Criteria	Testing Method	Expected Result	Met?
Be able to join the game with a game code	Click "Join Game" of the front page	The system should be directed the join game webpage	Yes
	providing the generated game code and try joining	System should show "You are in game" text appear on screen if code is valid The system should show "invalid code" if code is entered incorrectly	Yes If code entered correctly: If code entered incorrectly:
Be able to see and answer the questions	Join a hosted game, after game started	System should show the current question with answer	Yes

		choices in which users should be able to press and submit	
Be able to see time remaining for each question shown on screen	Join a hosted game, after game started	System should show a countdown timer which indicates the time remaining for answering this question	Yes, number at the top indicated time remaining.
User will not be able to answer questions after time limit	Join a hosted game and not answer a question within the limited time	Buttons should turn unresponsive and users will not be able to interact with the page	Yes
User will not be able to change their	Join a hosted game and answer a	Buttons should turn unresponsive and users	Yes, buttons turned unresponsive after answering despite time not being up.

answers after answering	question within limited time	will not be able to interact with the page	7 **price of bitcoin**
Be able to see the explanation of the correct answers	Join a hosted game and answer a question. Admin then presses "show explanation" button	System should show why the explanation to the correct answer when admin presses "show answer" button	Yes Before admin presses "show answer" button 0 **price of bitcoin** After admin presses "show answer" button 0 **price of bitcoin** **It is worth 50k right now**

Be able to see an end game page indicating that the quiz has ended on screen	End a hosted game	System should redirect constants to an end game screen after admin presses "end game" button	Yes **Thats it folks! Thank you all for attending years quiz! The winners will be annouced shortly!**
Be able to show the game code and game name on screen	Host a game	System should show the game code and game name when the admin hosts the game	Yes Game / Code TriviaNight2021 / 264763 **WELCOME TO TRIVIA NIGHT!**
Be able to display the questions on screen	Host a game and start the game	The current question should be shown on the hosts screen	Yes **Question:** price of bitcoin

	Admin clicks "next question" button	The question displayed on screen should change to the next question	Yes
			Question: Who is the owner of Tesla?
Be able to display a page indicating that the quiz has ended on screen.	End a hosted game	System should redirect the host's screen to an end game page	Yes
			Thats it folks! Thank you all for attending years quiz! The winners are...
Be able to add, delete, edit questions (including the duration, correct answer, explanation of why etc)	Go into question hub and try adding, deleting, and editing questions	A question should be added by pressing the add button When deleting questions, system should display a confirmation message when pressing the	Yes

Order	Question	Choice A	Choice B	Choice C	Choice D	Time Limit	Correct Answer	Explaination	
1	price of bitcoin	$50	$50k	$500k	$5m	10	a	It is worth 50k right now	Edit X
2	Who is the owner of Tesla?	Tommy Wang	Kevin MA	Andrew Luk	Elon Musk	10	d	Elon Musk created Tesla in 2012	Edit X
3	asd	asd	asd	asd	asd	5	a	asd	Edit X
4	BB	BB	BB	BB	BB	10	a	bb	Edit X
5	nnnn	nnn	nnn	nn	nnn	10	a	nnn	Edit X

Go Back   Add question

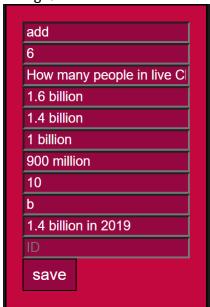After pressing add:

