

IoT-Hackathon

StayFocussed

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GitHub Repository: https://github.com/jules185/IoT_Hackathon/wiki

Internet of Things, Prof. Decker, 13.06.2017



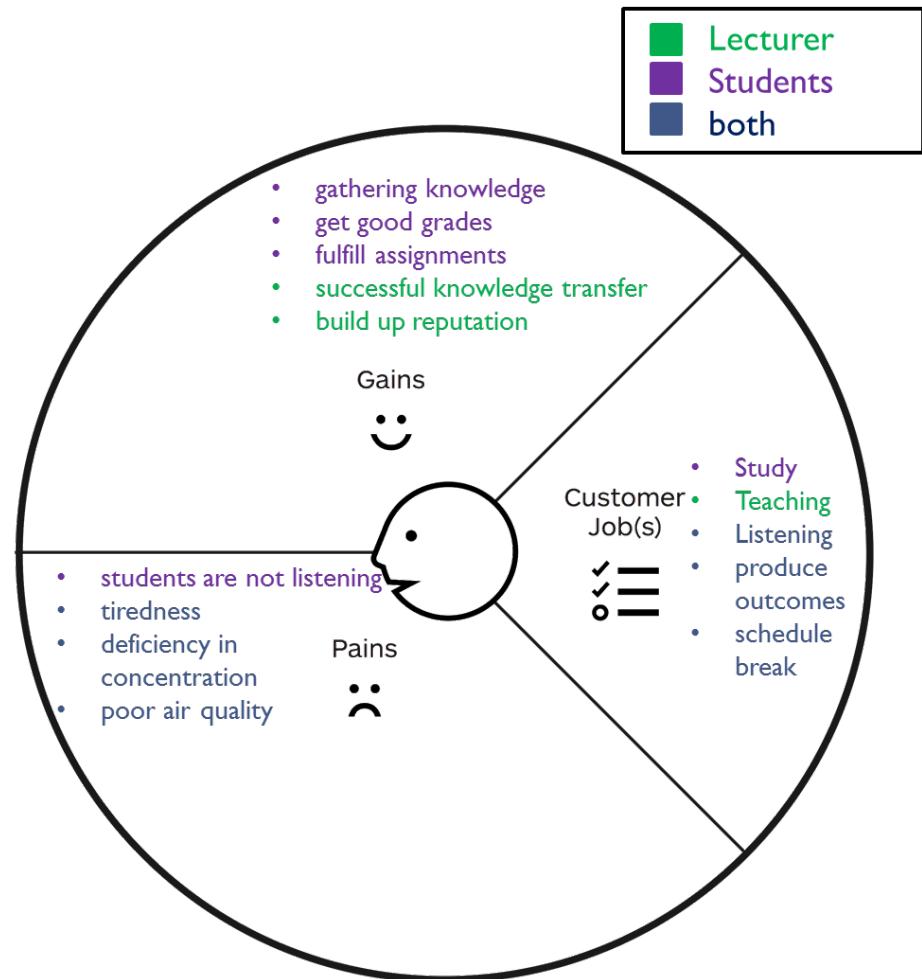
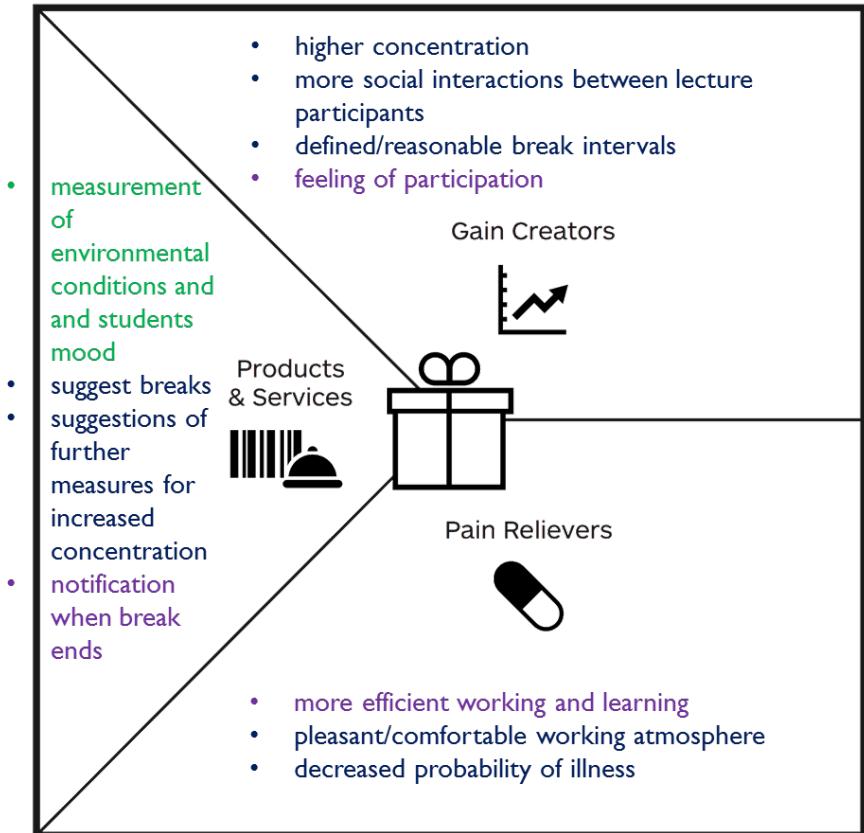
Project Goal

