

# SYSTEM REQUIREMENTS SPECIFICATION

## Table of Contents

|                                    |           |
|------------------------------------|-----------|
| <b>Introduction</b>                | <b>3</b>  |
| Domain Description                 | 3         |
| SEF                                | 3         |
| International Research Council-IRC | 3         |
| Current System & its Limitations   | 4         |
| Current System                     | 4         |
| Project Goal                       | 5         |
| Objectives                         | 6         |
| <b>Overall Description</b>         | <b>7</b>  |
| User Needs                         | 7         |
| Assumptions & Constraint           | 8         |
| <b>Requirements of the System</b>  | <b>9</b>  |
| Stakeholders Analysis              | 9         |
| Admin                              | 9         |
| Researchers                        | 9         |
| Readers                            | 9         |
| Use Case diagram                   | 10        |
| Functional Requirements            | 11        |
| Nonfunctional Requirements         | 12        |
| <b>System modeling</b>             | <b>13</b> |
| Class diagram                      | 13        |
| EER Diagram                        | 14        |
| Activity Diagram                   | 15        |
| <b>User Interface</b>              | <b>16</b> |
| Flow Diagram (Wireframes)          | 16        |
| Mockups                            | 17        |
| <b>References</b>                  | <b>20</b> |

# Introduction

## Domain Description

### **SEF**

The Sustainable Education Foundation (SEF) is a volunteer-driven not-for-profit organization founded by a former Google Student Ambassador and alumnus of the University of Moratuwa, Akshika Wijesundara. SEF was founded with the short-term goal of making the Sri Lankan education system the most effective and most dynamic education system in the world with the help of a specialist global network of local and ex-pat Sri Lankans. SEF's long-term goal is to disrupt and democratize the global education system where it is available for everyone, in doing so, the foundation contributes to the United Nations' sustainable development goal of "Quality Education". You can visit our Facebook page to see our hub of activity and our website [sefglobal.org](http://sefglobal.org) for more details.

### **International Research Council-IRC**

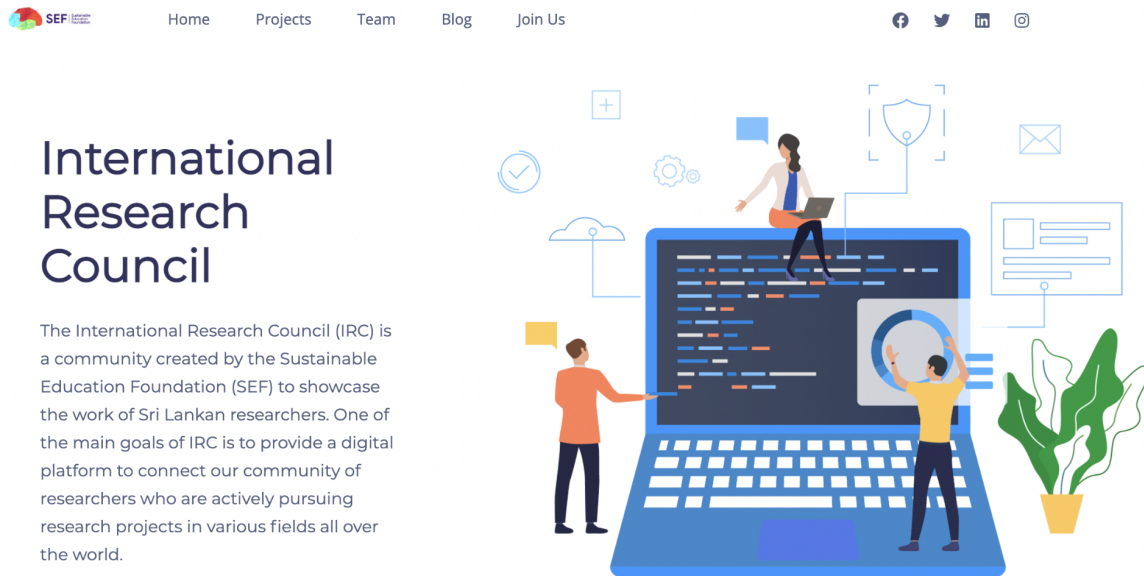
One of the major contributors to the lack of innovation in Sri Lanka is the lack of research. Therefore, we decided to promote research among Sri Lankan University students. As we progressed with OnLive and ScholarX, we realized there is a good pool of Sri Lankan researchers all around the world doing groundbreaking research. We wanted to tell their story to the local students so they would be inspired to pick research careers. In order to do this task, we created the International Research Council (IRC).