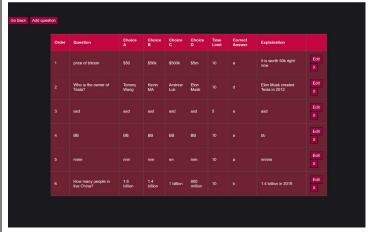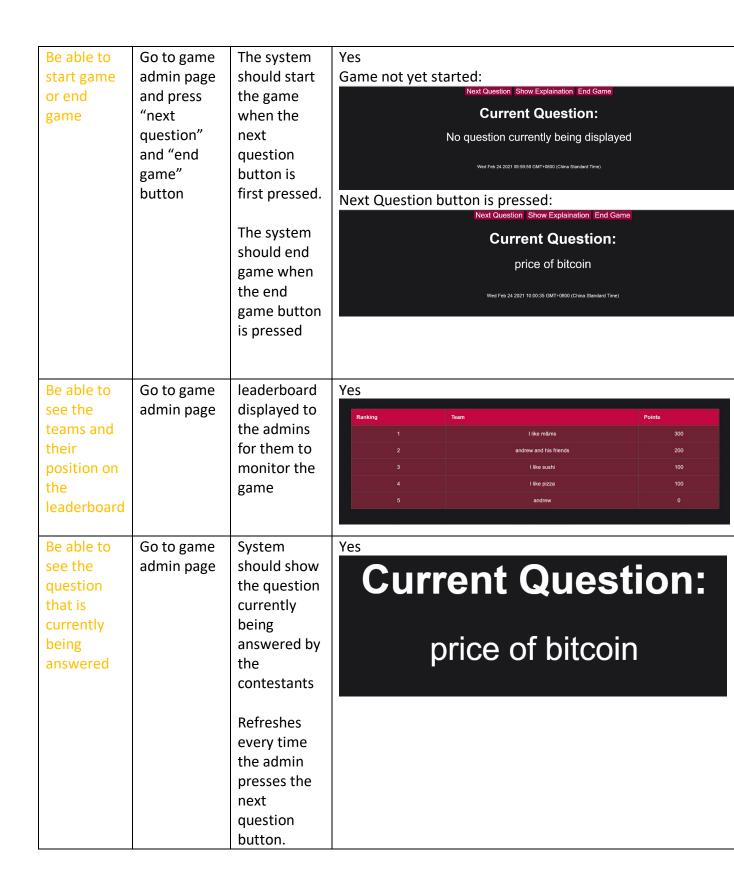| | | delete button

The answer choices, question, explanation and time limit for each question can be changed and edited |

Filling it in:

After pressing save, you can see the new question has been added:

After pressing edit button, the dialog pops up again with all |

values filled in.

edit

6

How many people in live Cl

1.6 billion

1.4 billion

1 billion

900 million

10

b

1.4 billion in 2019

2431804.331880163

save

After changing the values and pressing save, question updates:

Order	Question	Choice A	Choice B	Choice C	Choice D	Time Limit	Correct Answer	Explaination	
1	price of bitcoin	$50	$50k	$500k	$5m	10	a	It is worth 50k right now	Edit X
2	Who is the owner of Tesla?	Tommy Wang	Kevin MA	Andrew Luk	Elon Musk	10	d	Elon Musk created Tesla in 2012	Edit X
3	asd	asd	asd	asd	asd	5	a	asd	Edit X
4	BB	BB	BB	BB	BB	10	a	bb	Edit X
5	nnnn	nnn	nnn	nn	nnn	10	a	nnnnn	Edit X
6	How many people in live China?	1.4 billion	20 billion	30 billion	40 billion	10	a	1.4 billion in 2019	Edit X

After pressing delete, confirmation pops up:

Apps Index of / wp-conte... CompSci File Cabinet   UW Computer Science... Trivia Night

localhost:8080 says

Are you sure you want to remove this question?

OK   Cancel

Go Back   Add question

Order	Question	Choice A	Choice B	Choice C	Choice D	Time Limit	Correct Answer	Explaination	
1	price of bitcoin	$50	$50k	$500k	$5m	10	a	It is worth 50k right now	Edit X
2	Who is the owner of Tesla?	Tommy Wang	Kevin MA	Andrew Luk	Elon Musk	10	d	Elon Musk created Tesla in 2012	Edit X
3	asd	asd	asd	asd	asd	5	a	asd	Edit X
4	BB	BB	BB	BB	BB	10	a	bb	Edit X
5	nnnn	nnn	nnn	nn	nnn	10	a	nnnnn	Edit X
6	How many people in live China?	1.4 billion	20 billion	30 billion	40 billion	10	a	1.4 billion in 2019	Edit X

If confirmed, question delete:

Order	Question	Choice A	Choice B	Choice C	Choice D	Time Limit	Correct Answer
1	price of bitcoin	$50	$50k	$500k	$5m	10	a
2	Who is the owner of Tesla?	Tommy Wang	Kevin MA	Andrew Luk	Elon Musk	10	d
3	asd	asd	asd	asd	asd	5	a
4	BB	BB	BB	BB	BB	10	a
5	nnnn	nnn	nnn	nn	nnn	10	a