Develop a service enabling improved concentration during lectures, more flexible scheduling of breaks, enhanced productivity, unified break start and ends.

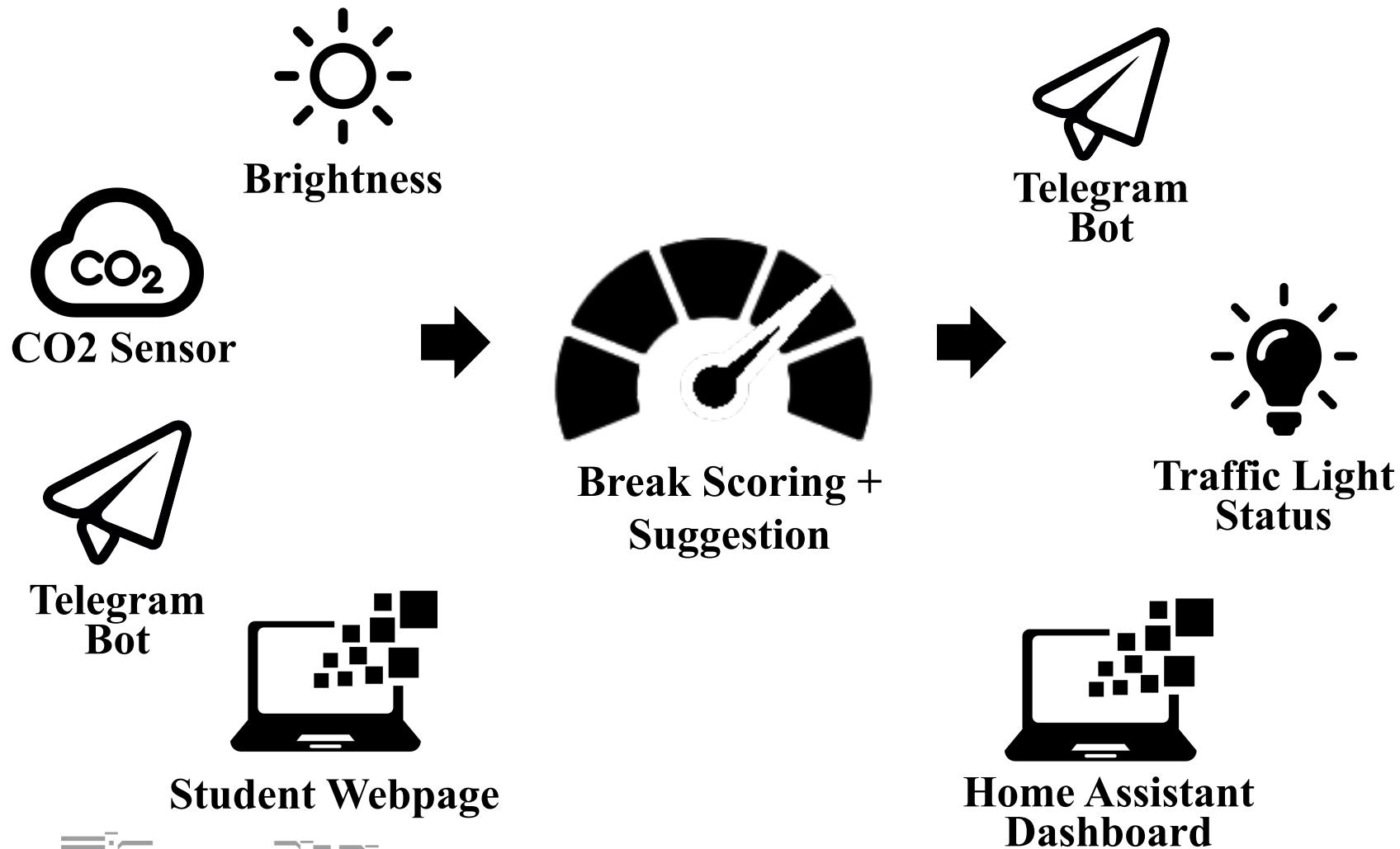
The service should be based on human and sensor input and should give break and other recommendations to the lecturer.