IRC is a community created by the Sustainable Education Foundation to showcase the work of Sri Lankan researchers who are spread all around the world. One of the main goals of IRC is to provide a digital platform to connect our community of Sri Lankan researchers who are actively pursuing research projects in various fields all over the world and make their research easily accessible and comprehensible to the masses.

We have gathered around 100+ researchers so far and published more than 25+ stories of Sri Lankan researchers through our social media channels.

## Current System & its Limitations

### Current System



IRC Page ([link](#))

#### 1. Finding researchers

1. Researchers will discover the webpage of IRC on the SEF website.
2. They will fill the form by clicking [signup](#) or sending an email to apply.
3. Admins will check those submissions manually and reach out to the researchers.

#### 2. Approaching researchers

After we found out, researchers. We approach them through their LinkedIn account and email by sending Invitation to join IRC with a [questionnaire form](#).

### 3 . Publishing Story

After getting responses from researchers, We make the stories using those answers given in the questionnaire form. We manually choose good quality content stories to publish(Not all responses from researchers are going to be published). Also when publishing a story We don't publish all questions and answers from the researcher's response, we only use some set of questions in the stories. After the editing and proofreading stories will be published on the [SEF Medium blog](#).

We usually publish five stories per month. After publishing those stories we share them on social media like Facebook and LinkedIn.We inform the researchers about the story by tagging in social media or sending messages.

Finally, we update the researcher's list on the IRC webpage.

### Limitations

Main focus problems -

1. The current IRC page lacks information about researchers.

Additional focus problems -

1. Get only a small amount of researchers through the sign-up form and approaching emails from researchers.

90% of researchers are found by manually using websites like ResearchGate, Google scholar, Navigating through LinkedIn groups and some other ways.

