



اُونِيْوَرْسِيْتِيْ تِيْكَنُولُوْجِيْ مَارَا  
UNIVERSITI  
TEKNOLOGI  
MARA

**TECHNOLOGY ENTREPRENEURSHIP (ENT600):**

NAME	STUDENT ID	GROUP
ADI MUSTAKIM BIN AB RAHIM	2016343461	EE241 C8B
AIMAN ZHARIF BIN MOHD RAHIM	2016706723	
MUHAMMAD ZULHAIRI BIN KAMARULZAILAN	2016586643	

MR NURUL HAFEZ BIN ABD HALIL

**“POST-STROKE REHABILITATION USING  
MIRROR THERAPY”**

FACULTY OF ELECTRICAL ENGINEERING

UNIVERSITI TEKNOLOGI MARA

MALAYSIA

## TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY
2.0 PRODUCT DESCRIPTION
3.0 TECHNOLOGY DESCRIPTION
4.0 MARKET ANALYSIS AND STRATEGIES
5.0 MANAGEMENT TEAM
6.0 FINANCIAL PLAN
7.0 PROJECT MILESTONE
8.0 CONCLUSION

## **1.0 EXECUTIVE SUMMARY**

### **1.1 Description of the business and product concept**

Mirror therapy is therapy that helps to create reflection illusion to trick the brain to think that the hand is having movement. This therapy tricks the brain into thinking that the affected hand moves in the same way as those who are not affected. It is also helping the brain to reorganize itself through a phenomenon known as neuroplasticity. Neuroplasticity is the brain's incredible ability to form a new neural connection based on environmental experiences.

Our business consists of 3 partners where each partner holds a share in the company and contributed in certain number of percentages for company capital. Our main product is designed to post stroke patient. This product has many advantages for the post stroke patients because it is user friendly. This therapy also can do at home. This price that offered is affordable to all the customer.

### **1.2 The target and projections**

Our target market is for all post stroke patients as this product have multifunction. This therapy not just concentrate for upper limb, but it is also can focus for lower limb. Two tasks must perform by patients. The first task is hand movements through mirroring. Patients need to sit on a chair near the table where the mirror is placed in the vertical position. They instructed to do three activities which include resting. The duration of each activity is 60 seconds followed by resting for 30 seconds between each activity

In the first activity, the patients need to place both hands on the table. Before the recording of EEG is started, the subjects need to practice all the activities to warm up. Then the patients must grasp left fingers 5 times followed by resting for 30 seconds. They must grasp left fingers while at the same time looking at the mirror and repeat grasping using right fingers 5 times.

Next task is flexing and extending elbow for 5 times. During Flexing and extending left elbow, the patients has to look at the mirror. Then the patients must perform the flexing and extending using right elbow 5 times while looking at the mirror with the left hand performed the flexing and extending movements.

### **1.3 The competitive advantages**

The quality of our product can be standardized and can be trusted by the users. This product can give many benefits to the post stroke patients. The material uses worth it and it also benefit in terms of comfort and safety. They just need only a mirror. Due to the features, function and the technology of the product, there is none from company. Hence, it has more potential in our target.

### **1.4 The profitability**

To gain more profits, we use marketing strategies such as research market, promotion, advertising, building a good relationship with the customers and the product evaluation. In pricing strategy, we had to set a price that is affordable the customers and different from the competitors suited its technology to attract the customers. We have the guarantee for the product, as we are confident in terms of its quality and technology.

### **1.5 The management team**

This company is a partnership business that consists of five key partners which are Chief Executive Officer (CEO), Administrative Manager, Marketing Manager, Operating Manager and Financial Manager. Each of the partners carries different responsibility but achieves the same goal. All of the partners have wide and broad experiences that would be useful in developing the company.

## **2.0 PRODUCT DESCRIPTION**

### **2.1 Product description**

Mirror therapy is therapy that helps to create reflection illusion to trick the brain to think that the hand is having movement. This therapy tricks the brain into thinking that the affected hand moves in the same way as those who are not affected. It is also helping the brain to reorganize itself through a phenomenon known as neuroplasticity. Neuroplasticity is the brain's incredible ability to form a new neural connection based on environmental experiences. Through consistent practice, mirror therapy can help restore movement in the hands affected by stroke. In some cases, mirror therapy also can help the survivor to rescue the affected hand from painful conditions.

### **2.2 Application of the product**

Mirror therapy designed to give the post stroke patients easy to do it for their rehabilitation. Mirror therapy also already proves nowadays that it is can help post stroke patients improve to moves their affected hand.

### **2.3 Product features**

This product is a simple application but have a lot of benefits. Improvements and revisions had been made in order to give more benefits to the post stroke patients.

### **2.4 Development of the product**

In developing the product, a cost for the mirror that size 30cm x 30cm is around RM30. Besides, the technology that must be test and insert into the product is using the Electroencephalogram (EEG). This technology is to detects the brain activity and brain status. To use the EEG, need to buy the device name ENOBIO. This ENOBIO device cost is RM200,000. This device already has in Malaysia but if want to buy it, must pre order it.