Value Proposition Design



Minimum Viable Product

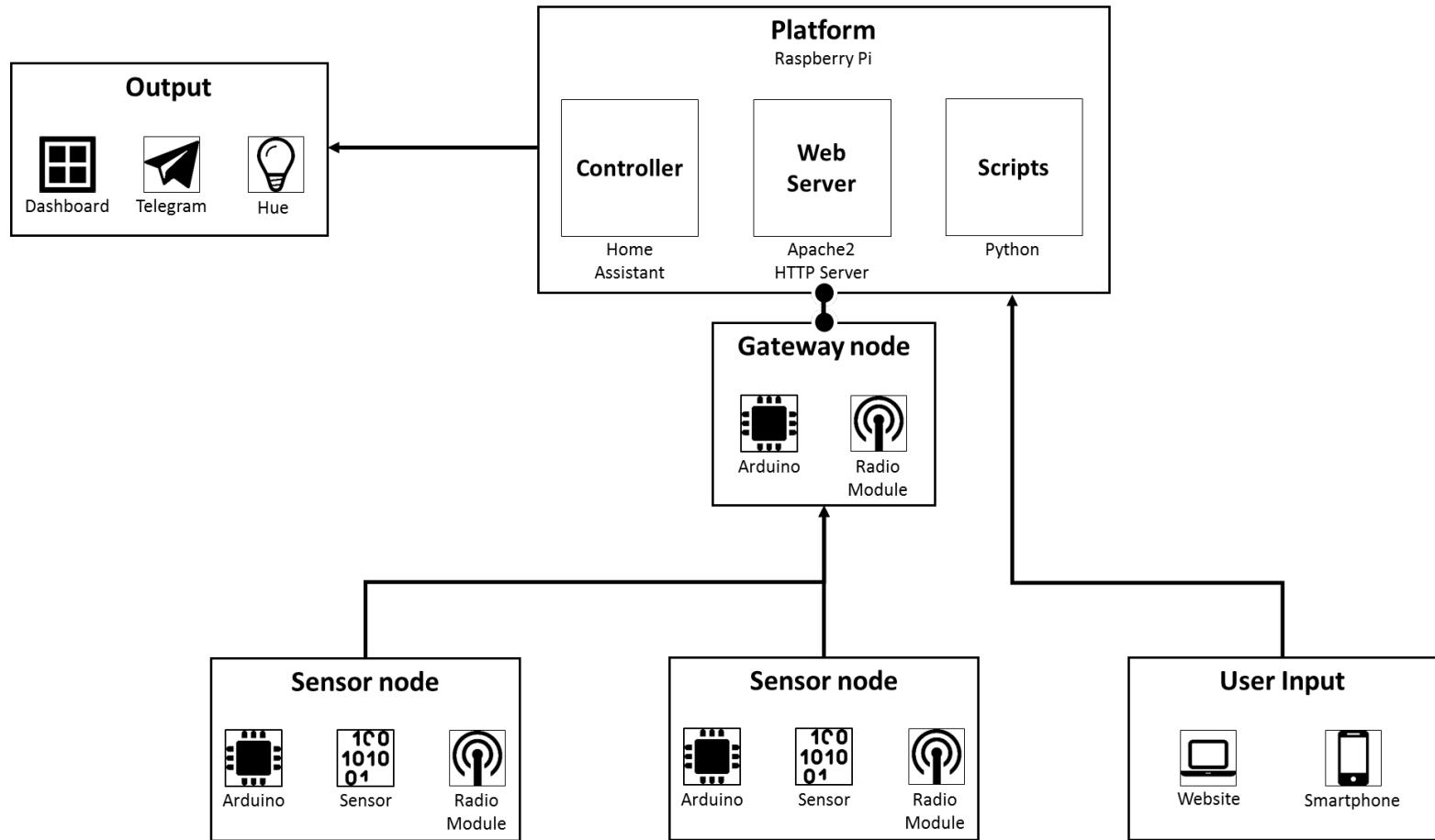


BUSINESS MODEL CANVAS

Business Model Canvas

Key Partners <ul style="list-style-type: none"> • HHZ • Reutlingen University • Other universities • Lecturers 	Key Activities <ul style="list-style-type: none"> • Aggregate sensor information • Make suggestions to enhance learning process • Calculate Score 	Value Proposition <ul style="list-style-type: none"> • More alert students • Better break scheduling • Improvement of work atmosphere • Measurement of environmental conditions and students mode • Suggest breaks • Suggestions of further measures for increased concentration • Notification when break ends • Image improvement for university 	Customer Relationships <ul style="list-style-type: none"> • Online (GIT) • Relax • Word-of-Mouth-Marketing 	Customer Segments <ul style="list-style-type: none"> • Students • Professors • Academic workers • Visitors of HHZ