## Project Goal

## Objectives

# Overall Description

## User Needs

## Assumptions & Constraint

# Requirements of the System

## Stakeholders Analysis

1. Admins
2. Researchers
3. Readers

## Use Case diagram

## Functional Requirements

## Nonfunctional Requirements

# System modeling

## Class diagram

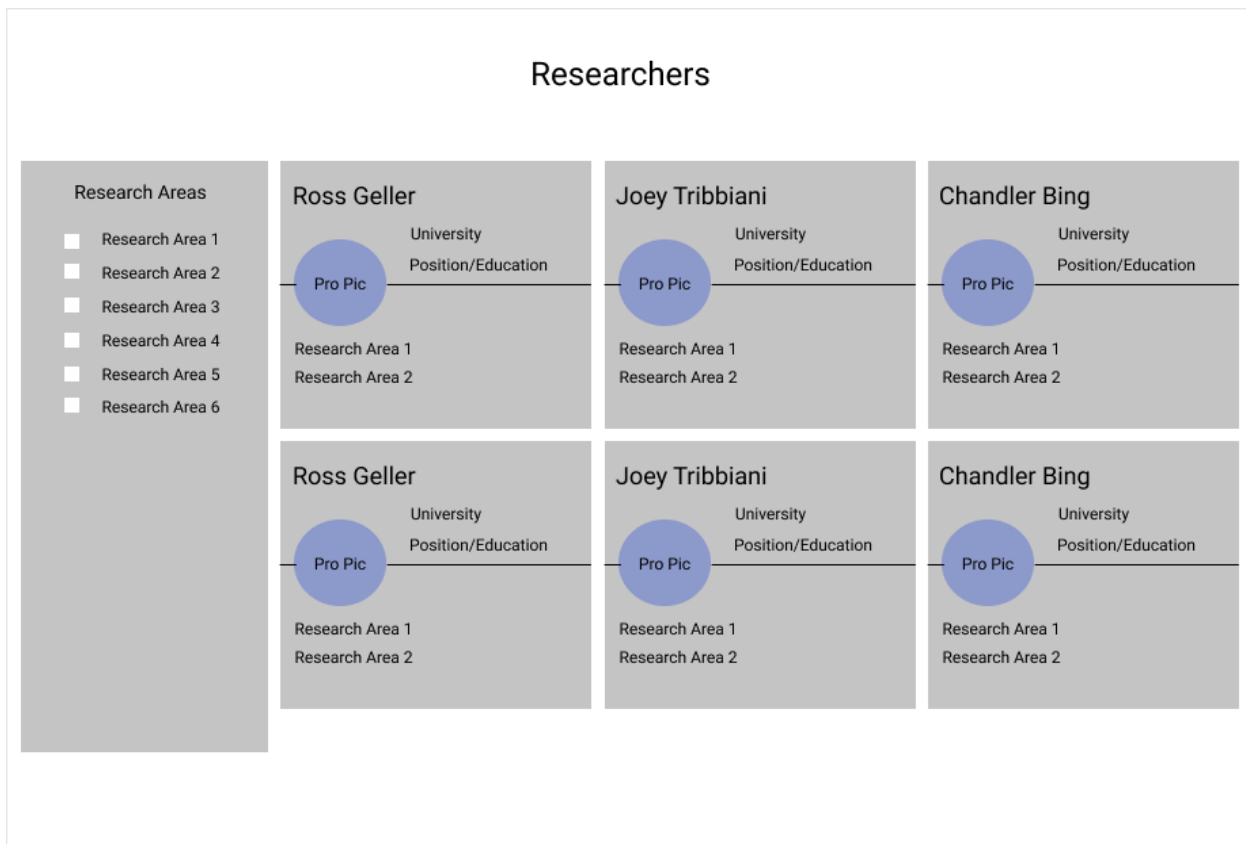
## EER Diagram

## Activity Diagram

# User Interface

## Flow Diagram (Wireframes)

1. Image 1 will be the replacement for the current researchers' section.



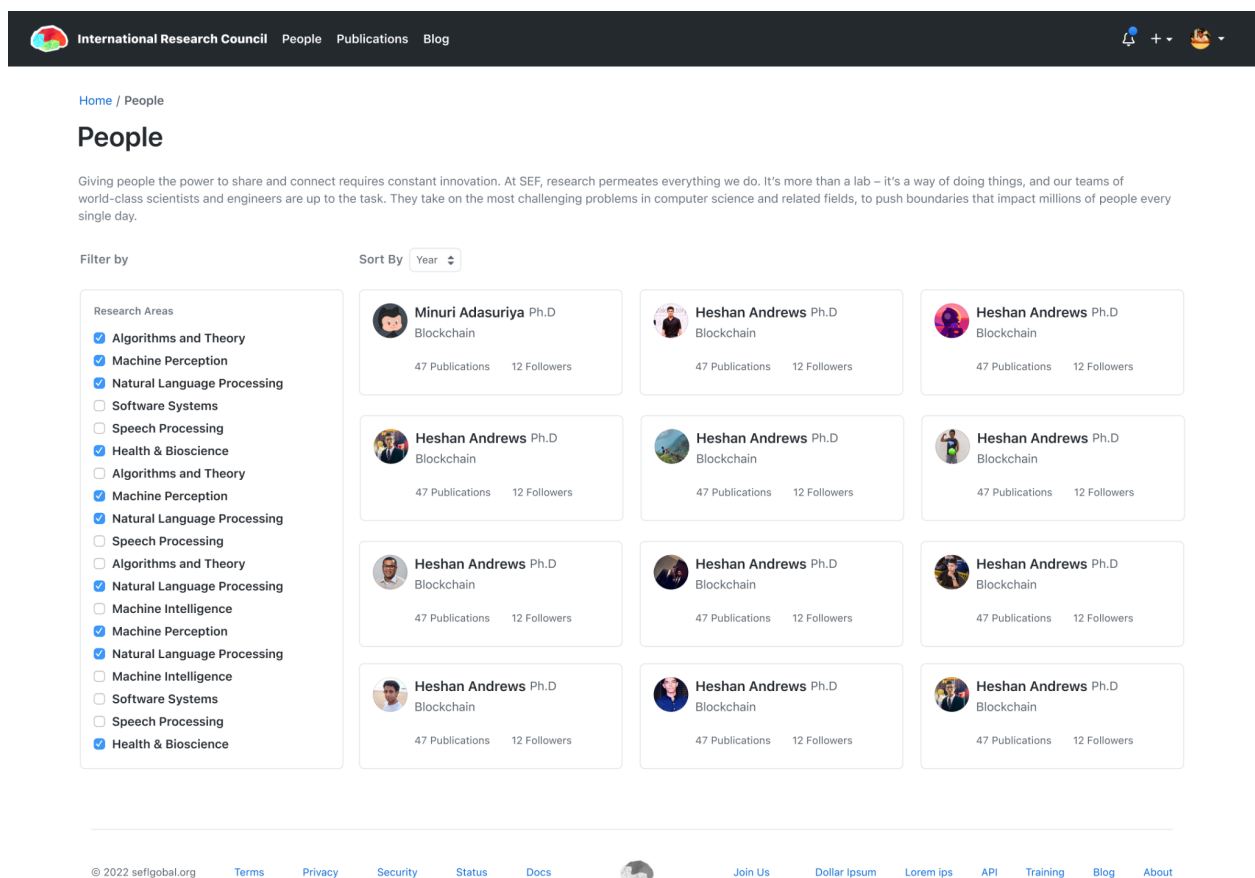
*Image 1*

# Mockups

- Editable Figma project
- Prototype

## Previews:

### 1. People



2. Profile



International Research Council

[People](#) | [Publications](#) | [Blog](#)









[Home](#) / [People](#)

Minuri Adasuriya

Ph.D

47 Publications

Google Scholar

Social

Publications

Filter by

Sort By 

Alphabetical Order

Research Areas

☒ Algorithms and Theory

☒ Machine Perception

☒ Natural Language Processing

☐ Machine Intelligence

☐ Software Systems

☒ Natural Language Processing

☐ Machine Intelligence

☐ Software Systems

☐ Speech Processing

☒ Natural Language Processing

☐ Software Systems

☐ Speech Processing

☒ Health & Bioscience

Year

☒ 2021

☒ 2020

☒ 2019

☐ 2018

☐ 2017

☐ 2017

Coincidence, Categorization, and Consolidation: Learning to Recognize Sounds with Minimal Supervision

☆

Paper

Proceedings of ICASSP 2020 (2020) (to appear)

The dataset is designed to contain minimal biases and has detailed annotations for the different types of reasoning over the spatio-temporal space of video. Dialogues are synthesized over multiple question turns, each of which is injected with a set of cross-turn semantic relationships. We use DVD to analyze existing approaches, providing interesting insights into their abilities and limitations.



Aren Jansen, Dan Ellis, Shawn Hershey, R. Channing Moore, Manoj Plakal, Ashok Popat, Rif A. Saurous

Adaptive Multi-Channel Signal Enhancement Based on Multi-Source Contribution Estimation

☆

Paper

Proceedings of ICASSP 2020 (2020) (to appear)

Automated solutions to multi-channel signal enhancement for improving speech communication in noisy environments has become a popular goal among the research community. Many proposed approaches focus on adapting to speech signals based on their temporal characteristics but these methods are primarily limited to specific types of desired and undesired sound sources.



