

# Abbreviated Project Management Plan: Human Monitoring for Mental Health Assessment

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## 1. Purpose

The purpose of this document is to give an overview of how the project will be managed, including the high-level goals, milestones and tasks, a timeline, and team structure.

## 2. Goals

The objective of the Human Monitoring for Mental Health Assessment project is to develop a system that will monitor human behavior and is able to identify when a human performs a certain target action. The target action will be related to mental health. The project will help with early identification of mental health issues or neurodevelopmental disorders and allow for earlier intervention.

The project will include both the hardware to sense and track human behavior and the software to process the information collected and identify if the target action is being performed. The end goal will be to transfer the system to either a public setting or to dataset. The high level goals may be summarized by the following.

1. Develop the software and necessary hardware to monitor humans and human activity to related one neurodevelopmental disorder.
2. The system can be used in public settings or datasets

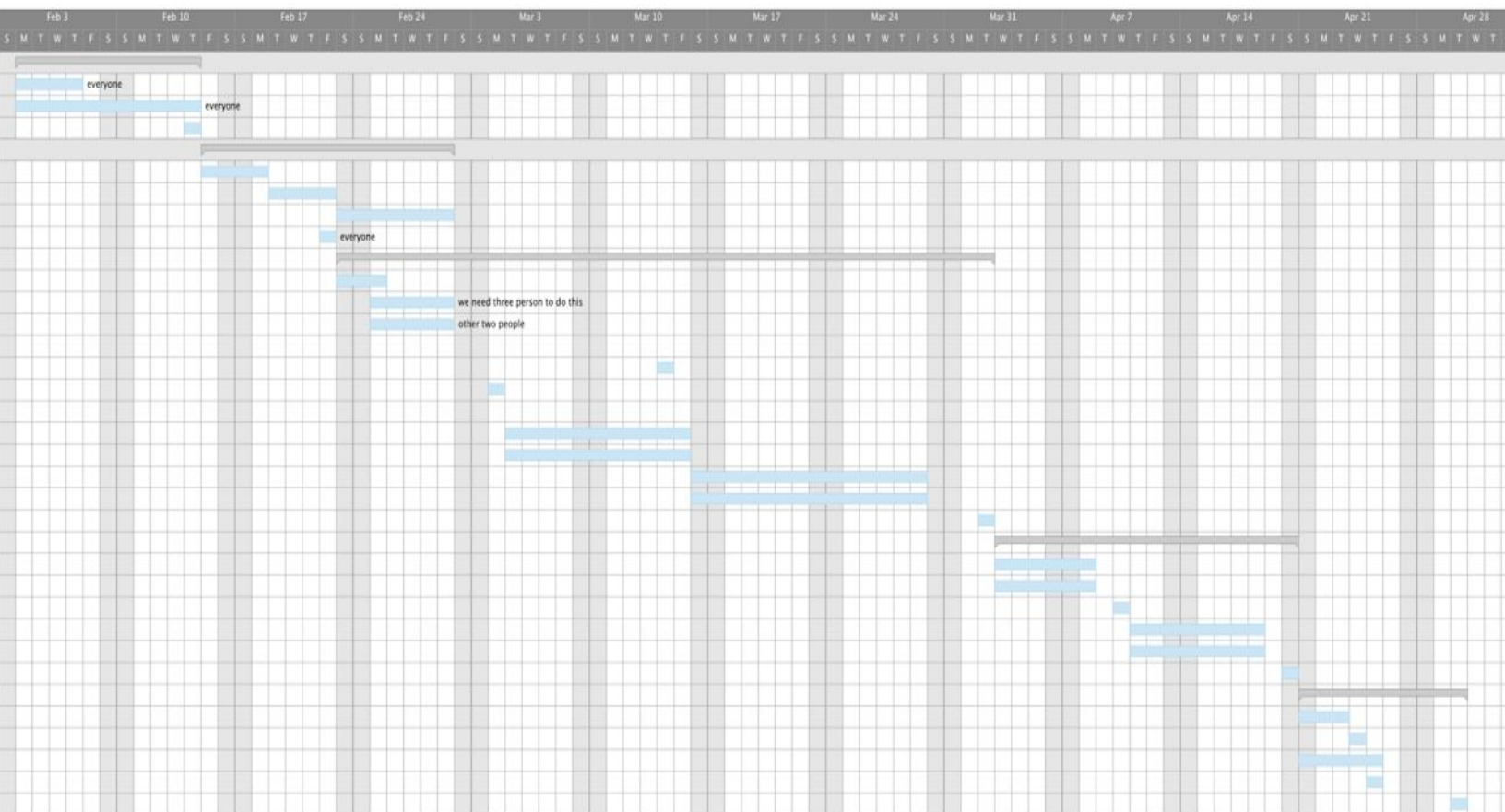
## 3. Milestones, Tasks and Timelines

### - Milestones:

1. Introduction of the team to image processing
2. Introduction of the team to the CAVE and tracking system
3. A report about human behavior of a specific disorder
4. A report about the development of hardware and algorithm
5. Finish the testing with human subjects:  
Hardware: test that hardware is accurately collecting the data;  
Software: test that software can process this data
6. Conclusion: poster finished, presentation prepared

### - All the tasks & Timeline:

<b>- Section 1 Familiarize ourselves with image processing</b>	02/04/19	02/14/19
Sub-task 1 - learn basic knowledge by seeing notes	02/04/19	02/07/19
Sub-task 2. use Matlab to do edge detection, edge thinning, edge following and line fitting	02/04/19	02/14/19
<i>Milestone 1 - take a picture and finish edge detection by using Matlab</i>	02/14/19	02/14/19
<b>- Section 2 Familiarize ourselves with the CAVE and tracking system</b>	02/15/19	03/01/19
Sub-task 1 get connection with medical students	02/15/19	02/18/19
Sub-task 2 go to lab and familiar with CAVE	02/19/19	02/22/19
Sub-task 3 Develop the software that monitors humans and human activities in the CAVE.	02/23/19	03/01/19