Key Resources <ul style="list-style-type: none"> • Raspberry Pi • Arduino • Website • Telegram Bot • Home Assistant Dashboard • Scoring algorithm • Sensor network 	Channels <ul style="list-style-type: none"> • Website • Dashboard • Telegram Bot 			
Cost Structure <ul style="list-style-type: none"> • Power bill • Cost of HW infrastructure • Network • Website hosting • Maintenance • Sensor installation • Setup and administration of lecturer accounts 	Revenue Streams <ul style="list-style-type: none"> • Better image for HHZ • Marketing opportunity • Advertising • Licensing 			

Architecture



Scoring and Output

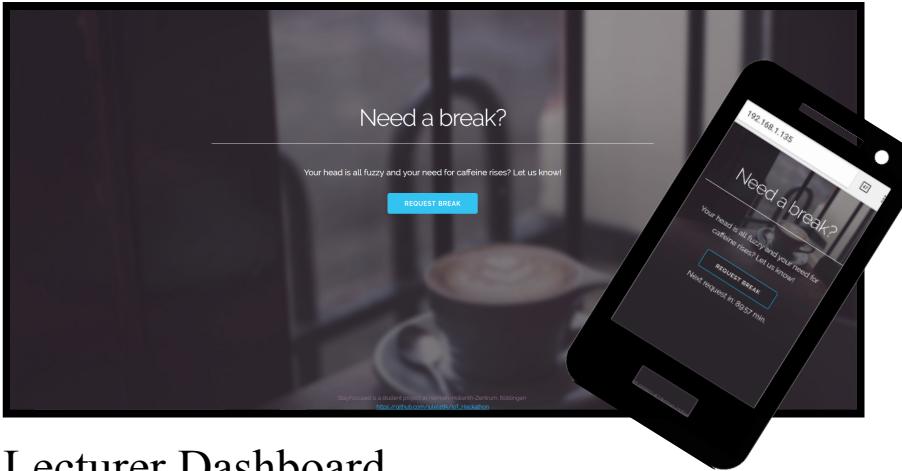
Scoring and Output

Score = Time in Minutes			
Score += Number of Break Request * 5			
> 600 Lux (bright)	200 - 600 Lux (medium)	< 200 Lux (dark)	Brightness
Score += 0	Score += 10	Score += 20	
		Brightness Notification	
< 600 ppm (good)	600 - 1000 ppm (medium)	> 1000 ppm (bad)	CO2 Concentration
Score += 0	Score += 25	Score += 50	
	true	false	
	CO2 Notification		
Score < 50	50 < Score < 100	Score > 100	Score Output
Hue = green	Hue = yellow	Hue = red	Hue = red
		Lecturer Notification via Dashboard	Lecturer Notification via Dashboard