Aren Jansen, Dan Ellis, Shawn Hershey, R. Channing Moore, Manoj Plakal, Ashok Popat, Rif A. Saurous

Coincidence, Categorization, and Consolidation: Learning to Recognize Sounds with Minimal Supervision

☆

Paper

Proceedings of ICASSP 2020 (2020) (to appear)

The dataset is designed to contain minimal biases and has detailed annotations for the different types of reasoning over the spatio-temporal space of video. Dialogues are synthesized over multiple question turns, each of which is injected with a set of cross-turn semantic relationships. We use DVD to analyze existing approaches, providing interesting insights into their abilities and limitations.



Aren Jansen, Dan Ellis, Shawn Hershey, R. Channing Moore, Manoj Plakal, Ashok Popat, Rif A. Saurous

Adaptive Multi-Channel Signal Enhancement Based on Multi-Source Contribution Estimation

☆

Paper

Proceedings of ICASSP 2020 (2020) (to appear)

Page | 19

### 3. Publication


[International Research Council](#)
[People](#)
[Publications](#)
[Blog](#)





[Home](#) / [Publications](#)

## Publications

Giving people the power to share and connect requires constant innovation. At SEF, research permeates everything we do. It's more than a lab – it's a way of doing things, and our teams of world-class scientists and engineers are up to the task. They take on the most challenging problems in computer science and related fields, to push boundaries that impact millions of people every single day.

Filter by

Sort By Year

Research Areas

☒ Algorithms and Theory
 ☒ Machine Perception
 ☒ Natural Language Processing
 ☐ Machine Intelligence
 ☐ Software Systems
 ☐ Speech Processing
 ☒ Health & Bioscience
 ☐ Algorithms and Theory
 ☒ Machine Perception
 ☒ Natural Language Processing
 ☐ Speech Processing
 ☐ Algorithms and Theory
 ☒ Natural Language Processing
 ☐ Machine Intelligence
 ☒ Machine Perception
 ☒ Natural Language Processing
 ☐ Machine Intelligence
 ☐ Software Systems
 ☐ Speech Processing

Year

☒ 2021
 ☒ 2020
 ☒ 2019
 ☐ 2018
 ☐ ...

Adaptive Multi-Channel Signal Enhancement Based on Multi-Source Contribution Estimation

*Proceedings of ICASSP 2020 (2020) (to appear)*

Automated solutions to multi-channel signal enhancement for improving speech communication in noisy environments has become a popular goal among the research community. Many proposed approaches focus on adapting to speech signals based on their temporal characteristics but these methods are primarily limited to specific types of desired and undesired sound sources.


Aren Jansen, Dan Ellis, Shawn Hershey, R. Channing Moore, Manoj Plakal, Ashok Popat, Rif A. Saurous

Coincidence, Categorization, and Consolidation: Learning to Recognize Sounds with Minimal Supervision

*Proceedings of ICASSP 2020 (2020) (to appear)*

The dataset is designed to contain minimal biases and has detailed annotations for the different types of reasoning over the spatio-temporal space of video. Dialogues are synthesized over multiple question turns, each of which is injected with a set of cross-turn semantic relationships. We use DVD to analyze existing approaches, providing interesting insights into their abilities and limitations.


Aren Jansen, Dan Ellis, Shawn Hershey, R. Channing Moore, Manoj Plakal, Ashok Popat, Rif A. Saurous

Adaptive Multi-Channel Signal Enhancement Based on Multi-Source Contribution Estimation

*Proceedings of ICASSP 2020 (2020) (to appear)*

Automated solutions to multi-channel signal enhancement for improving speech communication in noisy environments has become a popular goal among the research community. Many proposed approaches focus on adapting to speech signals based on their temporal characteristics but these methods are primarily limited to specific types of desired and undesired sound sources.


Aren Jansen, Dan Ellis, Shawn Hershey, R. Channing Moore, Manoj Plakal, Ashok Popat, Rif A. Saurous

Coincidence, Categorization, and Consolidation: Learning to Recognize Sounds with Minimal Supervision

*Proceedings of ICASSP 2020 (2020) (to appear)*

The dataset is designed to contain minimal biases and has detailed annotations for the different types of reasoning over the spatio-temporal

## References