Trigger-Action Programming in the Wild: An Analysis of 200,000 Recipes



<u>Blase Ur</u>, Melwyn Pak Yong Ho, Stephen Brawner, Jiyun Lee, Sarah Mennicken, Noah Picard, Diane Schulze, Michael Littman







Universität Zürich^{vz}^H







if this then that



Recipe

if this then that



Recipe





Recipe







SmartRules
• —
●●○○ AT&T Wi-Fi 중 1:39 AM し オ ≱ 100% ゲ
Cancel Rule Save
Garage Left Open
if this happens:
GARAGE DOOR IS OPENED
AND STAYS THAT WAY FOR 20 MINUTE(S)
=
while this is true (optional):
AWAY IS ACTIVE
then do this:
SEND PUSH NOTIFY & SMS
MESSAGE: YOU LEFT THE GARAGE OPEN!
DELETE RULE

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Microsoft Flow - Microsoft Flow Preview O Search Browse Learn~ Save my email Create a to-do item attachments to a in Wunderlist for SharePoint important emails document library S) By Microsoft By Microsoft Used 401 times Used 371 times When a file is For new GitHub uploaded to a folder issues send a Slack 1 in OneDrive, initiate notification a backup to Azure Storage container 10 01 # By Microsoft By Microsoft

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if this then that

What are people creating on **FTT**?

• Collect all publicly shared IFTTT recipes

Collect all publicly shared IFTTT recipes

IFT	Search	٩	My Recipes	Browse b	Channels _upod_io *
Pub ∉ Back	lish this Recipe to My Recipes	2			
A fe	w quick tips for p	oublishing great	t Recipes:		
• Hi	de fields that are	not crucial to h	ow the Recipe v	vorks	
• Yo	u can edit field l	abels to make R	ecipes easier to	unders	tand
• Yo	ur Recipe may b	e edited by the	IFTTT Team		

Recipe Title



Collect all publicly shared IFTTT recipes
 Using Selenium & ChromeDriver

Collect all publicly shared IFTTT recipes

– Using Selenium & ChromeDriver

– As of September 6, 2015

- Collect all publicly shared IFTTT recipes
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 - Compare to 2013 dataset (CHI 2014)

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- Characterize recipes & ecosystem

- Collect all publicly shared IFTTT recipes
 - Using Selenium & ChromeDriver
 - As of September 6, 2015
 - Compare to 2013 dataset (CHI 2014)
- Characterize recipes & ecosystem
- Share dataset with other researchers





Trigger

Tomorrow's forecast calls for

This Trigger monitors changes in tomorrow's forecasted weather condition.

Get an email if there will be rain in your area tomorrow

by solomakhin 88k adds



•

Rain

Action

Send me an email

Example: Trigger Channel



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Example: Trigger



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<mark>ắ</mark> Condition Rain ▪

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Example: Action Channel



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by <mark>solomakhin</mark> 88k adds

Condition Rain

Action

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Example: Action



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Get an email if there will be rain in your area tomorrow

by <mark>solomakhin</mark> 88k adds



Rain •

Action

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Example: Author



Trigger

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Condition

Rain •

Action

Send me an email

Example: Title



Trigger

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•

Rain

by solomakhin 88k adds

Action

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Example: Adoptions



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Condition

Rain •

Action

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• Huge growth from $2013 \rightarrow 2015$

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 -67,820 recipes → 224,590 recipes

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- Many authors, but few are prolific
 Only 2.5% of authors shared 10+ recipes
- Many connections are being made
 - 15,961 unique trigger-action combinations

• IFTTT is big...and growing

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- IFTTT is big...and growing
- Adoptions vs. duplicated functionality

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by gvillalona

10 90



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