Be able to see questions from past years	Click on "View past years questions"	System should redirect the host's screen to an end game page	Yes
Be able to host game	Press "host game" button	The system should host a game when the "host game" button is clicked An auto generated game code should then appear	Yes

Go Back

Year	Question	Choice A	Choice B	Choice C	Choice D	Time Limit	Correct Answer	Explaination
2021	price of bitcoin	$50	$50k	$500k	$5m	10	a	It is worth 50k right now
2021	Who is the owner of Tesla?	Tommy Wang	Kevin MA	Andrew Luk	Elon Musk	10	d	Elon Musk created Tesla in 2012
2021	asd	asd	asd	asd	asd	5	a	asd
2021	BB	BB	BB	BB	BB	10	a	bb
2021	nnnn	nnn	nnn	nn	nnn	10	a	nnn
2020	What is the acceptance rate of Harvard in 2020	5%	8%	10%	15%	10	b	Harvard accepted 400 students out of 3600
2019	Who gave the famous "I am a donut" speach	Mink Li	John F. Kennedy	Tommy Wang	Marcus Cheung	10	a	JFK gave the speak in Berlin, Berliner in German means donut

Game	Code
TriviaNight2021	264763

WELCOME TO TRIVIA NIGHT!

Be able to start game or end game	Go to game admin page and press "next question" and "end game" button	The system should start the game when the next question button is first pressed. The system should end game when the end game button is pressed	Yes Game not yet started: Next Question button is pressed:
Be able to see the teams and their position on the leaderboard	Go to game admin page	leaderboard displayed to the admins for them to monitor the game	Yes
Be able to see the question that is currently being answered	Go to game admin page	System should show the question currently being answered by the contestants Refreshes every time the admin presses the next question button.	Yes

Be able to see the local time	Go to game admin page	System should show the local time.	Yes Wed Feb 24 2021 09:30:16 GMT+0800 (China Standard Time)
Be able to go to the next question of the quiz	Go to game admin page and press "next question" button	The "current question" on the admin page should change as well as the host and contestants screen.	Yes Next Question Show Explaination End Game **Current Question:** price of bitcoin Wed Feb 24 2021 09:58:31 GMT+0800 (China Standard Time) When next question is pressed: Next Question Show Explaination End Game **Current Question:** Who is the owner of Tesla? Wed Feb 24 2021 09:58:58 GMT+0800 (China Standard Time)
Be able to see the final leaderboard when game is ended	Go to game admin page and press "end game" button	System should redirect from admin page to a page displaying the final leaderboard and rankings.	**Final Rankings:** | Ranking	Team	Points
---	---	---
1	I like m&ms	300
2	andrew and his friends	200
3	I like sushi	100
4	I like pizza	100
5	bandrew	100	

Mink Li thinks my program is well made and is exactly what Interact needed. He states: "This is great, it meets all the criterions set. I love how straight forward this application is for the users and how the executive team can completely control the procession of the games." He also commented on the UI design saying that it is very simple and intuitive whilst at the same time aesthetic and how "the executive team shouldn't have any problems operating this application."

To further extend my product, Mink said "perhaps you add some features to make the quiz more interactive for the contestants." I think a good idea to achieve this would be adding a powerup feature that can be used when answering questions. An example of some powerups could be the ability to remove two incorrect answer choices and a power up that would award you 3 times the points for answering correctly but if answered incorrectly, it would deduct points from your score.

Mink also said when showcasing him the final product "for future Trivia Nights we are considering making the event more cohesive and organized by separating the questions into different categories" when I asked about how they might change the format of Trivia Night in the future. Even though this can be done right now by adjusting the order of the questions, it would be best if I extended my program so that the executive team can group the questions by sections, and at the end of each section a page can load on the hosts screen notifying that the quiz will be moving onto the next section.

Finally, to improve the overall user experience of the contestants, I think I can add some sound effects and simple animations to go along with the quiz such as with the countdown timer and when contestants submit an answer. These additions are extremely realistic and can increase the overall experience of the contestants and make Interact's Trivia Night more interactive.

WORD COUNT: 420