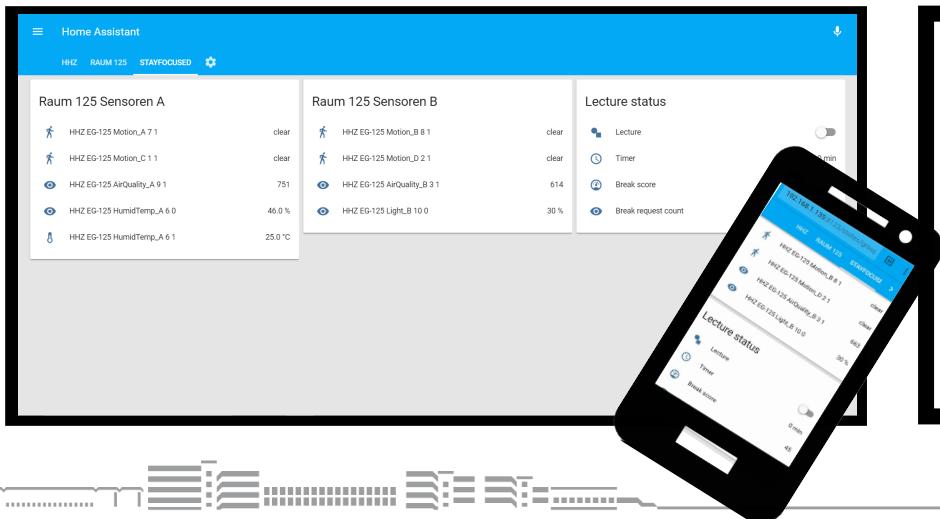


Service Design

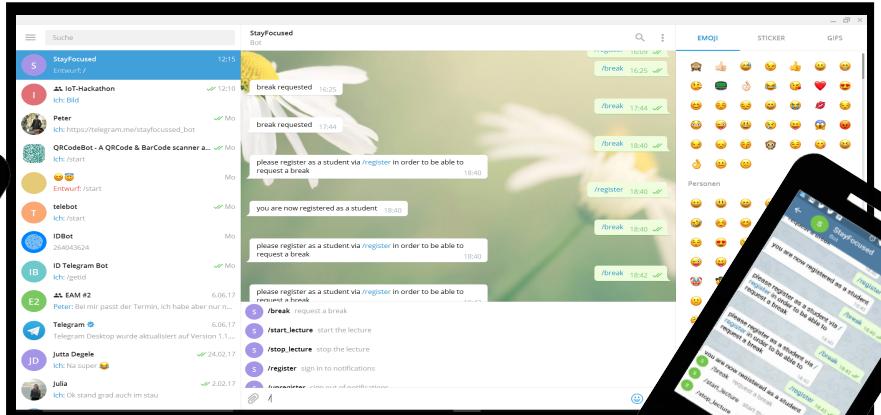
Student Webpage – Break Button



Lecturer Dashboard



Telegram StayFocussed Bot



Sensors and Hue Traffic Light



Lecturer Access StayFocussed



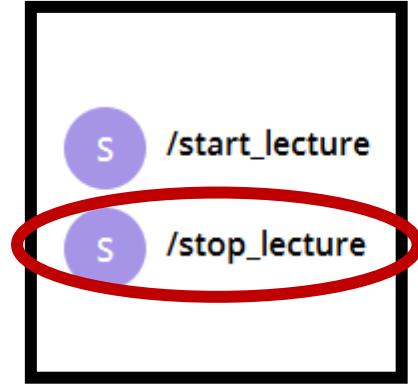
1. Scan QR Code or visit
https://telegram.me/stayfocussed_bot



2. Open in Telegram



3. On first visit click „Start“ and send `/start_lecture` to StayFocussedBot to start the lecture



4. Receive break and learning experience suggestions. Stop the lecture with `/stop_lecture`

Visit Dashboard for Analytic Insights:

Scan QR Code or visit
<http://192.168.1.135:8123/states/group.stayfocused>



Prerequisite:
Your Telegram ID needs to be hardcoded to be authorized as a lecturer.



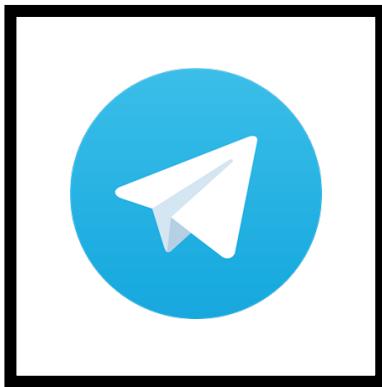
DEMO



Student Access StayFocussed



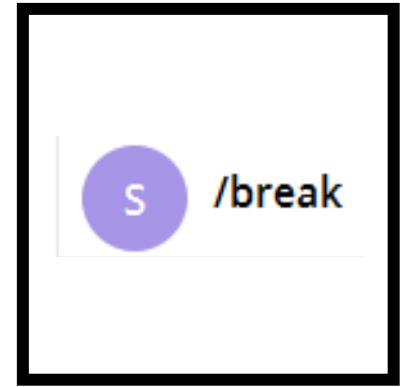
1. Scan [QR Code](#)
or visit
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2. Open in [Telegram](#)



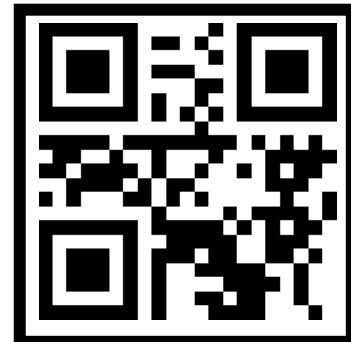
3. On first visit
click „Start“ and
send [/register](#) to
StayFocussedBot
to register for the
current lecture



4. Request [/break](#)
or get message
when lecture break
is over

Don't have Telegram? Use our [Webpage](#) ...

Scan [QR Code](#) or visit
https://telegram.me/stayfocussed_bot



Thank you!