<i>Milestone 2- know how to use the equipments in lab</i>	02/22/19	02/22/19
<b>- Section 3 Design Work</b>	02/23/19	04/02/19
Sub-task 1 decide one neurodevelopmental disorder	02/23/19	02/25/19
Sub-task 2 look for related human behaviour	02/25/19	03/01/19
Sub-task 3 understand the existing computer vision algorithms for this project	02/25/19	03/01/19
Sub-task 4 Software design		
Sub-task 5 Hardware design	03/14/19	03/14/19
<i>Milestone 3- a report about human behavior of that specific disorder</i>	03/04/19	03/04/19
<b>Section 4 Development Work</b>		
Sub-task 1 develop the hardware in CAVE	03/05/19	03/15/19
Sub-task 2 develop the algorithm in CAVE	03/05/19	03/15/19
Sub-task 3 develop the hardware in public settings	03/16/19	03/29/19
Sub-task 4 develop the algorithm in public settings	03/16/19	03/29/19
<i>Milestone 4- a report about the development of hardware and algorithm</i>	04/02/19	04/02/19
<b>- Section 5 Testing with human subjects</b>	04/03/19	04/20/19
Sub-task 1 Hardware: test that hardware is accurately collecting the data	04/03/19	04/08/19
Sub-task 2 Software: test that algorithm can process this data	04/03/19	04/08/19
<i>Milestone 5- a brief report on testing result</i>	04/10/19	04/10/19
Sub-task 3 improve the hardware design	04/11/19	04/18/19
Sub-task 4 improve the software design	04/11/19	04/18/19
<i>Milestone 6- finish all the testing part, write a brief report on how to improve and what has improved</i>	04/20/19	04/20/19
<b>- Section 6 Conclude our achievements and prepare to present them</b>	04/21/19	04/30/19
Sub-task 1 poster draft	04/21/19	04/23/19
<i>Milestone 7- poster finished</i>	04/24/19	04/24/19
Sub-task 2 prepare presentation	04/21/19	04/25/19
<i>Milestone 8- presentation</i>	04/25/19	04/25/19
design show	04/30/19	04/30/19



#### 4. Team Structure:

The team will have meetings twice a week. Mondays at 2:30 PM, and Thursdays at 2:30 PM with a meeting with the advisor on Thursday at 3:10 PM. Meetings may be rescheduled and additional meetings can be added as needed.

The team will be structured with a lead communicator with the advisor and resources. Shared documents will be kept in a google drive folder and shared code will be stored on a team github repository. Everyone will keep their own notebook to track individual progress made. Any decisions, designs and major findings will be noted in the shared folder. Overall, the team will work together to design the software and hardware necessary to complete the project.