian Hendersor	bshen	Career Path	Live Video	Pacific	Middle School													
22	Bronson Messer	brons	Career Path	Live Video	Pacific, Alaska, H	High School													

← ▶ |
 matched group |
 unmatched teachers |
 unmatched physicists +

Ready 📊 📄 📏 — + 100%

● Challenges

- Sometimes you don't have to go according to the plan
- New Programming Language
 - Stack Overflow and YouTube



Future of Physicists To Go

Making a better platform

- Create profile for Physicists and Teachers
- Ability to browse through profiles
 - Filter option
- Chat embedded website



Thank You!
ANY QUESTIONS?

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